

Exens Solutions
RF & Microwave Diodes

TOGHETER FOR EXCELLENCE



AVIONICS



DEFENSE



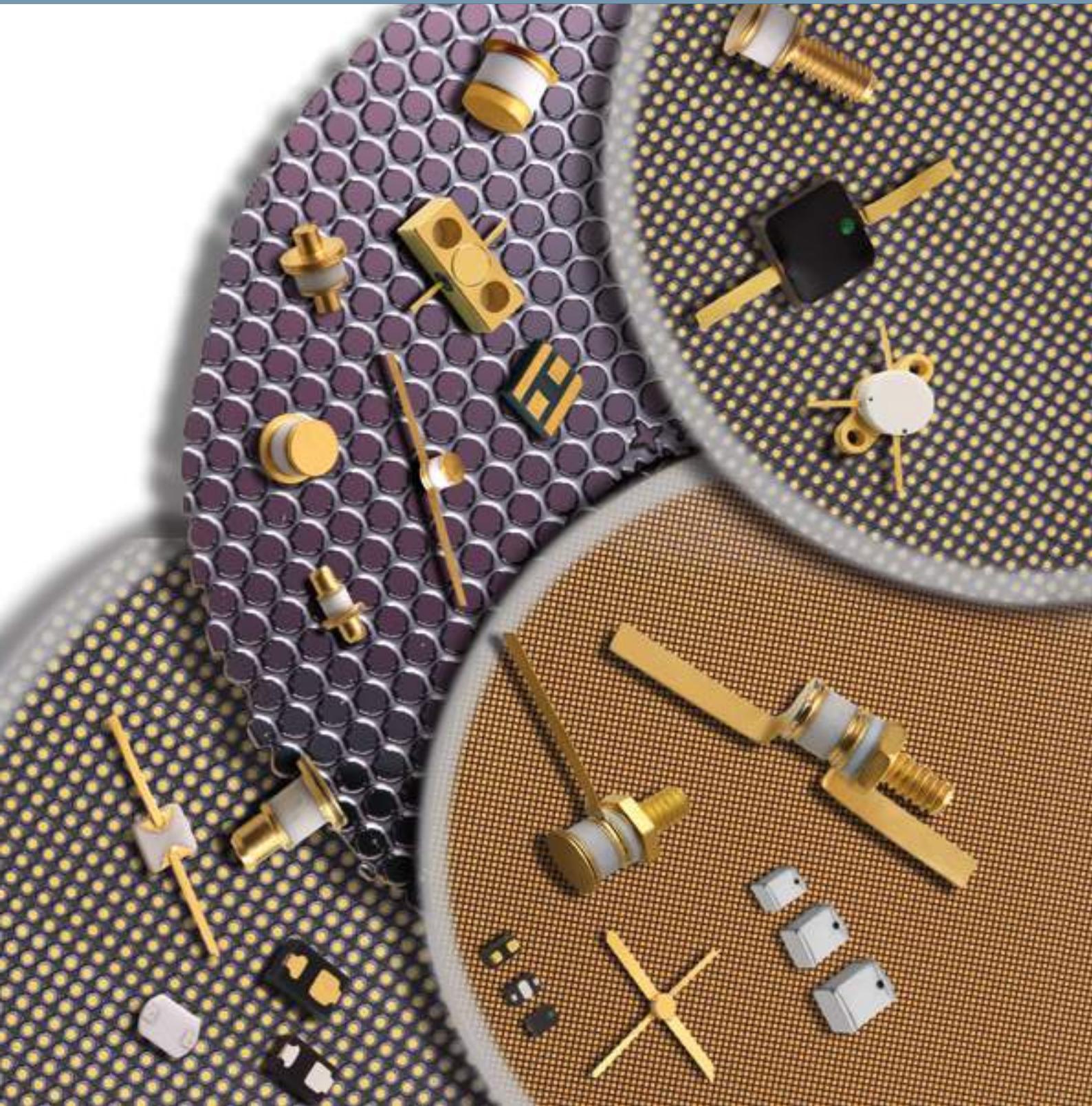
MEDICAL



SPACE

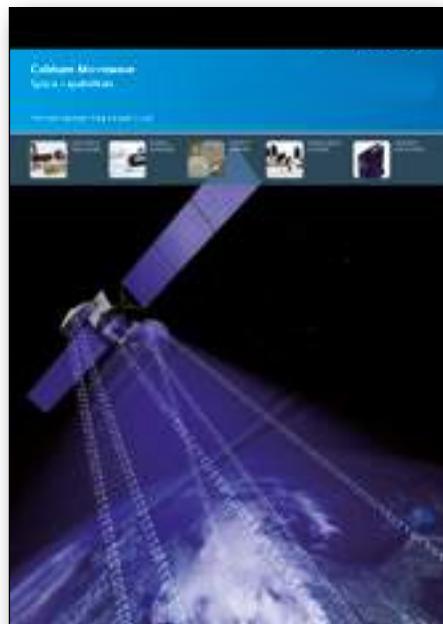
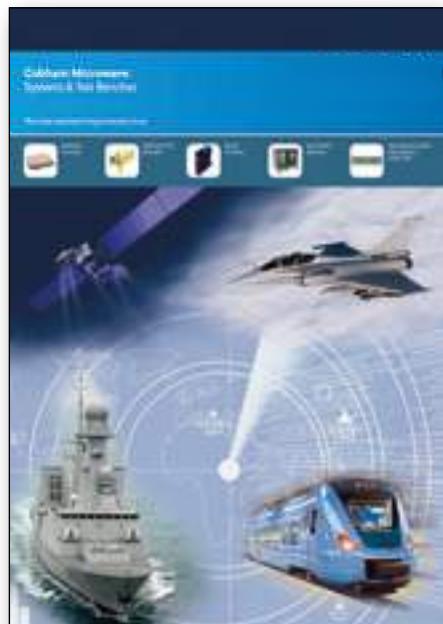
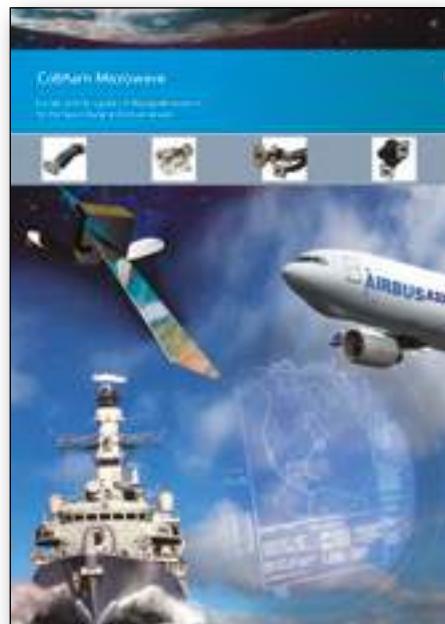
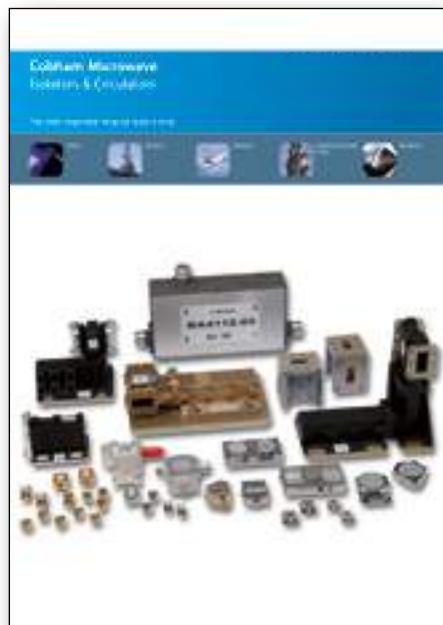
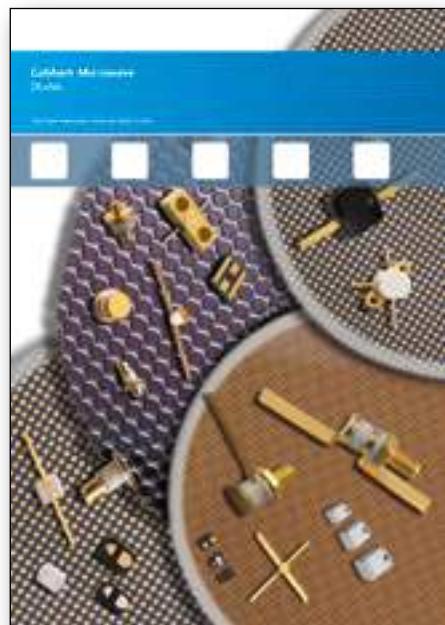


COMMUNICATION



Exens Solutions

Other literature



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Exens Solutions

Introduction

COBHAM PLC

Cobham plc's heritage goes back to 1934 when Sir Alan Cobham, an innovative aviation pioneer, worked tirelessly to make flying popular with his own personal dream that «one day there would be a landing ground in every major town». 80 years later, with airports commonplace, the pioneering spirit continues with Cobham producing world leading products and solutions.

What we do:

- Cobham protects lives and livelihoods with its differentiated technology and know-how, operating with a deep insight to customer needs and agility
- The Group offers an innovative range of technologies and services to solve challenging problems across commercial, defence and security markets, from deep space to the depths of the ocean
- Cobham has market leading positions in air-to-air refuelling, aviation services, audio, video and data communications, including satellite communications, defence electronics, life support and mission equipment

Some numbers:

- Annual revenue £2.1bn in 2015
- £138m company funded R&D in 2015 (8.2% of revenue*)
- Employ more than 11,500 people on five continents

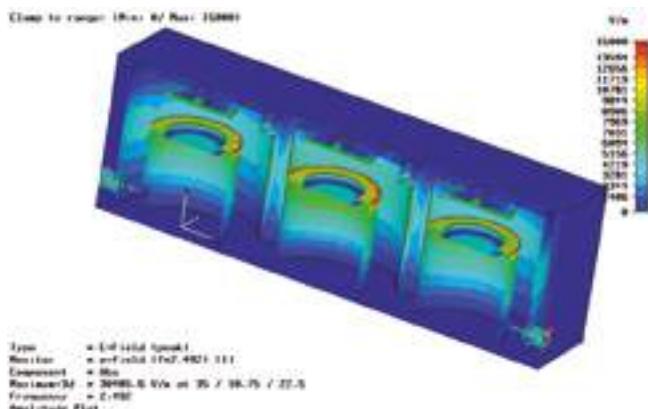
This presentation focuses on Exens Solutions of the Aerospace Communications Strategic Business Unit (SBU) within our Aerospace & Security Division.

EXENS SOLUTIONS

Exens Solutions designs and manufactures RF, microwave systems and components: diodes, modules, filters & duplexers, isolators, circulators and waveguides. It supplies Original Equipment Manufacturers in the Space, Defence, Communications, Industrial, Scientific and Medical industries throughout the world.

CAPABILITIES

DESIGN AND DEVELOPMENT





DIODES

FILTERS &
DUPLEXERSISOLATORS &
CIRCULATORS

MODULES

WAVEGUIDES
COUPLERS & LOADSSYSTEMS &
TEST BENCHES

PRODUCTION

Six business units located on two production centres have the ability to manage customized and small quantity requests as well as low cost, mass production products:

- Systems and test benches - Les Ulis , France
- Diodes - Le Ulis, France
- Modules - Les Ulis , France
- Filters & Duplexers - Gradignan, France
- Isolators & Circulators - Les Ulis , France
- Waveguides - Les Ulis, France



Exens Solutions in house Space and MIL qualified processes include subsystem integration, semiconductor processing, microelectronics assembling techniques, milling, fitting, brazing, surface treatment (silver, gold, alocrome, nickel, ...), painting, etc.

Class 100,000 clean rooms are available at each site. Furthermore class 10,000 and class 100 clean rooms are available at Les Ulis.

TESTING

RF and microwave equipment must work under severe conditions depending upon the different applications: space, marine, airborne... Exens Solutions continuously develops quality control and qualification programmes to test product functionality under harsh conditions.

Our product certification indicates our suitability for a specific purpose, but at Exens Solutions, the best product certification we have is customer satisfaction.

PROJECT MANAGEMENT

From the definition of customer needs to the maintenance of the systems and components designed by its engineers, Exens Solutions fully covers each step of the project.

Our engineers work hand in hand with customers through studies, simulation, provisioning, manufacturing, characterization, tests, training and maintenance.

By working with Exens Solutions, customers can really focus on their core activities.

QUALITY & ENVIRONMENTAL CERTIFICATION

Exens Solutions is ISO 9001 : 2015 and ISO 14001 : 2015 certified for the design, production, sale and distribution of microwave components and systems. Those certifications include also the new microwave power tests activity.

Exens Solutions has developed REACH, RoHS and Lead Free products.

It also holds a number of customer specific approvals covering space, avionics, radar, telecommunication, aerospace and medical industries.

Exens Solutions PIN diodes

Introduction

INTRODUCTION

Exens Solutions has been a European supplier of RF and microwave diodes and MOS capacitors for decades. Specialized in the design and production of microwave components and semiconductors, the company takes advantage of the expertise and know-how accumulated for many years through his past belonging to renowned entities like Thomson, Tekelec, Temex, Chelton Telecom & Microwave.

Our products are used in military, space, scientific and professional applications, such as, for example, in many medical MRI systems all over the world.

This document covers microwave semi-conductors devices as high-voltage PIN diode products. They are designed for high reliability, high power handling, high isolation and low signal distortion especially for frequencies in the MHz to GHz range. As we offer a broad range of electrical characteristics and packaging, the user can select components best suited to high performance applications in terms of signal control as switching, limiting, attenuating, frequency tuning or generating, matching...

Our products can be delivered either as naked dies or as packaged devices with a large choice of types: general purpose HiRel ceramics, surface mounted ceramic or plastic, strip line, power dissipation oriented.

Exens Solutions controls all the manufacturing steps of the products, including silicon wafers processing, assembly, tests and reliability characterization. Our products and facilities comply with major certifications and qualifications approvals such as ISO9001, ISO14000, QPL from ESA...

SYMBOLS

C_b	Case Capacitance
C_j	Junction Capacitance
C_p	Parasitic capacitance
C_T	Total Capacitance
C_x/C_y	Tuning Ratio
D	Duty cycle
f	Test Frequency
F_{co}	Cut-Off Frequency
F_I	Intermediate frequency
F_O	Output frequency
F_{oper}	Operating frequency
I_F	Forward bias current
I_R	Reverse continuous current
I_{RF}	RF current
L	Conversion loss
L_p	Parasitic inductance
\emptyset	Gold contact diameter
P_{CW}	CW power capability
P_{diss}	Power dissipation
P_{in}	Power input
P_L	Limiting threshold
P_{out}	Output power
P_{RF}	RF power
Q_{RF}	RF stored charge
Q_s	Stored charge
R_p	Parallel resistance
R_s	Forward resistance
R_{th}	Thermal resistance
T_{CR}	Reverse switching time
T_j	Junction temperature
t_{SO}	Snap-off time
V_{BR}	Breakdown Voltage
V_F	Forward continuous voltage
V_{PT}	Punch Through Voltage
V_R	Reverse voltage
V_{RF}	RF voltage
$VSWR$	Voltage standing wave ratio
W	I zone thickness
Z_0	Output impedance
μ_n	Electron mobility
μ_p	Hole mobility
ρ	I layer actual resistivity
T_i	Minority carrier lifetime
ω	Angular frequency

PHYSICS GUIDELINE

The PIN diode is a semiconductor device consisting of an intrinsic silicon layer, I zone (or very lightly doped layer) inserted between two highly doped layers: N+ and P+.

Exens Solutions wave PIN diodes are made of a very pure intrinsic layer giving a very high resistivity and long lifetime for smaller distortion.

This structure gives unique performances in RF and microwave applications such as:

- variable attenuators
- switches
- limiters
- phase shifters

At these frequencies, the PIN diode is **only controlled by its DC bias**. The PIN diode is able to control large amounts of RF power with much lower levels of DC one.

The PIN diode should ideally control the RF signal level without introducing distortion or intentionally modifying it.

The intrinsic silicon layer works as:

- low impedance state when forward biased,
- a variable resistance at RF and microwave frequencies. The resistance value of the PIN diodes is determined only by the forward biased DC current.
- high impedance state when reverse biased,
- a small capacitor (0.02 pF to 3 pF). I layer ensures a low capacitance and a high breakdown voltage.

The N+ and P+ layers provide low loss contacts.

DIODE STRUCTURE

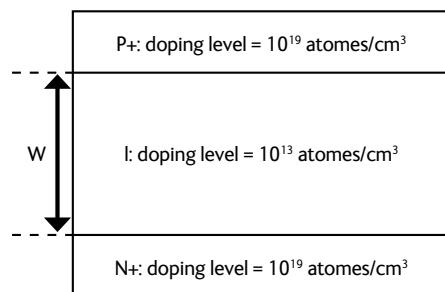
Intrinsic layer's thickness, W, may range from 2 to 300 μm , according to the application: low or high power at HF or microwave frequencies (1 MHz to 26 GHz).

- MEDIUM AND HIGH POWER

The thicker I region would have a higher breakdown voltage and better distortion properties. These high voltage PIN diodes have a zone I from 20 to 300 μm .

Layer I is a very lightly doped P- type with a high resistivity greater than 3300 $\Omega\cdot\text{cm}$.

The P+ layer is 10 to 40 μm thick with a typical doping level of 10^{19} At/ cm^3 .



- LOW POWER, FAST SWITCHING

The thinner diodes would have faster switching speed for high frequency switching application or non-linear behaviour for power limitation application. These lower voltage PIN diodes have an I zone from 2 to 20 μm :

Layer I is a very lightly doped N- type with a resistivity from 400 $\Omega\cdot\text{cm}$.

The P+ layer is 1 to 10 μm thick with a typical doping level of 10^{19} At/ cm^3 .

The N+ base layer has the same doping level than the P+ layer and complementary thickness of the die.



Exens Solutions PIN diodes

Introduction

Most PIN diodes have a mesa structure; passivation can be based on glass or oxide material. Ohmic contacts are obtained by metallic deposition with a gold final layer.

The performances of the PIN diode depend on the chip's geometry, mainly on I zone thickness and mesa area.

When reverse voltage is equal to or higher than **Punch through Voltage** ($V > V_{PT}$), the I layer is fully depleted:

$$W' = 0 \text{ and } 2L = W$$

$$C_W = \frac{\epsilon_r \cdot \epsilon_0 \cdot S}{W}$$

REVERSE BIAS PIN DIODE

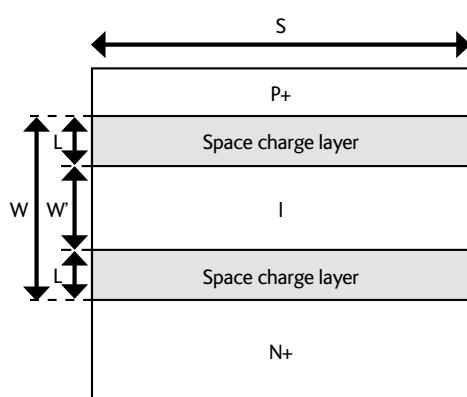
At reverse bias and when the reverse bias voltage increases, the P+ and I N+ junction space charge layers (carrier free zones noted L) extend towards the center of I zone.

$$C_L = \frac{\epsilon \cdot S}{L} \quad C_{W'} = \frac{\epsilon \cdot S}{W'} \quad R_{W'} = \rho \frac{W'}{S}$$

As L increases, the capacitance C_L decreases, W' decreases and C_W increases.

As the capacitors C_L and C_W are in series, C_W becomes negligible compared to that of C_L .

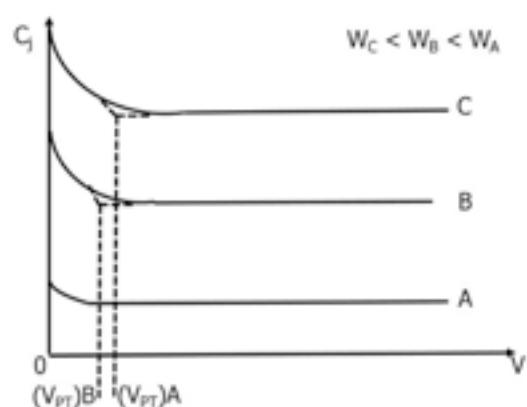
ρ : I layer resistivity
 $\epsilon = \epsilon_0 \epsilon_r$
 ϵ_r : silicon dielectric constant : 11.8 for silicon
 ϵ_0 : $8.854 \cdot 10^{-12} \text{ F/cm}$



This is the lowest capacitance remaining constant when the reverse voltage increases since the space charge cannot extend further.

The 1 MHz capacitance, as a function of reverse bias voltage is shown for several diodes A, B, C, with various I zone thicknesses W_A, W_B, W_C .

The diode capacitance reaches its minimum value with the voltage $V=V_{PT}$ and the quality factor reaches its maximum.



At high frequencies, the capacitance tends to be constant and independent from the reverse bias voltage.

However, since an undepleted zone is lossy, an increase in reverse bias up to V_{PT} reduces the loss.

We show that:

$$V_{PT} \cong 10^{-3} \cdot W^2 \cdot \frac{4000}{\rho}$$

W: I zone thickness (μm)

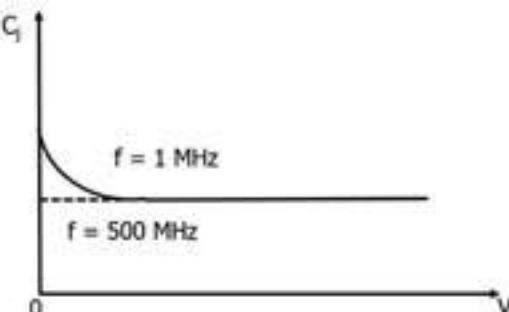
ρ : I layer actual resistivity ($\Omega \cdot \text{cm}$)

V_{PT} is usually less than 10% of V_{BR}

- MINIMUM OPERATING FREQUENCY: DIELECTRIC CUT-OFF FREQUENCY

The dielectric cut-off frequency f_c is the frequency at which the reverse susceptance ($C \cdot \omega$) and conductance ($1/R$) of the undepleted area are equal.

$$\begin{aligned} \omega &= 2 \cdot \pi \cdot f & C_W &= \frac{\epsilon \cdot S}{W} & R_W &= \rho \frac{W}{S} \\ \frac{S}{W \cdot \rho} &= \frac{\epsilon \cdot S}{W} 2 \cdot \pi \cdot f_c & & & & \\ f_c &= \frac{1}{2 \cdot \pi \cdot \rho \cdot \epsilon} & & & & \end{aligned}$$



Example: Exens diode DH80210 $\rho \cong 4000 \Omega \cdot \text{cm}$ & $W = 200 \mu\text{m}$

$$V_{BR} \cong 2100 \text{ V} \quad V_{max} (I_R < 10 \mu\text{A}) = 2000 \text{ V} \quad V_{PT} \cong 40 \text{ V}$$

When measuring the capacitance of the diode with a BF equipment (i.e. 1 MHz), the diode has to be biased at $V > V_{PT}$ to be independent of the reverse bias.

The quality factor is defined by: $Q = \omega C_W R_W = 2 \cdot \pi \cdot f \cdot \rho \cdot \epsilon$

For given silicon resistivity, Q depends only on the operating frequency:

$$Q = \frac{f}{f_c}$$

From $f \geq 3 \cdot f_c$: the reverse capacitance is fully independent of the reverse voltage and is constant.

Example Cobham diodes:

DH80210: $\rho = 4000 \Omega \cdot \text{cm}$ $f_c = 37 \text{ MHz}$ C constant from 150 MHz

EH50033: $\rho = 500 \Omega \cdot \text{cm}$ $f_c = 300 \text{ MHz}$ C constant from 1.5 GHz

Exens Solutions PIN diodes

Introduction

- MAXIMUM OPERATING FREQUENCY

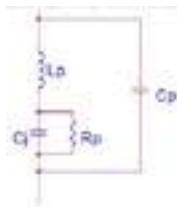
The physical limit of silicon is about 26 GHz, but there is another limit which is linked to the total capacitance.

When the diode is reverse biased, it should not disadapt the system:

$$f < \frac{1}{2 \cdot \pi \cdot Z_0 \cdot C_t}$$

Example with Exens diodes, taking $Z_0 = 50 \Omega$

DH80210: $C_J(50V) = 3pF \Rightarrow f_{max} = 1 \text{ GHz}$



EH50033: $C_J(6V) = 0.1pF \Rightarrow f_{max} = 30 \text{ GHz}$

L_p : parasitic inductance of the bonding

C_p : parasitic capacitance of the package

R_p : parallel resistance of the diode

C_j : junction capacitance of the diode

$$C_j = C_{jmin} = cste = \frac{\epsilon \cdot S}{W}$$

S: junction area

W: I layer thickness

If frequency $< f_{\text{relaxation}}$, the junction capacitance decreases when V_R increases up to the punch-through voltage V_{PT} . When the reverse bias voltage increases, at each junction, the space charge layer extends. When V_R reaches V_{PT} , layer I is completely depleted (free of carriers): this is the lowest capacitance remaining constant when the reverse voltage increases since the space charge cannot extend further.

When the PIN diode is at zero or reverse biased, there is no stored charge on region I and the diode appears as a lossy capacitor C_j . If frequency is above dielectric relaxation frequency, the diode appears as a capacitor independent of reverse voltage:

$$cC_j = C_{jmin} = cste = \frac{\epsilon \cdot S}{W}$$

Summary

V_{BR} , breakdown voltage, is directly linked to layer I's thickness $\geq 10 \text{ V}/\mu\text{m}$.

V_R , reverse voltage, is the maximum voltage until where we guarantee that I_R will be lower than $10 \mu\text{A}$.

V_{PT} , punch through voltage: above the punch through voltage, layer I is completely depleted (free of carriers), the diode capacitance reaches its minimum (so the quality factor reaches its maximum) and becomes constant.

- PARALLEL RESISTANCE R_p

Associated to the diode capacitance is a parallel resistance which represents the resistivity of the undepleted zone. As the reverse voltage increases, carriers are depleted from layer I, resulting in an essentially lossless capacitor.

- At low frequency, $Z = 1/C\omega$ is very high so all the current is going through R_p : the open circuit is quite good as R_p is very high
- When the frequency increases, Z decreases and the quality of the open circuit is decreasing.

Example for Cobham 1000 V diodes: $R_p (100 \text{ V}, 100 \text{ MHz}) > 500 \text{ k}\Omega$

- PARASITIC INDUCTANCE

L_p added by the bonding limits the lowest impedance value.

This small parasitic element (from 0.1 nH to 1.0 nH) depending on the package has no important influence on the PIN diode's behavior at frequencies below 1 GHz.

This parasitic element can become more important than R_s at high frequency:

$$Z = R_S + L_p \cdot \omega$$

FORWARD BIAS PIN DIODE

When the PIN diode is forward biased, holes and electrons are injected in layer I. As the carriers' recombination is not instantaneous, there is a stored charge Q in layer I. This stored charge decreases the forward resistance of layer I.

The stored charge is linked to:

- The forward bias current, I_F
- The minority carrier lifetime: τ_l

τ_l , minority carrier lifetime: when holes and electrons are injected into region I, they stay alive for an average time called the carrier lifetime.

R_s , forward resistance: due to this carrier lifetime, there is an average stored charge in layer I which decreases the resistance of this layer to a value R_s . The R_s value is fixed by I_F .

The forward resistance is inversely proportional to the stored charge:

$$R_s = \frac{W^2}{((\mu_n + \mu_p) \cdot Q)} = \frac{W^2}{((\mu_n + \mu_p) \cdot I_F \cdot \tau_l)}$$

μ_p : hole mobility

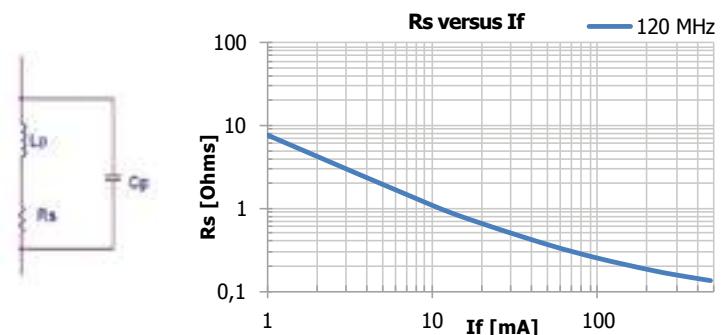
μ_n : electron mobility

R_s is linked to the diode geometry. Indeed, the edge recombination effect is more sensitive for a small diode, so τ_l is smaller.

The equivalent circuit for a forward biased diode is shown on the following picture where:

- L_b : parasitic inductance of the bonding
- C_p : parasitic capacitance of the package
- R_s : forward resistance of the diode

An example of variation of R_s versus the forward current I_F is shown on the curve below.



RF OPERATION

- FORWARD BIAS

When the PIN diode is forward biased, the stored charge, Q_s , must be much greater than the stored charge Q_{RF} added or removed by the RF current, I_{RF} .

$$Q_s / Q_{RF} \gg 1 \text{ with } Q_s = I_F \cdot \tau_l \text{ and } Q_{RF} = I_{RF} / \pi \cdot f$$

$$\frac{I_{RF}}{\pi \cdot \tau_l \cdot I_F \cdot f} \ll 1$$

Consequently, for a given I_F (bias current), the higher the τ_l value (minority carrier lifetime), the lower the minimum frequency limit.

Example with Exens diodes:

By applying an RF peak power $P = 1 \text{ kW}$ at a frequency of 1 GHz

$$I_{RF} = \sqrt{2 \cdot P / Z_0} = 6.3 \text{ A with } Z_0 = 50 \Omega$$

$$Q_{RF} = I_{RF} / \pi \cdot f = 2 \cdot 10^{-9} \text{ C}$$

Exens Solutions PIN diodes

Introduction

DH80210: $\tau_l = 30 \mu s$
 forward bias: $I_F = 100 \text{ mA}$ $Q_S = 3 \cdot 10^{-6} \text{ C}$ $Q_S/Q_{RF} = 1500$
 DH80106: $\tau_l = 10 \mu s$
 forward bias: $I_F = 100 \text{ mA}$ $Q_S = 1 \cdot 10^{-6} \text{ C}$ $Q_S/Q_{RF} = 500$

By applying an RF peak power $P = 18 \text{ kW}$ at a frequency of 123 MHz

$$I_{RF} = \sqrt{2 \cdot P / Z_0} = 26.8 \text{ A} \text{ with } Z_0 = 50 \Omega$$

$$Q_{RF} = I_{RF} / \pi \cdot f = 7.10^{-8} \text{ C}$$

DH80210: $\tau_l = 30 \mu s$
 forward bias: $I_F = 50 \text{ mA}$ $Q_S = 1.5 \cdot 10^{-6} \text{ C}$ $Q_S/Q_{RF} = 22$
 forward bias: $I_F = 200 \text{ mA}$ $Q_S = 6 \cdot 10^{-6} \text{ C}$ $Q_S/Q_{RF} = 86$
 forward bias: $I_F = 500 \text{ mA}$ $Q_S = 15 \cdot 10^{-6} \text{ C}$ $Q_S/Q_{RF} = 216$

By applying an RF peak power $P = 1 \text{ kW}$ at a frequency of 123 MHz

$$I_{RF} = \sqrt{2 \cdot P / Z_0} = 6.3 \text{ A} \text{ with } Z_0 = 50 \Omega$$

$$Q_{RF} = I_{RF} / \pi \cdot f = 1.6 \cdot 10^{-8} \text{ C}$$

DH80106: $\tau_l = 10 \mu s$
 forward bias: $I_F = 50 \text{ mA}$ $Q_S = 5 \cdot 10^{-7} \text{ C}$ $Q_S/Q_{RF} = 31$
 forward bias: $I_F = 200 \text{ mA}$ $Q_S = 2 \cdot 10^{-6} \text{ C}$ $Q_S/Q_{RF} = 122$

Values under 100 are not recommended.

The condition is better fulfilled when the forward current is larger. When this condition is no longer fulfilled, the diode impedance increases as well as the loss and the harmonics. The diode's temperature rises.

- REVERSE BIAS

A negative bias voltage V_R is applied to the PIN diode: the diode behaves as a very low loss capacitor.

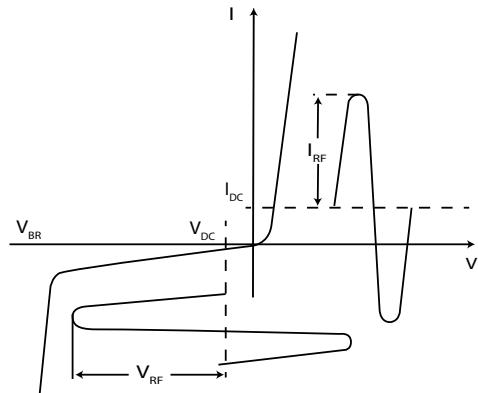
In most RF applications, the diode has to be biased above punch-through voltage. Indeed, the current linked to the mobile carriers in the undepleted zone, will be a source of signal loss and noise.

$$V_R > V_{PT}$$

If we apply a RF voltage V_{RF} , it is necessary that:

$$V_R + V_{RF} < V_{BR}$$

Maximum negative voltage swing should not exceed V_{BR} .



V_R has to be chosen so that the forward excursion of V_{RF} cannot induce any RF current through the diode.

- At low frequency, V_R should be $\geq V_{RFpeak}$ and $V_{BR} \geq 2 \cdot V_{RFpeak}$
- At microwave frequency (well above the cut-off frequency), an instantaneous excursion of the RF signal into the positive direction generally does not cause the diode to go into conduction because of the slow switching time of the PIN diode versus the microwave frequency.

According to ref.1, the minimum V_R acceptable is:

$$V_R = \sqrt{\frac{V_{RF}}{1 + (2.20 \cdot 10^{-5} \cdot f \cdot w^2 / V_{RF} \sqrt{D}) (1 + \sqrt{1 + (1.422 \cdot \frac{V_{RF} \sqrt{D}}{W})^2})^2}}$$

Wherein:

f = frequency in MHz;

W = I zone thickness in μm

D = duty cycle; D is the ratio of pulse duration versus pulse period.

This formula can be simplified if the applied voltage is low enough so that velocity saturation does not occur:

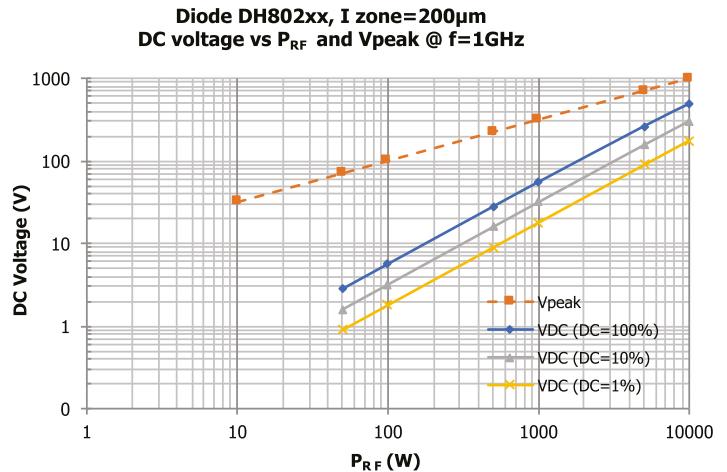
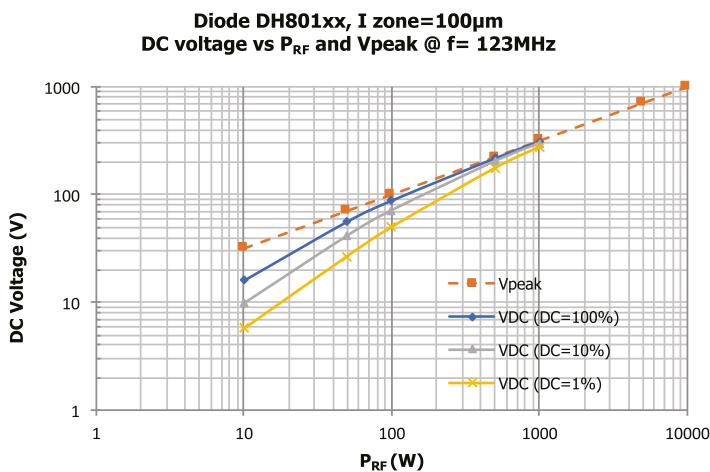
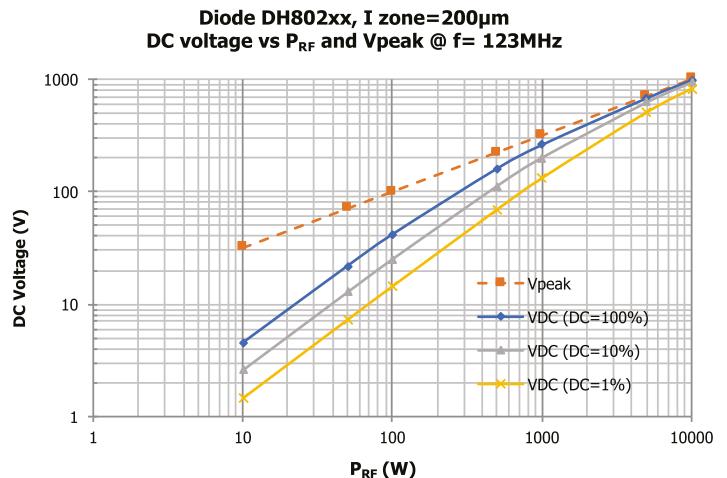
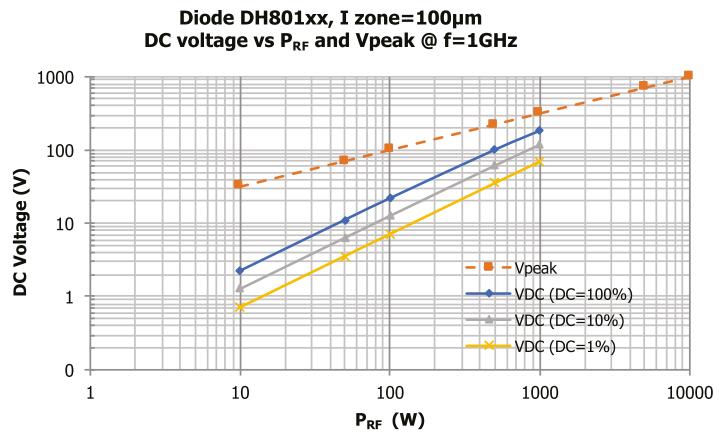
$$V_R = \frac{V_{RF}}{\sqrt{1 + \left(\frac{4.42 \cdot 10^{-5} f \cdot W^2}{V_{RF} \sqrt{D}} \right)^2}}$$

Ref: "Establishing the minimum Reverse Bias for a PIN diode in a high-power switch" – IEEE vol. 8, n° 12, Dec. 1990

Actually, during positive voltage excursion, the P+I and IN+ junctions respectively inject holes and electrons. Some recombinations occur before evacuation of the carriers during the negative cycle. A layer I apparent resistivity results from the injected and recombined charges Q . If the apparent resistivity is such that $\rho_a \cdot \epsilon \cdot \epsilon' \omega > 1$ then layer I continues to behave as a capacitance and the diode remains reverse biased.

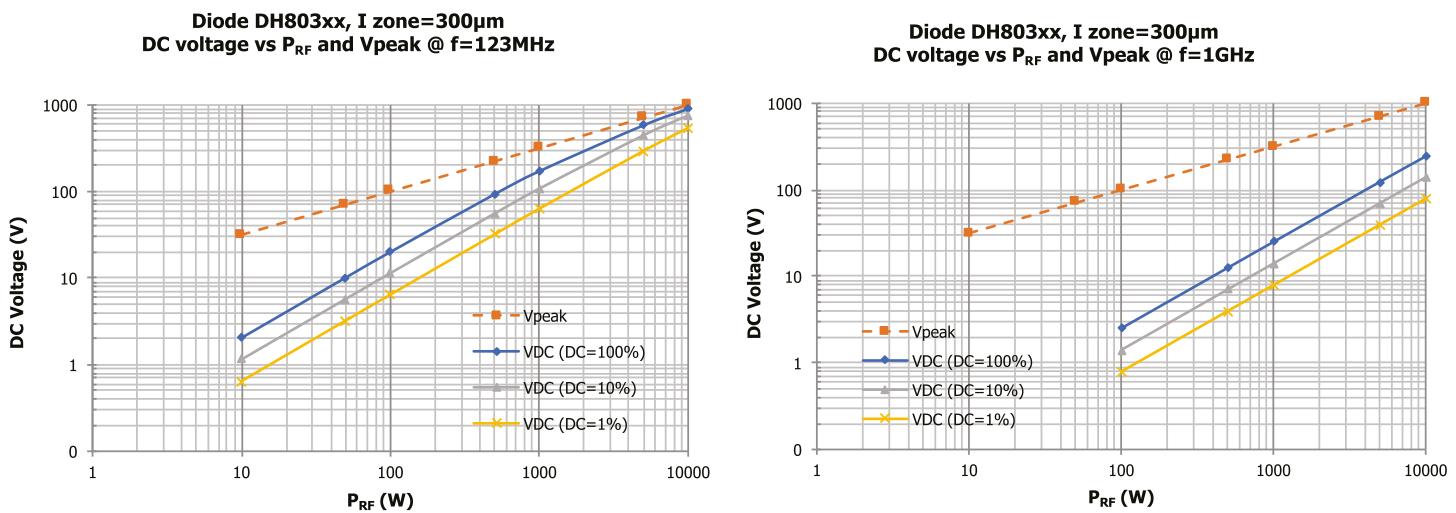
Example with Exens diodes

Determination of V_R (noted V_{dc} in the following curves) as a function of RF power, comparison of three diodes of I zone respectively 100 μm , 200 μm , 300 μm , at a frequency of 123 MHz or 1 GHz.



Exens Solutions PIN diodes

Introduction



- POWER DISSIPATION AND THERMAL RESISTANCE

The PIN diode is able to control large amounts of RF power; power dissipation is limited by the temperature increase which the material can tolerate. A junction temperature as high as 175 °C may be used but insertion loss and isolation may be compromised since R_s increases and R_p decreases with temperature.

The diode's junction temperature is defined as follows:

$$T_j = T_a + P_{diss} \cdot R_{th}$$

Wherein R_{th} is the thermal resistance (°C/W).

T_j should not exceed any value between 125° and 175°, depending on the type of diode and its packaging and the grade of the application.

Exens Solutions PIN diodes

How to specify a pin diode

HOW TO ORDER

To obtain the PIN diode best suited to your specific application, we'll need you to give the following information:

1. Application type

- Switching
- Attenuation
- Limiting

2. Frequency and bandwidth requirements

3. Power characteristics

- CW
- Peak
- Average
- Pulse duration and duty cycle

4. Switching time

5. Bias conditions

- Forward
- Reverse

6. Circuit impedance

7. Shunt or series assembly

8. Maximum loss expected

9. Minimum isolation needed

10. VSWR and distortion requirements

11. Power applied to the diode

- Forward biased
- Reverse biased
- Cold / hot switching

12. Static characteristics

- Applicable voltage: V_R
- Total capacitance: C_T at V_R
- Forward series resistance: R_{SF} at I_F
- Minority carrier lifetime: T_i
- Thermal resistance: R_{th}

13. Mechanical and packaging constraints

- Surface mounted devices (SMD)
- Cathode/anode layout
- Tin or gold final termination

Exens Solutions PIN diodes

TYPICAL REFLOW PROFILE FOR SMD DIODES

Profile feature	Sn-Pb eutectic assembly	Pb-free assembly
Average ramp-up rate (T_{Smax} to T_p)	3°C/second max.	3°C/second max.
Preheat		
- Temperature Min (T_{Smin})	100°C	150°C
- Temperature Max (T_{Smax})	150°C	200°C
- Time (T_{Smin} to T_{Smax})	60-120 seconds	60-180 seconds
Time maintained above:		
- Temperature (T_l)	183°C	217°C
- Time (t_l)	60-150 seconds	60-150 seconds
Peak/classification temperature (T_p)	See Table 1	See Table 2
Time within 5°C of actual peak temperature	10-30 seconds	20-40 seconds
Ramp-down rate	6°C/second max.	6°C/second max.
Time 25°C to peak temperature	6 minutes max.	8 minutes max.

Note 1: All temperatures refer to topside of the package, measured on the package body surface.

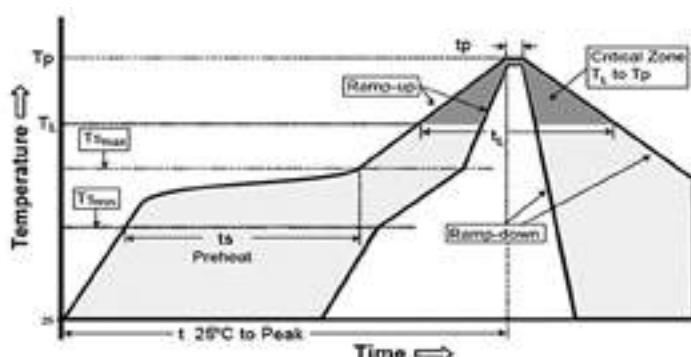


Table 1. SnPb eutectic process – Package peak reflow temperatures

Package thickness	Volume mm ³ < 350	Volume mm ³ ≥ 350
< 2.5 mm	240 +0/-5 °C	225 +0/-5°C
≥ 2.5 mm	225 +0/-5°C	225 +0/-5°C

Table 2. Pb-free process – Package peak reflow temperatures

Package thickness	Volume mm ³ < 350	Volume mm ³ 350 - 2000	Volume mm ³ ≥ 2000
< 1.6 mm	260 °C*	260 °C *	260 °C *
1.6 mm - 2.5 mm	260 °C*	250 °C *	245 °C *
> 2.5 mm	250 °C *	245 °C *	245 °C *

* Tolerance: The device manufacturer/supplier shall assure process compatibility up to and including the stated classification temperature at the rated MSL level.

Selection guide

SWITCHING PIN DIODES

Breakdown Voltage Vbr @ Ir = 10 µA V	Application	Capacitance @ F= 1 MHz pF		Serie Resistance Rs @ F= 120 MHz Ω	Minority Carrier Lifetime tl If =10mA. Ir=6 mA	Package (1)	Part Number	Page
		min	typ	max				
		@ Vr = 6V		@ If = 10 mA		typ (ns)		
30	Ultra Fast switching	0.08	0.12	1.8	20	Die	EH50033-00	34
30	Ultra Fast switching	0.12	0.17	1.5	20	Die	EH50034-00	34
30	Ultra Fast switching	0.17	0.23	1	25	Die	EH50035-00	34
30	Ultra Fast switching	0.23	0.4	0.9	30	Die	EH50036-00	34
30	Ultra Fast switching	0.22	0.29	1.5	20	M208b	DH50034-03	34
30	Ultra Fast switching	0.22	0.29	1.5	20	M208a	DH50034-12	34
30	Ultra Fast switching	0.26	0.32	1.8	20	F27d	DH50033-01	34
30	Ultra Fast switching	0.27	0.35	1	25	M208a	DH50035-02	34
30	Ultra Fast switching	0.4	0.6	0.7	45	Die	EH50037-00	34
30	Ultra Fast switching	0.50	0.72	0.7	45	M208a	DH50037-02	34
30	Ultra Fast switching	0.50	0.72	0.7	45	M208b	DH50037-11	34
30	Ultra Fast switching	-	0.8pF @ Vr=0V	1	40	SOT23. serie diode		DH50037-85N
35	Ultra Fast switching	0.25	0.3	2	150	SOT23. single diode		DH50051-51N
35	Ultra Fast switching	0.25	0.3	2	150	SOT23. common cathode		DH50051-53N
35	Ultra Fast switching	-	1pF @ Vr=0V	0.5	200	SOT23. single diode		DH50058-51N
35	Ultra Fast switching	-	1pF @ Vr=0V	0.5	200	SOT23. common cathode		DH50058-53N
50	Ultra Fast switching	0.06	0.08	1.6	30	Die	EH50052-00	36
50	Ultra Fast switching	0.08	0.12	1.4	30	Die	EH50053-00	36
50	Ultra Fast switching	0.12	0.17	1.1	35	Die	EH50054-00	36
50	Ultra Fast switching	0.17	0.23	1	40	Die	EH50055-00	36
50	Ultra Fast switching	0.16	0.2	1.6	30	M208a	DH50052-02	
50	Ultra Fast switching	0.23	0.4	0.9	50	Die	EH50056-00	36
50	Ultra Fast switching	0.22	0.29	1.1	35	M208b	DH50054-02	
50	Ultra Fast switching	0.30	0.35	1.5	200	SOT23. single diode		DH50053-51N
50	Ultra Fast switching	0.30	0.35	1.5	200	SOT23. common cathode		DH50053-53N
50	Ultra Fast switching	0.30	0.35	1.5	200	SOT23. common anode		DH50053-54N
50	Ultra Fast switching	0.30	0.35	1.5	200	SOT23. serie diode		DH50053-55N
50	Ultra Fast switching	0.4	0.6	0.7	60	Die	EH50057-00	36
50	Ultra Fast switching	0.5	0.7	0.75	60	DFN-2L1. single diode		DH50057-90N
50	Ultra Fast switching	0.50	0.72	0.7	60	M208a	DH50057-01	36
		@ Vr = 50V		@ If = 50 mA		min (µs)		
50	Fast switching	0.5	0.7	0.9	1	Melf. SMD4	SQM1050N	96
50	Fast switching	0.5	0.7	1	1	Melf. SMD4	SQM2050N	96
50	Fast switching	0.9	1.2	0.75	2	Melf. SMD4	SQM1250N	100
50	Fast switching	1	1.2	0.35	1	Melf. SMD4	SQM2150N	98
50	Fast switching	1.1	1.7	0.6	3.5	Melf. SMD6	SQM1350N	102
50	Fast switching	1.8	2.5	0.75	5	Melf. SMD8	SQM1450N	104

Selection guide

SWITCHING PIN DIODES

Breakdown Voltage Vbr @ Ir = 10 µA V	Application	Capacitance @ F= 1 MHz pF		Serie Resistance Rs @ F= 120 MHz Ω	Minority Carrier Lifetime tI If =10mA. Ir=6 mA	Package (1)	Part Number	Page
		typ	max	max				
		@ Vr = 6V		@ If = 10 mA	typ (ns)			
70	Ultra Fast switching	0.04	0.06	2	50	Die	EH50071-00	38
70	Ultra Fast switching	0.08	0.12	1.6	60	Die	EH50073-00	38
70	Ultra Fast switching	0.12	0.17	1.4	60	Die	EH50074-00	38
70	Ultra Fast switching	0.14	0.18	2	50	M208b	DH50071-05	38
70	Ultra Fast switching	0.14	0.18	2	50	M208a	DH50071-06	38
70	Ultra Fast switching	0.17	0.23	1	100	Die	EH50075-00	38
70	Ultra Fast switching	0.23	0.4	0.9	100	Die	EH50076-00	38
70	Ultra Fast switching	0.22	0.29	1.4	60	M208b	DH50074-01	38
70	Ultra Fast switching	0.33	0.52	0.9	100	M208a	DH50076-02	38
70	Ultra Fast switching	Cj=0.04	Cj=0.06	2	50	BMH76	DH50071-04	38
70	Ultra Fast switching	-	-	-	50	BMH76	MH151-00	40
70	Ultra Fast switching	0.4	0.6	0.7	150	Die	EH50077-00	38
100	Ultra Fast switching	0.025	0.04	2.5	60	Die	EH50100-00	42
100	Ultra Fast switching	0.04	0.06	1.9	150	Die	EH50101-00	42
100	Ultra Fast switching	0.06	0.08	1.7	150	Die	EH50102-00	42
100	Ultra Fast switching	0.08	0.12	1.4	200	Die	EH50103-00	42
100	Ultra Fast switching	0.12	0.17	1.2	250	Die	EH50104-00	42
100	Ultra Fast switching	0.17	0.23	1	300	Die	EH50105-00	42
100	Ultra Fast switching	0.23	0.4	0.8	400	Die	EH50106-00	42
100	Ultra Fast switching	0.22	0.29	1.2	250	M208a	DH50104-02	42
100	Ultra Fast switching	0.26	0.32	1.4	200	F27d	DH50103-01	42
100	Ultra Fast switching	0.3	0.37	1.2	250	F27d	DH50104-01	42
100	Ultra Fast switching	0.4	0.6	0.6	500	Die	EH50107-00	42
100	Ultra Fast switching	Cj=0.04	Cj=0.06	1.9	150	BH198	DH50101-12	42
100	Ultra Fast switching	Cj=0.04	Cj=0.06	1.9	150	BH194	DH50101-15	42
		@ Vr = 50V		@ If = 10 mA	typ (ns)			
100	Ultra Fast switching	0.14	0.18	2	150	DFN-2L1. single diode	DH50101-90N	106
100	Ultra Fast switching	0.2	0.25	1.5	500	DFN-2L1. single diode	DH50103-90N	106
100	Ultra Fast switching	-	0.35	3	500	SOT23. single diode	DH50103-51N	128
100	Ultra Fast switching	-	0.35	3	500	SOT23. common cathode	DH50103-53N	128
100	Ultra Fast switching	1.0	1.1	0.6	1300	DFN-2L1 single diode	DH50109-90N	106
100	Ultra Fast switching	-	1.2	0.6	1000	SOT23. single diode	DH50109-51N	128
100	Ultra Fast switching	-	1.2	0.6	1000	SOT23. common cathode	DH50109-53N	128
100	Ultra Fast switching	-	1.2	0.6	1000	SOT23. common anode	DH50109-54N	128
100	Ultra Fast switching	-	1.2	0.6	1000	SOT23. serie diode	DH50109-56N	128

SWITCHING PIN DIODES

Breakdown Voltage Vbr @ Ir = 10 µA V	Application	Capacitance @ F= 1 MHz pF		Serie Resistance Rs @ F= 120 MHz Ω	Minority Carrier Lifetime tI If =10mA. Ir=6 mA	Package (1)	Part Number	Page
		typ	max	max				
		@ Vr = 50V		@ If = 10 mA	typ (ns)			
150	Fast switching	0.04	0.06	2	200	Die	EH50151-00	44
150	Fast switching	0.06	0.08	1.7	230	Die	EH50152-00	44
150	Fast switching	0.08	0.12	1.5	300	Die	EH50153-00	44
150	Fast switching	0.12	0.17	1.4	500	Die	EH50154-00	44
150	Fast switching	0.17	0.23	1	550	Die	EH50155-00	44
150	Fast switching	0.16	0.2	1.7	230	M208b	DH50152-01	44
150	Fast switching	0.16	0.2	1.7	230	M208e	DH50152-11	44
150	Fast switching	0.18	0.24	1.5	300	M208a	DH50153-02	44
150	Fast switching	0.23	0.4	0.8	800	Die	EH50156-00	44
150	Fast switching	0.22	0.29	1.4	500	M208c	DH50154-02	44
150	Fast switching	0.27	0.35	1	550	M208b	DH50155-03	44
150	Fast switching	0.35	0.43	1	550	F27d	DH50155-00	44
150	Fast switching	0.4	0.5	0.85	800	DFN-2L0603	DH50156-96N	120
150	Fast switching	0.4	0.5	0.85	800	DFN-2L0503	DH50156-97N	120
150	Fast switching	0.4	0.5	0.85	800	DFN-3L1. serie diodes	DH50156-91N	120
150	Fast switching	0.4	0.6	0.6	950	Die	EH50157-00	44
150	Fast switching	0.5	0.72	0.6	950	M208b	DH50157-01	44
150	Fast switching	0.5	0.72	0.6	950	M208a	DH50157-11	44
200	Fast switching	0.06	0.08	2.1	400	Die	EH50202-00	46
200	Fast switching	0.08	0.12	1.5	500	Die	EH50203-00	46
200	Fast switching	0.12	0.17	1.3	650	Die	EH50204-00	46
200	Fast switching	0.17	0.23	1	800	Die	EH50205-00	46
200	Fast switching	0.16	0.2	2.1	400	M208f	DH50202-01	46
200	Fast switching	0.2	0.25	1.5	500	DFN-2L1. single diode	DH50203-90N	106
200	Fast switching	0.2	0.25	1.5	500	DFN-2L0503. single diode	DH50203-97N	106
200	Fast switching	0.22	0.3	1.3	650	M208a	DH50204-02	46
200	Fast switching	0.25	0.35	3	500	SOT23. single diode	DH50203-51N	128
200	Fast switching	0.25	0.35	3	500	SOT23. common cathode	DH50203-53N	128
200	Fast switching	0.26	0.32	1.5	500	F27d	DH50203-01	46
200	Fast switching	0.27	0.35	1	800	M208f	DH50205-02	46
200	Fast switching	0.3	0.37	1.3	650	F27d	DH50204-01	46
200	Fast switching	0.8	0.95	0.5	1500	Die	EH50209-00	46
200	Fast switching	1	1.1	0.6	1300	DFN-2L1. single diode	DH50209-90N	106
200	Fast switching	1	1.15	0.5	1500	F27d	DH50209-01	46
200	Fast switching	1	1.2	0.6	1000	SOT23. serie diode	DH50209-55N	128
200	Fast switching	1	1.2	0.6	1000	SOT23. serie diode	DH50209-56N	128
		@ Vr = 50V		@ If = 50 mA	min (µs)			
200	Fast switching	1	1.2	0.35	1	Melf. SMD4	SQM1150N	98
200	Fast switching	1	1.2	0.25	1	Melf. SMD4	DH50209-06N	70
200	MRI : Fast switching	1	1.2	0.25	1	Melf. SMD4AM	DH50209-40N	70

Selection guide

SWITCHING PIN DIODES

Breakdown Voltage Vbr @ Ir = 10 µA V	Application	Capacitance @ F= 1 MHz pF		Serie Resistance Rs @ F= 120 MHz Ω	Minority Carrier Lifetime tI If = 10mA. Ir=6 mA	Package (1)	Part Number	Page
		typ	max	max				
		@ Vr = 50V		@ If = 10 mA	typ (ns)			
250	Fast switching	0.04	0.06	2.4	330	Die	EH50251-00	48
250	Fast switching	0.08	0.12	2	900	Die	EH50253-00	48
250	Fast switching	0.12	0.17	1.4	900	Die	EH50254-00	48
250	Fast switching	0.14	0.18	2.4	330	M208b	DH50251-02	48
250	Fast switching	0.17	0.23	0.9	1000	Die	EH50255-00	48
250	Fast switching	0.23	0.4	0.8	1150	Die	EH50256-00	48
250	Fast switching	0.27	0.35	0.9	1000	M208a	DH50255-04	48
250	Fast switching	0.3	0.37	1.4	900	F27d	DH50254-02	48
250	Fast switching	0.35	0.43	0.9	1000	F27d	DH50255-01	48
250	Fast switching	0.41	0.60	0.8	1150	F27d	DH50256-02	48
250	Fast switching	0.43	0.6	0.8	1150	BH142a	DH50256-01	48
400	High Power Switching	0.45	0.6	2	2000	SOT23. single diode	DH80051-51N	128
		@ Vr = 50V		@ If = 100 mA	typ (µs)			
450	High Power Switching	0.045	0.06	2	1.5	Die	EH80041-00	50
450	High Power Switching	0.08	0.12	1.5	2.0	Die	EH80042-00	50
450	High Power Switching	0.14	0.16	2	1.5	DFN-2L1. single diode	DH80041-90N	106
450	High Power Switching	0.1	0.16	2.5	1	DFN-3L1. serie diodes	DH80041-93L	126
450	High Power Switching	0.15	0.18	2	1.5	M208b	DH80041-03	50
		@ Vr = 50V		@ If = 200 mA	min (µs)			
500	High Power Switching	0.15	0.2	0.65	1.1	Die	EH80050-00	52
500	High Power Switching	0.25	0.3	0.8 @ 100mA	typ. 2	DFN-2L1	DH80050-90N	103
500	High Power Switching	Cj = 0.15	Cj = 0.2	0.8 @ 100mA	typ. 2.5	DFN-3L2	DH80050-62N	128
500	High Power Switching	0.3	0.35	0.65	1.1	BH202	DH80050-03	52
500	High Power Switching	0.3	0.4	0.55	1.5	Die	EH80051-00	52
500	High Power Switching	0.35	0.4	0.65	1.1	F27d	DH80050-01	52
500	High Power Switching	0.35	0.4	0.65	1.1	BH142b	DH80050-22	52
500	High Power Switching	0.4	0.45	0.65	1.1	Melf. SMD4	DH80050-06N	72
500	High Power Switching	0.4	0.45	0.85	1.1	Melf. SMD4	DH80050-07N	72
500	MRI: High Power Switching	0.4	0.45	0.65	1.1	Melf. SMD4AM	DH80050-40N	72
500	High Power Switching	0.5	0.6	0.55	1.5	F27d	DH80051-01	52
500	High Power Switching	0.5	0.6	0.55	1.5	BH202	DH80051-03	52
500	High Power Switching	0.55	0.65	0.55	1.5	BH35	DH80051-05	52
500	High Power Switching	0.55	0.65	0.55	1.5	Melf. SMD4	DH80051-06N	74
500	MRI: High Power Switching	0.55	0.65	0.55	1.5	Melf. SMD4AM	DH80051-40N	74
500	High Power Switching	0.6	0.7	0.3	2	Die	EH80052-00	52
500	High Power Switching	Cj=0.6	Cj=0.7	0.3	2	BMH76	DH80052-17	52
500	High Power Switching	0.8	0.9	0.3	2	F27d	DH80052-01	52
500	High Power Switching	0.8	0.9	0.25	2.5	Die	EH80053-00	52
500	High Power Switching	0.9	1	0.3	typ. 2.5	DFN-2L2. single diode	DH80053-94N	114
500	High Power Switching	0.8	1.05	0.35	2.1	Melf. SMD4	DH80052-06N	76

SWITCHING PIN DIODES

Breakdown Voltage Vbr @ Ir = 10 µA V	Application	Capacitance @ F= 1 MHz pF		Serie Resistance Rs @ F= 120 MHz Ω	Minority Carrier Lifetime tI If = 10mA, Ir=6 mA	Package (1)	Part Number	Page
		typ	max					
		@ Vr = 50V		@ If = 200 mA	min (µs)			
500	MRI: High Power Switching	0.8	1.05	0.35	2.1	Melf, SMD4AM	DH80052-40N	76
500	High Power Switching	1	1.1	0.25	2.5	F27d	DH80053-01	52
500	High Power Switching	1	1.1	0.25	2.5	BH301	DH80053-02	52
500	High Power Switching	1	1.1	0.25	2.5	BH202	DH80053-03	52
500	High Power Switching	1	1.2	0.3	2.5	Melf, SMD4	DH80053-06N	78
500	MRI: High Power Switching	1	1.2	0.3	2.5	Melf, SMD4AM	DH80053-40N	78
500	High Power Switching	1	1.3	0.22	3	Die	EH80055-00	50
500	High Power Switching	1.1	1.35	0.27	3	Melf, SMD4	DH80054-06N	80
500	MRI: High Power Switching	1.1	1.35	0.27	3	Melf, SMD4AM	DH80054-40N	80
500	High Power Switching	1.35	1.45	0.22	3.5	BH202	DH80055-03	52
500	High Power Switching	1.2	1.5	0.22	3.5	F27d	DH80055-01	52
500	High Power Switching	1.25	1.55	0.25	3.5	Melf, SMD4	DH80055-06N	82
500	High Power Switching	1.25	1.55	0.25	3.5	Melf, SMD6	DH80055-20N	82
500	MRI: High Power Switching	1.25	1.55	0.25	3.5	Melf, SMD4AM	DH80055-40N	82
500	MRI: High Power Switching	2.8 @100V	3.5 @ 100V	0.15	6	Melf, SMD8AM	DH80058-44N	84
800	High Power Switching	0.15	0.35	0.7	2	Die	EH80080-00	54
800	High Power Switching	Cj=0.15	Cj=0.35	0.7	2	BMH76	DH80080-01	54
800	High Power Switching	0.25	0.45	0.75	typ. 2	DFN-2L2	DH80080-94N	114
800	High Power Switching	0.3	0.5	0.7	2	BH202	DH80080-02	54
800	High Power Switching	0.35	0.55	0.7	2	F27d	DH80080-00	54
800	High Power Switching	0.35	0.55	0.7	2	F60	DH80080-03	54
800	High Power Switching	0.5	0.65	0.7	2	Melf, SMD4	DH80080-06N	86
800	MRI: High Power Switching	0.5	0.65	0.7	2	Melf, SMD4AM	DH80080-40N	86
800	High Power Switching	0.8	0.9	0.3	3	Die	EH80083-00	54
800	High Power Switching	Cj=0.8	Cj=0.9	0.3	3	BMH76	DH80083-07	54
800	High Power Switching	0.8	1.00	0.35	3	Melf, SMD4	DH80082-06N	88
800	High Power Switching	0.8	1.00	0.35	3	Melf, SMD6	DH80082-20N	88
800	MRI: High Power Switching	0.8	1.00	0.35	3	Melf, SMD4AM	DH80082-40N	88
800	High Power Switching	0.85	1.00	0.35	3	BH64	DH80082-11N	56
800	High Power Switching	1.0	1.1	0.3	3	F27D	DH80083-01	54
800	High Power Switching	1.0	1.1	0.3	3	BH301	DH80083-02	54
800	High Power Switching	1.2	1.3	0.3	3	BH141	DH80083-05	54
900	MRI: High Power Switching	1.8	2.1	0.3	7	BH158AM	DH80106-10N	54
1000	High Power Switching	0.05	0.06	5	1 max	DFN-3L1. serie diode	DH85100-91L	126
1000	High Power Switching	0.3	0.4	0.6	3	Die	EH80100-00	58
1000	High Power Switching	0.35	0.5	0.65	typ. 3	DFN-2L2, single diode	DH80100-94N	114
1000	High Power Switching	0.45	0.55	0.6	3	BH202	DH80100-03	58
1000	High Power Switching	0.5	0.6	0.6	3	F27d	DH80100-01	58
1000	High Power Switching	0.5	0.6	0.6	3	BH142a	DH80100-04	58

Selection guide

SWITCHING PIN DIODES

Breakdown Voltage Vbr @ Ir = 10 µA V	Application	Capacitance @ F= 1 MHz pF		Serie Resistance Rs @ F= 120 MHz Ω	Minority Carrier Lifetime tI If =10mA, Ir=6 mA	Package (1)	Part Number	Page
		typ	max	max				
		@ Vr = 50V		@ If = 200 mA	min (µs)			
1000	High Power Switching	0.5	0.6	0.6	3	BH142b	DH80100-10	58
1000	High Power Switching	0.5	0.65	0.6	3	BH64	DH80100-11N	56
1000	High Power Switching	0.5	0.65	0.6	3	Melf, SMD4	DH80100-06N	90
1000	High Power Switching	0.5	0.65	0.6	3	Melf, SMD6	DH80100-20N	90
1000	MRI: High Power Switching	0.5	0.65	0.6	3	Melf, SMD4AM	DH80100-40N	90
1000	High Power Switching	0.6	0.75	0.35	4	Die	EH80102-00	58
1000	High Power Switching	0.65	0.85	0.4	typ. 4	DFN-2L2, single diode	DH80102-94N	114
1000	High Power Switching	0.8	0.95	0.35	4	BH202	DH80102-03	58
1000	High Power Switching	0.8	0.95	0.35	4	F27d	DH80102-01	58
1000	High Power Switching	0.8	0.95	0.35	4	BH301	DH80102-02	58
1000	High Power Switching	0.85	1.0	0.35	4	BH64	DH80102-11N	56
1000	High Power Switching	0.85	1.0	0.35	4	Melf, SMD6	DH80102-20N	92
1000	High Power Switching	1	1.15	0.35	4	BH141	DH80102-04	58
1000	MRI: High Power Switching	1	1.15	0.35	4	BH158AM	DH80102-15	58
1000	High Power Switching	0.95	1.15	0.35	4	Melf, SMD8	DH80102-24N	92
1000	MRI: High Power Switching	0.95	1.15	0.35	4	Melf, SMD8AM	DH80102-44N	92
1000	High Power Switching	1.4	1.7	0.3	7	Die	EH80106-00	60
1000	High Power Switching	1.6	1.9	0.3	7	BH202	DH80106-03	60
1000	MRI: High Power Switching	1.5	2.1	0.3	7	Melf, SMD8AM	DH80106-44N	94
1000	High Power Switching	1.5	2.1	0.3	7	Melf, SMD8	DH80106-24N	94
1000	High Power Switching	1.8	2.1	0.3	7	BH141	DH80106-01	60
		@ Vr = 100V		@ If = 300 mA	min (µs)			
1200	High Power Switching	0.3	0.4	0.55	6	Die	EH80120-00	58
1200	High Power Switching	0.5	0.6	0.55	6	BH202	DH80120-03	58
1200	High Power Switching	0.5	0.6	0.55	6	BH301	DH80120-02	58
1200	High Power Switching	0.5	0.6	0.55	6	F27d	DH80120-01	58
1200	High Power Switching	0.7	0.8	0.55	6	BH142B	DH80120-14	58
1200	High Power Switching	1	1.2	0.35	10	Die	EH80124-00	62
1200	High Power Switching	1.25	1.45	0.35	10	BH35	DH80124-04	62
1200	High Power Switching	1.4	1.6	0.35	10	BH141	DH80124-01	62
1200	MRI: High Power Switching	1.4	1.6	0.35	10	BH158AM	DH80124-10	62
1200	High Power Switching	2	2.3	0.25	15	Die	EH80129-00	62
1200	High Power Switching	2.4	2.7	0.25	15	BH141	DH80129-01	62
1200	High Power Switching	2.4	2.7	0.25	15	BH300	DH80129-02	62
1500	High Power Switching	1	1.2	0.35	10	Die	EH80154-00	62
1500	High Power Switching	1.4	1.6	0.35	10	BH141	DH80154-01	62
1500	High Power Switching	1.4	1.6	0.35	10	BH300	DH80154-02	62
1500	High Power Switching	1.4	1.6	0.35	10	BH200a	DH80154-03	62
1500	High Power Switching	2	2.3	0.25	15	Die	EH80159-00	62

SWITCHING PIN DIODES

Breakdown Voltage Vbr @ Ir = 10 µA V	Application	Capacitance @ F= 1 MHz pF		Serie Resistance Rs @ F= 120 MHz Ω	Minority Carrier Lifetime tI If = 10mA, Ir=6 mA	Package (1)	Part Number	Page
		typ	max	max				
		@ Vr = 100V		@ If = 300 mA	min (µs)			
1500	High Power Switching	2.4	2.7	0.25	15	BH141	DH80159-01	64
1500	High Power Switching	2.4	2.7	0.25	15	BH200a	DH80159-03	64
		@ Vr = 200V		@ If = 300 mA	min (µs)			
1800	High Power Switching	0.6	0.8	0.5	12	Die	EH80182-00	64
1800	High Power Switching	0.85	1.05	0.5	12	BH35	DH80182-04	64
1800	High Power Switching	1.00	1.2	0.5	12	BH141	DH80182-01	64
1800	High Power Switching	1.00	1.2	0.5	12	BH158	DH80182-09	64
2000	High Power Switching	1	1.3	0.4	14	Die	EH80204-00	64
2000	High Power Switching	1.4	1.7	0.4	14	BH300	DH80204-02	64
2000	High Power Switching	1.4	1.7	0.4	14	BH141	DH80204-01	64
2000	MRI: High Power Switching	1.4	1.7	0.4	14	BH158AM	DH80204-09	64
2000	High Power Switching	2	2.4	0.3	18	Die	EH80209-00	64
2000	High Power Switching	2.4	2.8	0.3	18	BH300	DH80209-02	64
2000	High Power Switching	2.4	2.8	0.3	18	BH141	DH80209-01	64
2000	High Power Switching	2.4	2.8	0.3	18	BH300	DH80209-02	64
2000	High Power Switching	2.4	2.8	0.3	18	BH200a	DH80209-03	64
2000	MRI: High Power Switching	2.4	2.8	0.3	18	BH158AM	DH80209-13	64
2000	High Power Switching	3	3.4	0.15	25	Die	EH80210-00	64
2000	High Power Switching	3.4	3.8	0.15	25	BH141	DH80210-01	64
2000	High Power Switching	3.4	3.8	0.15	25	BH300	DH80210-02	64
2000	High Power Switching	3.4	3.8	0.15	25	BH200a	DH80210-03	64
2000	High Power Switching	3.4	3.8	0.15	25	BH303	DH80210-04	64
2000	MRI: High Power Switching	3.4	3.8	0.15	25	BH141AM	DH80210-07	64
2000	MRI: High Power Switching	3.4	3.8	0.15	25	BH158AM	DH80210-10	64
		@ Vr = 200V		@ If = 500 mA	min (µs)			
2800	MRI: High Power Switching	3.2	4	0.25	35	BH158AM	DH80289-01	66
2800	High Power Switching	3.2	4	0.25	35	BH141	DH80289-02	66
3000	MRI: High Power Switching	1.5	2.5	0.35	25	BH158AM	DH80307-01	66
3000	High Power Switching	1.5	2.5	0.35	25	BH300	DH80307-02	66
3000	MRI: High Power Switching	1.5	2.5	0.35	25	BH303AM-A	DH80307-05	66
3000	MRI: High Power Switching	1.5	2.5	0.35	25	BH303AM-E	DH80307-06	66
3000	High Power Switching	1.5	2.5	0.35	25	BH141	DH80307-08	66
3000	MRI: High Power Switching	3	4	0.25	35	BH68AM	DH80309-05	68
3000	High Power Switching	3.2	4	0.25	35	BH158AM	DH80309-01	66
3000	High Power Switching	3.2	4	0.25	35	BH300	DH80309-02	66
3000	High Power Switching	3.2	4	0.25	35	BH141	DH80309-08	66
3000	High Power Switching	3.2	4	0.25	35	BH303AM-E	DH80309-09	66

(1): other package available on request, consult factory.

Selection guide

RF SWITCHES PIN DIODES

Frequency range MHz	Application	Switch Type	CW Input Power W	Insertion loss dB		Isolation dB		Suggested bias conditions		Package	Part Number	Page
			max	max		min		Forward	Reverse			
								mA typ	V typ			
				@ 400 MHz, 100mA		@ 400 MHz, 50V						
20 - 1000	High Power Switch	SP2T, common anode	100	0,35		25		200	150	BH203	SH90103-06	132
20 - 1000	High Power Switch	SP2T, common cathode	100	0,35		25		200	150	BH203	SH91103-07	132
20 - 1000	High Power Switch	SP3T, common anode	100	0,35		25		200	150	BH204	SH92103-03	132
20 - 1000	High Power Switch	SP3T, common cathode	100	0,35		25		200	150	BH204	SH93103-10	132
				@ 100 MHz, 200mA	@ 100 MHz, 100V							
20 - 500	High Power Switch	SP2T, common anode	500	0.20		33		400	600	BH403	SH90107-01	132
20 - 500	High Power Switch	SP2T, common cathode	500	0.20		33		400	600	BH403	SH91107-01	132
1,5 - 50	High Power Switch	SP2T, common anode	1000	0.20		33		500	700	BH403	SH90109-01	132
1,5 - 50	High Power Switch	SP2T, common cathode	1000	0.20		33		500	700	BH403	SH91109-01	132

ATTENUATOR PIN DIODES

Applicable Voltage Vr @ Ir = 10 µA V	Application	Capacitance @ F= 1 MHz. @ 50V pF		Serie Resistance Rs @ F= 120 MHz Ω						Minority carrier lifetime If = 10 mA, If = 6 mA	Package (1)	Part Number	Page		
				If = 0.1mA		If = 1mA		If = 10mA							
		typ	typ	min	max	min	max	min	max						
100	Attenuator. AGC	0.05	0.10	300	700	50	100	6.0	12.5	2.5	Die	EH40141-00	136		
100	Attenuator. AGC	0.10	0.30	150	400	25	50	3.0	7.0	5.0	Die	EH40144-00	136		
100	Attenuator. AGC	0.10	0.30	300	700	50	100	6.0	12.5	7.0	Die	EH40225-00	136		
100	Attenuator. AGC	0.10	0.25	300	650	50	80	6	11	7.0	Die	EH40226-00	136		
100	Attenuator. AGC	0.15	0.22	300	700	50	100	6.0	12.5	2.5	M208b	DH40141-01	136		
100	Attenuator. AGC	0.15	0.22	300	700	50	100	6.0	12.5	2.5	M208a	DH40141-02	136		
100	Attenuator. AGC	0.15	0.22	300	700	50	100	6.0	12.5	2.5	M208f	DH40141-03	136		
100	Attenuator. AGC	0.20	0.42	150	400	25	50	3.0	7.0	5.0	M208a	DH40144-02	136		
100	Attenuator. AGC	0.20	0.42	150	400	25	50	3.0	7.0	5.0	M208f	DH40144-03	136		
100	Attenuator. AGC	0.25	0.35	300	700	50	100	6.0	12.5	2.5	SOT23, single diode	DH40141-51N	136		
100	Attenuator. AGC	0.25	0.35	300	700	50	100	6.0	12.5	2.5	SOT23, common cathode	DH40141-53N	136		
100	Attenuator. AGC	0.25	0.35	300	700	50	100	6.0	12.5	2.5	SOT23, serie diode	DH40141-55N	136		
100	Attenuator. AGC	0.25	0.35	300	700	50	100	6.0	12.5	2.5	SOT323, Single diode, dual output	DH40141-87N (*)	136		
100	Attenuator. AGC	0.30	0.55	150	400	25	50	3.0	7	5.0	SOT23, single diode	DH40144-51N	136		
100	Attenuator. AGC	0.30	0.55	150	400	25	50	3.0	7	5.0	SOT23, common cathode	DH40144-53N	136		
100	Attenuator. AGC	0.30	0.55	150	400	25	50	3.0	7	5.0	SOT23, serie diode	DH40144-55N	136		
100	Attenuator. AGC	0.30	0.55	300	700	50	100	6.0	12.5	7.0	SOT23, single diode	DH40225-51N	136		
100	Attenuator. AGC	0.30	0.55	300	700	50	100	6.0	12.5	7.0	SOT23, common cathode	DH40225-53N	136		
100	Attenuator. AGC	0.30	0.55	300	700	50	100	6.0	12.5	7.0	SOT23, serie diode	DH40225-55N	136		
100	Attenuator. AGC	0.30	0.5	300	650	50	80	6	11	7.0	SOT23, single diode	DH40226-51N	136		
100	Attenuator. AGC	0.30	0.5	300	650	50	80	6	11	7.0	SOT143	DH40226-72N	136		

(*): DH40141 - 87N: Rs at 100mA < 3 - (1): other package available on request, consult factory.

LIMITER PIN DIODES

Breakdown Voltage Vbr @ Ir = 10 µA		Application	Capacitance @ F = 1 MHz pF			Serie Resistance Rs @ F = 120 MHz Ω	Minority carrier lifetime tI ns	Threshold @ F= 2.7 GHz, 1 dB Limiting dBm	Leakage power Pout @ F= 2.7GHz dBm	Peak Power with Pulse = 1 µs DC=1% dBm	CW power Pin W	Package (1)	Part Number	Page
min	max		@ Vr= 0V	@ Vr= 6V	If = 10 mA	If= 10 mA, Ir= 6 mA	typ	typ	max	max	max			
			typ	typ	max	max	typ	typ	max	max	max			
25	50	Limiter	0.14	0.10	0.12	1.8	20	10	20	50	2.0	Die	EH60033-00	138
25	50	Limiter	0.2	0.14	0.17	1.5	20	10	20	50	2.0	Die	EH60034-00	138
25	50	Limiter	0.28	0.2	0.23	1	25	10	21	52	2.5	Die	EH60035-00	138
25	50	Limiter	0.24	0.2	0.24	1.8	20	10	20	50	2.0	M208b	DH60033-03	138
25	50	Limiter	0.24	0.2	0.24	1.8	20	10	20	50	2.0	M208a	DH60033-06	138
25	50	Limiter	0.3	0.24	0.29	1.5	20	10	20	50	2.0	M208b	DH60034-05	138
25	50	Limiter	0.3	0.24	0.29	1.5	20	10	20	50	2.0	M208a	DH60034-06	138
25	50	Limiter	0.32	0.28	0.32	1.8	20	10	20	50	2.0	F27d	DH60033-02	138
25	50	Limiter	0.38	0.3	0.35	1	25	10	21	52	2.5	M208a	DH60035-02	138
25	50	Limiter	0.38	0.3	0.35	1	25	10	21	52	2.5	DFN3L2	DH60035-62N	146
25	50	Limiter	0.38	0.32	0.37	1.5	20	10	20	50	2.0	F27d	DH60034-02	138
25	50	Limiter	0.45	0.30	0.4	0.9	30	10	22	53	3.0	Die	EH60036-00	138
25	50	Limiter	0.46	0.38	0.43	1	25	10	21	52	2.5	F27d	DH60035-01	138
25	50	Limiter	0.55	0.40	0.52	0.9	30	10	22	53	3.0	M208b	DH60036-03	138
25	50	Limiter	0.63	0.48	0.6	0.9	30	10	22	53	3.0	F27d	DH60036-01	138
25	50	Limiter	0.7	0.5	0.6	0.7	40	10	23	56	4.0	Die	EH60037-00	138
25	50	Limiter	0.8	0.6	0.72	0.7	40	10	23	56	4.0	M208b	DH60037-02	138
25	50	Limiter	0.8	0.6	0.72	0.7	40	10	23	56	4.0	M208a	DH60037-06	138
50	70	Limiter	0.1	0.07	0.08	1.8	30	15	24	52	2.5	Die	EH60052-00	138
50	70	Limiter	0.14	0.10	0.12	1.4	30	15	24	53	3.0	Die	EH60053-00	138
50	70	Limiter	0.2	0.14	0.17	1.1	35	15	25	53	3.0	Die	EH60054-00	138
50	70	Limiter	0.2	0.17	0.2	1.8	30	15	24	52	2.5	M208a	DH60052-02	138
50	70	Limiter	0.2	0.17	0.2	1.8	30	15	24	52	2.5	M208b	DH60052-03	138
50	70	Limiter	0.2	0.17	0.2	1.8	30	15	24	52	2.5	M208f	DH60052-04	138
50	70	Limiter	Cj=0.1	Cj=0.07	Cj=0.08	1.8	30	15	24	52	2.5	BMH76	DH60052-01	138
50	70	Limiter	0.28	0.20	0.23	1	40	15	26	54	3.5	Die	EH60055-00	138
50	70	Limiter	0.24	0.2	0.24	1.4	30	15	24	52	2.5	M208f	DH60053-02	138
50	70	Limiter	0.3	0.24	0.29	1.1	35	15	25	53	3.0	M208b	DH60054-03	138
50	70	Limiter	0.38	0.30	0.35	1	40	15	26	54	3.5	M208a	DH60055-02	138
50	70	Limiter	0.38	0.32	0.37	1.1	35	15	25	53	3.0	F27d	DH60054-02	138
50	70	Limiter	0.45	0.30	0.4	0.9	50	15	27	57	4.0	Die	EH60056-00	138
50	70	Limiter	0.55	0.40	0.52	0.9	50	15	27	57	4.0	M208b	DH60056-01	138
50	70	Limiter	0.7	0.50	0.6	0.8	60	15	28	58	5.0	Die	EH60057-00	138
50	70	Limiter	0.8	0.6	0.72	0.8	60	15	28	58	5.0	M208b	DH60057-03	138
50	70	Limiter	Cj=0.7	Cj=0.5	Cj=0.6	0.8	60	15	28	58	5.0	BMH76	DH60057-02	138

Selection guide

LIMITER PIN DIODES

Breakdown Voltage Vbr @ Ir = 10 µA		Application	Capacitance @ F = 1 MHz pF			Serie Resistance Rs @ F = 120 MHz Ω	Minority carrier lifetime tI ns	Threshold @ F= 2.7 GHz, 1 dB Limiting dBm	Leakage power Pout @ F= 2.7GHz dBm	Peak Power with Pulse = 1 µs DC=1% dBm	CW power Pin W	Package (1)	Part Number	Page
min	max		@ Vr= 0V	@ Vr= 6V	If = 10 mA	If = 10 mA, Ir = 6 mA	typ	typ	max	max	max			
			typ	typ	max	max	typ	typ	max	max	max			
70	90	Limiter	0.1	0.07	0.08	1.7	50	18	27	54	3.0	Die	EH60072-00	138
70	90	Limiter	0.2	0.14	0.17	1.4	60	18	30	55	4.0	Die	EH60074-00	138
70	90	Limiter	0.2	0.17	0.2	1.7	50	18	27	54	3.0	M208b	DH60072-03	138
70	90	Limiter	0.3	0.24	0.29	1.4	60	18	30	55	4.0	M208a	DH60074-01	138
70	90	Limiter	0.45	0.3	0.4	0.9	100	18	32	58	5.0	Die	EH60076-00	138
70	90	Limiter	0.55	0.4	0.52	0.9	100	18	32	58	5.0	M208a	DH60076-02	138
90	120	Limiter	0.1	0.07	0.08	1.7	150	20	31	56	3.5	Die	EH60102-00	138
90	120	Limiter	0.2	0.14	0.17	1.2	250	20	33	59	5.0	Die	EH60104-00	138
90	120	Limiter	0.2	0.17	0.2	1.7	150	20	31	56	3.5	M208a	DH60102-02	138
90	120	Limiter	0.2	0.17	0.2	1.7	150	20	31	56	3.5	M208b	DH60102-03	138
90	120	Limiter	0.3	0.24	0.29	1.2	250	20	33	59	5.0	M208b	DH60104-01	138
90	120	Limiter	0.3	0.24	0.29	1.2	250	20	33	59	5.0	M208f	DH60104-02	138
90	120	Limiter	0.45	0.3	0.4	0.8	400	20	35	61	7.0	Die	EH60106-00	138
90	120	Limiter	0.55	0.4	0.52	0.8	400	20	35	61	7.0	M208a	DH60106-02	138
90	120	Limiter	0.55	0.4	0.52	0.8	400	20	35	61	7.0	M208b	DH60106-03	138
90	120	Limiter	0.63	0.48	0.60	0.8	400	20	35	61	7.0	F27d	DH60106-01	138
140	200	Limiter	0.4	0.18	0.25	1.2	200	28	30	60	15	die	EH60154-00	138
140	200	Limiter	0.5	0.28	0.37	1.2	200	28	30	60	15	M208a	DH60154-02	138
140	200	Limiter	0.5	0.28	0.37	1.2	200	28	30	60	15	M208b	DH60154-03	138
140	200	Limiter	0.52	0.3	0.4	1.2	200	25	30	60	15	DFN 3L2	DH60154-62N	146
140	200	Limiter	0.58	0.36	0.45	1.2	200	28	30	60	15	F27d	DH60154-01	138
200	--	Limiter	0.1	0.07	0.08	2.1	400	26	35	58	10	die	EH60202-00	138
200	--	Limiter	0.2	0.14	0.17	1.4	900	34	37	60	15	die	EH60204-00	138
200	--	Limiter	0.2	0.17	0.2	2.1	400	26	35	58	10	M208b	DH60202-03	138
200	--	Limiter	0.28	0.25	0.28	2.1	400	26	35	58	10	F27d	DH60202-01	138
200	--	Limiter	0.3	0.24	0.29	1.4	900	34	37	60	15	M208b	DH60204-03	138

(1): other package available on request, consult factory.

FREQUENCY MULTIPLIER PIN DIODES

Breakdown Voltage Vbr @ Ir = 10 μ A V		Application	Capacitance @ F=1MHz, Vr = 6V pF		Minority carrier lifetime tI If = 10mA, Ir=6 mA ns	Snap-Off Time tso If = 10 mA, Vr = 10V ps		Output Frequency F.out GHz	Package (1)	Part Number	Page
min	max		min	max		min	max				
15	25	High Multiplication order	0.2	0.3	6	60	10 - 25	Die	EH267-00	152	
15	30	High Multiplication order	-	0.4	6	60	10 - 25	DFN 2L0603	DH267-96N	154	
15	30	High Multiplication order	-	0.4	6	60	10 - 25	DFN 2L0503	DH267-97N	154	
15	25	High Multiplication order	0.28	0.42	6	60	10 - 25	M208b	DH267-41	152	
20	35	High Multiplication order	0.2	0.5	10	75	8 - 16	Die	EH292-00	152	
20	35	High Multiplication order	0.28	0.62	10	75	8 - 16	M208b	DH292-105	152	
20	35	High Multiplication order	0.28	0.62	10	75	8 - 16	M208a	DH292-88	152	
20	35	High Multiplication order	0.34	0.7	10	75	8 - 16	F27d	DH292-00	152	
30	45	High Multiplication order	0.5	1.1	20	120	5 - 12	Die	EH256-00	152	
30	45	High Multiplication order	0.58	1.22	20	120	5 - 12	M208b	DH256-57	152	
30	45	High Multiplication order	0.64	1.3	20	120	5 - 12	F27d	DH256-00	152	
40	60	High Multiplication order	0.9	2.0	35	200	2 - 8	Die	EH252-00	152	
40	60	High Multiplication order	0.98	2.12	35	200	2 - 8	M208b	DH252-01	152	
40	60	High Multiplication order	1.04	2.2	35	200	2 - 8	F27d	DH252-00	152	
45	70	High Multiplication order	4.0	7.0	125	400	0.2 - 2	Die	EH294-00	152	
45	70	High Multiplication order	4.0	7.1	125	400	0.2 - 2	DFN 2L0603	DH294-96N	154	
45	70	High Multiplication order	4.08	7.12	125	400	0.2 - 2	M208a	DH294-28	152	
45	70	High Multiplication order	4.14	7.2	125	400	0.2 - 2	BH142a	DH294-27	152	

(1): other package available on request, consult factory.

STEP RECOVERY DIODES

Breakdown Voltage Vbr @ Ir = 10 μ A V		Application	Capacitance @ F=1MHz, Vr = 6V pF		Minority carrier lifetime tI If =10mA, Ir=6 mA ns	Snap-Off Time tso If = 10 mA, Vr = 10V ps		Package (1)	Part Number	Page
min	max		min	typ		max				
25	Comb generator	0.4	10	75	100			Die	EH545-00	156
25	Comb generator	0.52	10	75	100			M208b	DH545-01	156
25	Comb generator	0.52	10	75	100			M208a	DH545-11	156
25	Comb generator	0.65	10	75	100			SOT23, single diode	DH545-51N	158
25	Comb generator	0.65	10	75	100			SOD323	DH545-60N	158
30	Comb generator	1.0	20	90	140			Die	EH543-00	156
30	Comb generator	1.2	20	90	140			F27d	DH543-01	156
30	Comb generator	1.25	20	90	140			SOT23, single diode	DH543-51N	158
50	Comb generator	1.5	40	150	250			Die	EH542-00	156

(1): other package available on request, consult factory.

Selection guide

ANTI PARALLEL PIN DIODES

Die Voltage @ Ir < 10 µA V	Application	Configuration	Breakdown Voltage Vbr @ Ir = 10 µA	Capacitance @ F=1MHz, @ Vr = 0V pF			Serie Resistance @ 10 mA F= 120 MHz Ω	Minority carrier lifetime tI If = 10mA, Ir=6 mA ns	Package	Part Number	Page
			min	min	typ	max	max	typ			
70	MRI passive rectifier or short circuit diode	Antiparallel pair	1.2	1.8		1.2	100	BH60AM	DH52076-01	160	
70	MRI passive rectifier or short circuit diode	Antiparallel pair	1.2	1.8		1.2	100	BH61AM	DH52076-02	160	
70	MRI passive rectifier or short circuit diode	Antiparallel pair	1.6	2.1		1.2	100	BH62AM	DH52076-03	162	
70	MRI passive rectifier or short circuit diode	Dual Antiparallel pair	2.2	3.3		0.6	100	BH60AM	DH54076-01	160	
70	MRI passive rectifier or short circuit diode	Dual Antiparallel pair	2.2	3.3		0.6	100	BH61AM	DH54076-02	160	
70	MRI passive rectifier or short circuit diode	Dual Antiparallel pair	3	4		0.6	100	BH62AM	DH54076-03	162	

VOLTAGE MULTIPLIER DIODES

Applicable Voltage Vr @ Ir = 100nA	Application	Capacitance @ F=1MHz, @ Vr = 50V pF			Reverse Recovery Time Trr ns	Package (1)	Part Number	Page
		min	typ	max				
500	Voltage Multiplier	0.1	0.2	700	700	DFN-3L1, serie diode, clockwise	DH85050-93N	164
1000	Voltage Multiplier	0.06	0.1	500	500	DFN-3L1, serie diode, counter clockwise	DH85100-91N	164

HYPERABRUPT TUNING VARACTORS

Breakdown Voltage Vbr @ Ir = 10 µA	Application	Capacitance @ F = 1 MHz pF				Tuning Ratio @ F= 1 MHz		Figure of Merit @ F = 1 GHz, Vr=4V	Package (1)	Part Number	Page
		Vr = 1V	Vr = 4V	Vr = 12V	Vr = 20V	Ct1V/Ct12V	Ct1V/Ct20V				
		typ	typ	@ ±20%	typ	typ	typ				
20V	VCO, Tunable filter	2.3	1.0	0.4	0.3	5.5	7.3	100	Die	EH76010-00	166
20V	VCO, Tunable filter	2.4	1.1	0.5	0.4	4.7	5.8	100	M208a	DH76010-01	166
20V	VCO, Tunable filter	2.4	1.1	0.5	0.4	4.7	5.8	100	M208b	DH76010-03	166
20V	VCO, Tunable filter	2.6	1.3	0.7	0.6	3.9	4.5	100	SOD323	DH76010-60N	166
20V	VCO, Tunable filter	3.4	1.5	0.6	0.5	5.5	6.9	90	Die	EH76015-00	166

HYPERABRUPT TUNING VARACTORS

Breakdown Voltage $V_{br} @ I_r = 10 \mu A$	Application	Capacitance @ $F = 1 \text{ MHz}$ pF				Tuning Ratio @ $F = 1 \text{ MHz}$		Figure of Merit @ $F = 1 \text{ GHz}$, $V_r=4V$	Package (1)	Part Number	Page			
		$V_r = 1V$		$V_r = 4V$		$V_r = 12V$								
		typ	typ	@ $\pm 20\%$	typ	typ	typ	typ						
20V	VCO, Tunable filter	3.5	1.6	0.7	0.6	4.9	5.7	90	M208a	DH76015-01	166			
20V	VCO, Tunable filter	3.5	1.6	0.7	0.6	4.9	5.7	90	M208b	DH76015-03	166			
20V	VCO, Tunable filter	3.6	1.7	0.8	0.7	4.5	5.1	90	F27d	DH76015-02	166			
20V	VCO, Tunable filter	3.7	1.8	0.9	0.8	4.3	4.9	90	SOD323	DH76015-60N	166			
20V	VCO, Tunable filter	5.0	2.2	0.9	0.7	5.5	6.9	75	Die	EH76022-00	166			
20V	VCO, Tunable filter	5.1	2.3	1.0	0.8	5.0	6.2	75	M208a	DH76022-02	166			
20V	VCO, Tunable filter	5.1	2.3	1.0	0.8	5.0	6.2	75	BH15	DH76022-10	166			
20V	VCO, Tunable filter	5.3	2.5	1.2	1.0	4.5	5.4	75	SOD323	DH76022-60N	166			
20V	VCO, Tunable filter	7.5	3.3	1.4	1.1	5.4	6.8	58	Die	EH76033-00	166			
20V	VCO, Tunable filter	7.6	3.4	1.5	1.2	5.0	6.2	58	M208b	DH76033-01	166			
20V	VCO, Tunable filter	7.6	3.4	1.5	1.2	5.0	6.2	58	M208a	DH76033-02	166			
20V	VCO, Tunable filter	7.8	3.6	1.7	1.4	4.7	5.7	58	SOD323	DH76033-60N	166			
20V	VCO, Tunable filter	10.8	4.7	2.0	1.5	5.4	7.1	40	Die	EH76047-00	166			
20V	VCO, Tunable filter	10.9	4.8	2.1	1.6	5.2	6.8	40	M208a	DH76047-01	166			
20V	VCO, Tunable filter	10.9	4.8	2.1	1.6	5.2	6.8	40	M208b	DH76047-02	166			
20V	VCO, Tunable filter	11.0	4.9	2.2	1.7	5.0	6.4	40	F27d	DH76047-03	166			
20V	VCO, Tunable filter	11.1	5.0	2.3	1.8	4.8	6.1	40	SOD323	DH76047-60N	166			
20V	VCO, Tunable filter	15.8	6.7	2.8	2.2	5.6	7.1	25	Die	EH76068-00	166			
20V	VCO, Tunable filter	15.9	6.8	2.9	2.3	5.5	6.9	25	M208b	DH76068-01	166			
20V	VCO, Tunable filter	15.9	6.8	2.9	2.3	5.5	6.9	25	M208a	DH76068-02	166			
20V	VCO, Tunable filter	16.1	7.0	3.1	2.5	5.0	6.3	25	SOD323	DH76068-60N	166			
20V	VCO, Tunable filter	22.8	10.0	4.3	3.3	5.3	6.9	12	Die	EH76100-00	166			
20V	VCO, Tunable filter	22.9	10.1	4.4	3.4	5.2	6.7	12	M208a	DH76100-02	166			
20V	VCO, Tunable filter	23.1	10.3	4.6	3.6	5.0	6.4	12	SOD323	DH76100-60N	166			
20V	VCO, Tunable filter	33.8	15.0	6.4	4.9	5.3	6.9	4	Die	EH76150-00	166			
20V	VCO, Tunable filter	33.9	15.1	6.5	5.0	5.2	6.8	4	M208a	DH76150-02	166			
20V	VCO, Tunable filter	34.0	15.2	6.6	5.1	5.2	6.7	4	F27d	DH76150-01	166			
20V	VCO, Tunable filter	34.1	15.3	6.7	5.2	5.1	6.6	4	SOD323	DH76150-60N	166			

(1): other package available on request, consult factory.

Selection guide

ABRUPT TUNING VARACTORS

Breakdown Voltage Vbr @ Ir = 10 µA	Application	Capacitance @ F = 1 MHz pF	Figure of Merit @ F = 50 MHz, Vr=4V	Tuning Ratio @ F= 1 MHz	Package (1)	Part Number	Page	
		Vr = 4V		Ct0V / Ct30V				
		min		typ				
		@ ±20%						
30V	VCO, Tunable filter	0.4	4500	5.2	Die	EH71004-00	168	
30V	VCO, Tunable filter	0.52	4500	3.1	M208a	DH71004-02	168	
30V	VCO, Tunable filter	0.52	4500	3.1	M208b	DH71004-03	168	
30V	VCO, Tunable filter	0.6	4500	2.5	F27d	DH71004-01	168	
30V	VCO, Tunable filter	0.6	4500	5.2	Die	EH71006-00	168	
30V	VCO, Tunable filter	0.72	4500	3.5	M208a	DH71006-02	168	
30V	VCO, Tunable filter	0.72	4500	3.5	M208b	DH71006-03	168	
30V	VCO, Tunable filter	0.8	4500	2.7	F27d	DH71006-01	168	
30V	VCO, Tunable filter	0.8	4400	5.2	Die	EH71008-00	168	
30V	VCO, Tunable filter	0.92	4400	3.8	M208a	DH71008-02	168	
30V	VCO, Tunable filter	0.92	4400	3.8	M208b	DH71008-03	168	
30V	VCO, Tunable filter	1.0	4400	3.0	F27d	DH71008-01	168	
30V	VCO, Tunable filter	1.0	4300	5.2	Die	EH71010-00	168	
30V	VCO, Tunable filter	1.12	4300	4.3	M208a	DH71010-14	168	
30V	VCO, Tunable filter	1.12	4300	4.3	M208b	DH71010-02	168	
30V	VCO, Tunable filter	1.2	4300	3.2	F27d	DH71010-01	168	
30V	VCO, Tunable filter	1.2	4200	5.2	Die	EH71012-00	168	
30V	VCO, Tunable filter	1.25	4300	3.2	SOD323	DH71010-60N	168	
30V	VCO, Tunable filter	1.32	4200	4.5	M208a	DH71012-03	168	
30V	VCO, Tunable filter	1.32	4200	4.5	M208b	DH71012-02	168	
30V	VCO, Tunable filter	1.4	4200	3.5	F27d	DH71012-01	168	
30V	VCO, Tunable filter	1.6	4100	5.2	Die	EH71016-00	168	
30V	VCO, Tunable filter	1.8	4100	4.6	BH28	DH71016-13	168	
30V	VCO, Tunable filter	1.85	4100	3.8	SOD323	DH71016-60N	168	
30V	VCO, Tunable filter	2	3900	5.2	Die	EH71020-00	168	
30V	VCO, Tunable filter	2.12	3900	4.7	M208a	DH71020-16	168	
30V	VCO, Tunable filter	2.12	3900	4.7	M208b	DH71020-03	168	
30V	VCO, Tunable filter	2.2	3900	4.0	F27d	DH71020-01	168	
30V	VCO, Tunable filter	2.25	3900	4.0	SOD323	DH71020-60N	168	
30V	VCO, Tunable filter	2.5	3600	5.2	Die	EH71025-00	168	
30V	VCO, Tunable filter	2.7	3600	4.2	BH28	DH71025-10	168	
30V	VCO, Tunable filter	3	3400	5.2	Die	EH71030-00	168	
30V	VCO, Tunable filter	3.2	3400	4.3	F27d	DH71030-01	168	
30V	VCO, Tunable filter	3.2	3400	4.3	BH28	DH71030-12	168	
30V	VCO, Tunable filter	3.25	3400	4.3	SOT23. common cathode		DH71030-53N	168
30V	VCO, Tunable filter	3.7	3200	5.2	Die	EH71037-00	168	
30V	VCO, Tunable filter	3.9	3200	4.4	BH28	DH71037-10	168	
30V	VCO, Tunable filter	4.5	3000	5.2	Die	EH71045-00	168	
30V	VCO, Tunable filter	4.62	3000	4.9	M208c	DH71045-15	168	
30V	VCO, Tunable filter	4.75	3000	4.5	SOT23. single diode		DH71045-51N	168

ABRUPT TUNING VARACTORS

Breakdown Voltage Vbr @ Ir = 10 µA	Application	Capacitance @ F = 1 MHz pF	Figure of Merit @ F = 50 MHz, Vr=4V		Tuning Ratio @ F= 1 MHz Ct0V / Ct30V	Package (1)	Part Number	Page
			Vr = 4V	typ				
			min	typ				
		@ ±20%						
30V	VCO, Tunable filter	5.4	2800	5.2	Die	EH71054-00	168	
30V	VCO, Tunable filter	5.65	2800	4.6	F30	DH71054-03	168	
		@ ±10%						
30V	VCO, Tunable filter	6.7	2600	5.2	Die	EH71067-00	168	
30V	VCO, Tunable filter	6.9	2600	4.7	BH28	DH71067-11	168	
30V	VCO, Tunable filter	6.95	2600	4.7	SOT23. common cathode	DH71067-53N	168	
30V	VCO, Tunable filter	8.2	2400	4.8	BH142a	DH71080-02	168	
30V	VCO, Tunable filter	8.2	2400	4.8	BH28	DH71080-10	168	
30V	VCO, Tunable filter	10.2	2200	4.8	F27d	DH71100-01	168	
30V	VCO, Tunable filter	10.2	2200	4.8	BH28	DH71100-10	168	
30V	VCO, Tunable filter	10.25	2200	4.8	SOT23. common cathode	DH71100-53N	168	
30V	VCO, Tunable filter	12.2	2000	4.9	BH28	DH71120-10	168	
30V	VCO, Tunable filter	15.2	1800	5.0	BH28	DH71150-11	168	
30V	VCO, Tunable filter	15.4	1800	5.0	BH158am	DH71150-01	168	
30V	VCO, Tunable filter	22.2	1400	5.0	BH142f	DH71220-03	168	
30V	VCO, Tunable filter	56.2	650	5.0	F27d	DH71560-01	168	
30V	VCO, Tunable filter	100.2	300	5.0	F27d	DH71999-01	168	

(1): other package available on request, consult factory.

Selection guide

SINGLE PAD MOS CAPACITORS : Space & defence applications

Voltage rating V	Application	Capacitance pF	Tolerance		Pad type	Dimension per side μm	Part Number (Round pad) 20% tolerance	Part Number (Square pad) 20% tolerance	Page
			Standard	Options					
			%						
40	MMIC decoupling	8.2	± 20	±10, ±5, ±2	Round or Square	400	400M106C8R2M	400M106A8R2M	172
40	MMIC decoupling	10	± 20	±10, ±5, ±2	Round or Square	400	400M106C100M	400M106A100M	172
40	MMIC decoupling	12	± 20	±10, ±5, ±2	Round or Square	400	400M106C120M	400M106A120M	172
40	MMIC decoupling	15	± 20	±10, ±5, ±2	Round or Square	400	400M106C150M	400M106A150M	172
40	MMIC decoupling	18	± 20	±10, ±5, ±2	Round	600	400M107C180M	-	172
40	MMIC decoupling	18	± 20	±10, ±5, ±2	Square	540	-	400M104A180M	172
40	MMIC decoupling	22	± 20	±10, ±5, ±2	Round	600	400M107C220M	-	172
40	MMIC decoupling	22	± 20	±10, ±5, ±2	Square	540	-	400M104A220M	172
40	MMIC decoupling	27	± 20	±10, ±5, ±2	Round	600	400M107C270M	-	172
40	MMIC decoupling	27	± 20	±10, ±5, ±2	Square	540	-	400M104A270M	172
40	MMIC decoupling	33	± 20	±10, ±5, ±2	Round or Square	600	400M107C330M	400M107A330M	172
40	MMIC decoupling	39	± 20	±10, ±5, ±2	Round or Square	600	400M107C390M	400M107A390M	172
40	MMIC decoupling	47	± 20	±10, ±5, ±2	Round or Square	800	400M108C470M	400M108A470M	172
40	MMIC decoupling	56	± 20	±10, ±5, ±2	Round or Square	800	400M108C560M	400M108A560M	172
40	MMIC decoupling	68	± 20	±10, ±5, ±2	Round or Square	800	400M108C680M	400M108A680M	172
40	MMIC decoupling	82	± 20	±10, ±5, ±2	Round or Square	1000	400M110C820M	400M110A820M	172
40	MMIC decoupling	100	± 20	±10, ±5, ±2	Round or Square	1000	400M110C101M	400M110A101M	172
100	MMIC decoupling	3.9	± 20	±10, ±5, ±2	Round or Square	400	101M106C3R9M	101M106A3R9M	172
100	MMIC decoupling	4.7	± 20	±10, ±5, ±2	Round or Square	400	101M106C4R7M	101M106A4R7M	172
100	MMIC decoupling	5.6	± 20	±10, ±5, ±2	Round or Square	400	101M106C5R6M	101M106A5R6M	172
100	MMIC decoupling	6.8	± 20	±10, ±5, ±2	Round or Square	400	101M106C6R8M	101M106A6R8M	172
100	MMIC decoupling	10	± 20	±10, ±5, ±2	Round	600	101M107C100M	-	172
100	MMIC decoupling	10	± 20	±10, ±5, ±2	Square	540	-	101M104A100M	172
100	MMIC decoupling	12	± 20	±10, ±5, ±2	Round	600	101M107C120M	-	172
100	MMIC decoupling	12	± 20	±10, ±5, ±2	Square	540	-	101M104A120M	172
100	MMIC decoupling	15	± 20	±10, ±5, ±2	Round or Square	600	101M107C150M	101M107A150M	172
100	MMIC decoupling	22	± 20	±10, ±5, ±2	Round or Square	800	101M108C220M	101M108A220M	172
100	MMIC decoupling	27	± 20	±10, ±5, ±2	Round or Square	800	101M108C270M	101M108A270M	172
100	MMIC decoupling	33	± 20	±10, ±5, ±2	Round or Square	800	101M108C330M	101M108A330M	172
100	MMIC decoupling	39	± 20	±10, ±5, ±2	Round or Square	800	101M108C390M	101M108A390M	172
200	MMIC decoupling	0.22	± 20	±10	Square	400	-	201M106A0R22M	172
200	MMIC decoupling	0.27	± 20	±10	Square	400	-	201M106A0R27M	172
200	MMIC decoupling	0.33	± 20	±10	Square	400	-	201M106A0R33M	172
200	MMIC decoupling	0.39	± 20	±10	Square	400	-	201M106A0R39M	172
200	MMIC decoupling	0.47	± 20	±10	Square	400	-	201M106A0R47M	172
200	MMIC decoupling	0.56	± 20	±10	Square	400	-	201M106A0R56M	172
200	MMIC decoupling	0.68	± 20	±10	Square	400	-	201M106A0R68M	172
200	MMIC decoupling	0.82	± 20	±10	Square	400	-	201M106A0R82M	172
200	MMIC decoupling	1	± 20	±10	Square	400	-	201M106A1R0M	172
200	MMIC decoupling	1.2	± 20	±10	Square	400	-	201M106A1R2M	172
200	MMIC decoupling	1.5	± 20	±10	Square	400	-	201M106A1R5M	172
200	MMIC decoupling	1.8	± 20	±10	Square	400	-	201M106A1R8M	172

SINGLE PAD MOS CAPACITORS : Space & defence applications

Voltage rating V	Application	Capacitance pF	Tolerance		Pad type	Dimension per side μm	Part Number (Round pad) 20% tolerance	Part Number (Square pad) 20% tolerance	Page
			Standard	Options					
			%						
200	MMIC decoupling	2.2	± 20	±10, ±5, ±2	Round or Square	400	201M106C2R2M	201M106A2R2M	172
200	MMIC decoupling	2.7	± 20	±10, ±5, ±2	Round or Square	400	201M106C2R7M	201M106A2R7M	172
200	MMIC decoupling	3.3	± 20	±10, ±5, ±2	Round or Square	400	201M106C3R3M	201M106A3R3M	172
200	MMIC decoupling	3.9	± 20	±10, ±5, ±2	Round	600	201M107C3R9M	-	172
200	MMIC decoupling	3.9	± 20	±10, ±5, ±2	Square	540	-	201M104A3R9M	172
200	MMIC decoupling	4.7	± 20	±10, ±5, ±2	Round	600	201M107C4R7M	-	172
200	MMIC decoupling	4.7	± 20	±10, ±5, ±2	Square	540	-	201M104A4R7M	172
200	MMIC decoupling	5.6	± 20	±10, ±5, ±2	Round	600	201M107C5R6M	-	172
200	MMIC decoupling	5.6	± 20	±10, ±5, ±2	Square	540	-	201M104A5R6M	172
200	MMIC decoupling	6.8	± 20	±10, ±5, ±2	Round	600	201M107C6R8M	-	172
200	MMIC decoupling	6.8	± 20	±10, ±5, ±2	Square	540	-	201M104A6R8M	172
200	MMIC decoupling	8.2	± 20	±10, ±5, ±2	Round or Square	600	201M107C8R2M	201M107A8R2M	172
200	MMIC decoupling	10	± 20	±10, ±5, ±2	Round or Square	800	201M108C100M	201M108A100M	172
200	MMIC decoupling	12	± 20	±10, ±5, ±2	Round or Square	800	201M108C120M	201M108A120M	172
200	MMIC decoupling	15	± 20	±10, ±5, ±2	Round or Square	800	201M108C150M	201M108A150M	172
200	MMIC decoupling	18	± 20	±10, ±5, ±2	Round or Square	800	201M108C180M	201M108A180M	172
400	MMIC decoupling	1	± 20	±10	Round	400	401M106C1R0M	-	172
400	MMIC decoupling	1.2	± 20	±10	Round	400	401M106C1R2M	-	172
400	MMIC decoupling	1.5	± 20	±10	Round	400	401M106C1R5M	-	172
400	MMIC decoupling	1.8	± 20	±10	Round	400	401M106C1R8M	-	172
									172
500	MMIC decoupling	0.22	± 20	±10	Round	400	501M106C0R22M	-	172
500	MMIC decoupling	0.27	± 20	±10	Round	400	501M106C0R27M	-	172
500	MMIC decoupling	0.33	± 20	±10	Round	400	501M106C0R33M	-	172
500	MMIC decoupling	0.39	± 20	±10	Round	400	501M106C0R39M	-	172
500	MMIC decoupling	0.47	± 20	±10	Round	400	501M106C0R47M	-	172
500	MMIC decoupling	0.56	± 20	±10	Round	400	501M106C0R56M	-	172
500	MMIC decoupling	0.68	± 20	±10	Round	400	501M106C0R68M	-	172
500	MMIC decoupling	0.82	± 20	±10	Round	400	501M106C0R82M	-	172

MULTI PADS MOS CAPACITORS

Voltage rating V	Application	Lowest capacitance pad pF	Number of Steps	Min Capacitance value pF	Max Capacitance value pF	Tolerance %	Size Side μm	Part Number 20% tolerance	Page
40	MMIC decoupling	10	3	10	30	± 20%. Option: ±10%	550	400M114J100M	174
40	MMIC decoupling	10	6	10	60	± 20%. Option: ±10%	750	400M113J100M	174
100	MMIC decoupling	0,5	23	0,5	11,5	± 20%. Option: ±10%	500	101M111J0R5M	174
100	MMIC decoupling	0,8	11	0,8	8,8	± 20%. Option: ±10%	500	101M112J0R8M	174
200	MMIC decoupling	0,25	23	0,25	5,75	± 20%. Option: ±10%	500	201M111J0R25M	174
200	MMIC decoupling	0,4	11	0,4	4,4	± 20%. Option: ±10%	500	201M112J0R4M	174
200	MMIC decoupling	0,125	23	0,125	2,875	± 20%. Option: ±10%	500	401M111J0R12M	174
200	MMIC decoupling	0,2	11	0,2	2,2	± 20%. Option: ±10%	500	401M112J0R2M	174

Silicon PIN Diodes DH5003x

FEATURES

- Low Power Handling
- Ultra Fast Switching
- Low loss, Low distortion design
- Die or package option
- Rugged, hermetically sealed package
- RoHS compliant

DESCRIPTION

The DH5003X series is designed for low power range switches where efficient compromises between power handling, fast switching, low losses and low distortion are required. Diodes use silicon epitaxial layers, oxide passivation and mesa design for high reliability purposes. Choice of hermetic ceramic packages is proposed for thermal or microwave performances optimization.

APPLICATIONS

This diode is used for ultra fast switching applications to meet high reliability level until K band.

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Junction Capacitance Cj @ Vr=6V, 1MHz (pF)		Total Capacitance* Ct @ Vr=6V, 1MHz (pF)		Series Resistance Rs @ If=10mA, 120MHz (Ω)	Carrier Lifetime Tl @ If=10mA, Ir=6mA (ns)	Thermal Resistance Rth @ Pd=1W (°C/W)
	typ	max	typ	max			
DH50033	0.08	0.12	0.18	0.24	1.8	20	150
DH50034	0.12	0.17	0.22	0.29	1.5	20	100
DH50035	0.17	0.23	0.27	0.35	1.0	25	90
DH50036	0.23	0.40	0.33	0.52	0.9	30	80
DH50037	0.4	0.6	0.50	0.72	0.7	45	70

*Total capacitance $C_t = C_j + C_b$, thermal resistance, values given for M208 package. Note: parallel resistance $R_p > 10k\Omega$ at $V_r=30V$.

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +175°C
Storage temperature	- 65°C, +200°C
Reverse voltage	30 V
Dissipated power @ Tcase	(Tj-Tcase)/Rth *

Note: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink

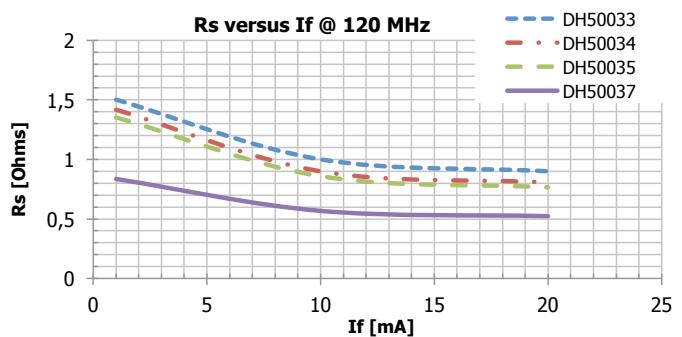
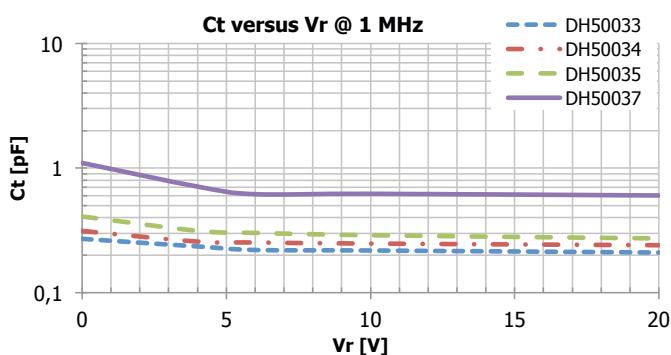
ORDERING INFORMATION

Part number	M208a	M208b	F27d	Die Part-Number	Die Size
DH50033	--	--	-01	EH50033-00	C2A
DH50034	-12	-03	--	EH50034-00	C2A
DH50035	-02	--	--	EH50035-00	C2A
DH50036	--	--	--	EH50036-00	C2A
DH50037	-02	-11	--	EH50037-00	C2A

Die delivered in ESD waffle pack. Other packages available on request.



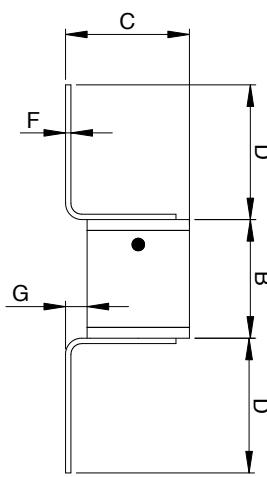
TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

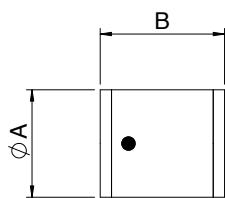
Case style: M208a C_b=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053
C	1.3	1.9	0.052	0.076
D	2.5		0.100	
E	0.55	0.65	0.022	0.026
F	0.06	0.1	0.0024	0.004
G	0.1	0.5	0.004	0.02



Case style: M208b C_b=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053

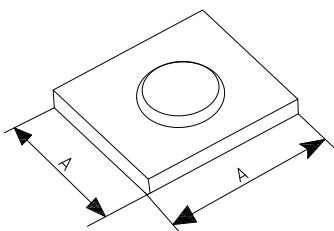
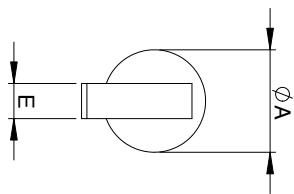
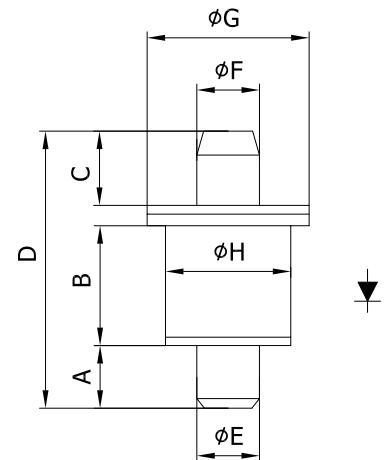


Case style: F27d C_b = 0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.55	1.59	0.061	0.063
B	1.74	1.82	0.069	0.072
C	1.55	1.59	0.061	0.063
D	5.15	5.65	0.202	0.222
ΦE	1.55	1.59	0.061	0.063
ΦF	1.55	1.59	0.061	0.063
ΦG	2.95	3.15	0.116	0.124
ΦH	2.01	2.05	0.079	0.081

Case style: Die C2A

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C2A	0.34	0.4	0.013	0.015



Silicon PIN Diodes DH5005x

FEATURES

- Low Power Handling
- Ultra Fast Switching
- Low loss, Low distortion design
- Die or package option
- Rugged, hermetically sealed package
- RoHS compliant

DESCRIPTION

The DH5005X serie is designed for low power range switches where efficient compromise between power handling, fast switching, low losses and low distortion are required. Diodes use silicon epitaxial layers, oxide passivation and mesa design for high reliability purposes. Choice of hermetic ceramic packages is proposed for thermal or microwave performances optimization.

APPLICATIONS

This diode is used for ultra fast switching applications to meet high reliability level until K band.

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Junction Capacitance Cj @ Vr=6V, 1MHz (pF)		Total Capacitance* Ct @ Vr=6V, 1MHz (pF)		Series Resistance Rs @ If=10mA, 120MHz (Ω)	Carrier Lifetime Tl @ If=10mA, Ir=6mA (ns)	Thermal Resistance Rth @ Pd=1W (°C/W)
	typ	max	typ	max			
DH50052	0.06	0.08	0.16	0.2	1.6	30	110
DH50053	0.08	0.12	0.18	0.24	1.4	30	100
DH50054	0.12	0.17	0.22	0.3	1.1	35	80
DH50055	0.17	0.23	0.27	0.35	1.0	40	60
DH50057	0.4	0.6	0.50	0.72	0.7	60	55

*Total capacitance Ct=Cj+Cb, values given for M208 package. Note: parallel resistance Rp>10kΩ at Vr=50V.

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +175°C
Storage temperature	- 65°C, +200°C
Reverse voltage	50 V
Dissipated power @ Tcase	(Tj-Tcase)/Rth *

Note: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink

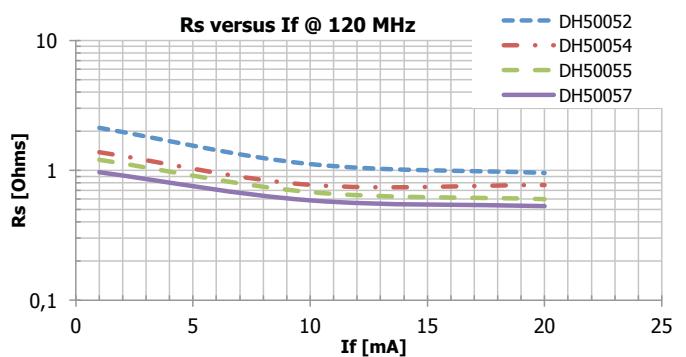
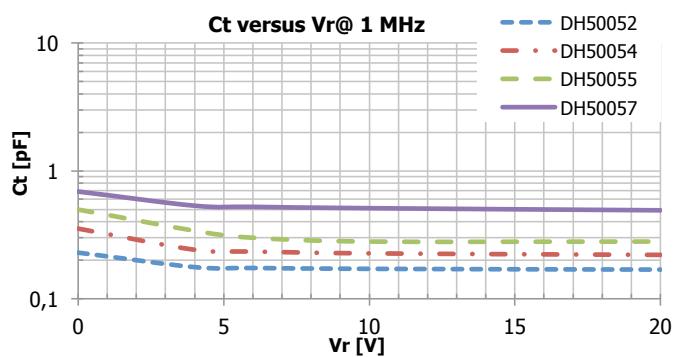
ORDERING INFORMATION

Part Number	M208a	M208b	Die Part-Number	Die Size
DH50052	-02	--	EH50052-00	C2A
DH50053	--	--	EH50053-00	C2A
DH50054	--	-02	EH50054-00	C2A
DH50055	--	--	EH50055-00	C2A
DH50057	-01	--	EH50057-00	C2A

Die delivered in ESD waffle pack. Other packages available on request.



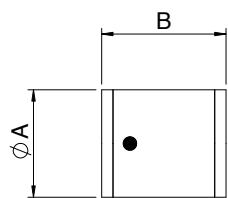
TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

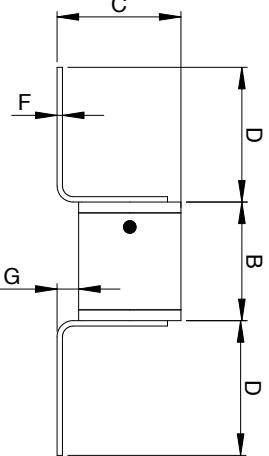
Case style: M208b C_b=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053



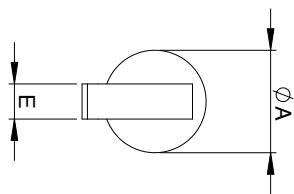
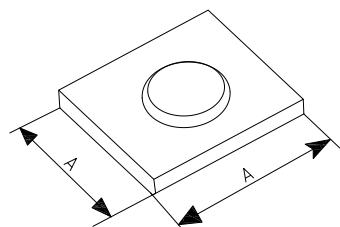
Case style: M208a C_b=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053
C	1.3	1.9	0.052	0.076
D	2.5		0.100	
E	0.55	0.65	0.022	0.026
F	0.06	0.1	0.0024	0.004
G	0.1	0.5	0.004	0.02



Case style: Die C2A

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C2A	0.34	0.4	0.013	0.015



Silicon PIN Diodes DH5007x

FEATURES

- Low Power Handling
- Ultra Fast Switching
- Low loss, Low distortion design
- Die or package option
- Rugged, hermetically sealed package
- RoHS compliant

DESCRIPTION

The DH5007X serie is designed for low power range switches where efficient compromise between power handling, fast switching, low losses and low distortion are required. Diodes use silicon epitaxial layers, oxide passivation and mesa design for high reliability purposes. Choice of hermetic ceramic packages is proposed for thermal or microwave performances optimization.

APPLICATIONS

This diode is used for ultra fast switching applications to meet high reliability level until K band.

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Junction Capacitance Cj @ Vr=6V, 1MHz (pF)		Total Capacitance* Ct @ Vr=6V, 1MHz (pF)		Series Resistance Rs @ If=10mA, 120MHz (Ω)	Carrier Lifetime Tl @ If=10mA, Ir=6mA (ns)	Thermal Resistance Rth @ Pd=1W (°C/W)
	typ	max	typ	max			
DH50071	0.04	0.06	0.14	0.18	2.0	50	130
DH50073	0.08	0.12	0.18	0.24	1.6	60	100
DH50074	0.12	0.17	0.22	0.29	1.4	60	80
DH50075	0.17	0.23	0.27	0.35	1.0	100	60
DH50076	0.23	0.40	0.33	0.52	0.9	100	55
DH50077	0.40	0.60	0.50	0.72	0.7	150	50

*Total capacitance Ct=Cj+Cb, values given for M208 package. Nota: parallel resistance Rp>10kΩ at Vr=70V.

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +175°C
Storage temperature	- 65°C, +200°C
Reverse voltage	70 V
Dissipated power @ Tcase	(Tj-Tcase)/Rth *

*Note: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink*

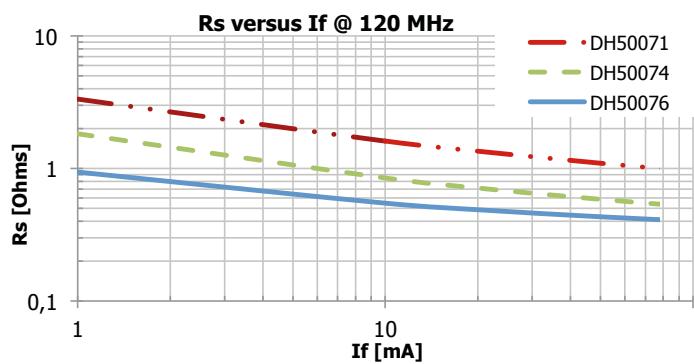
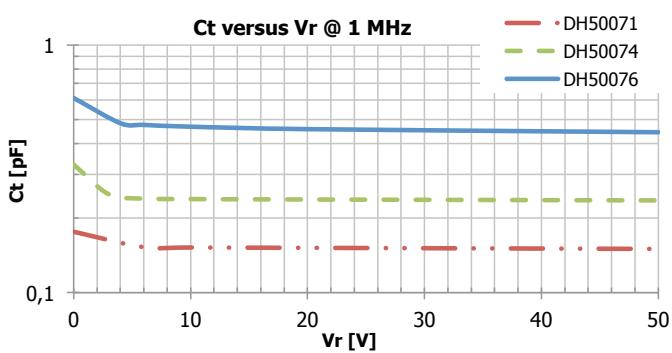
ORDERING INFORMATION

Part Number	M208a	M208b	Die Part-Number	Die Size
DH50071	-06	-05	EH50071-00	C2A
DH50073	--	--	EH50073-00	C2A
DH50074		-01	EH50074-00	C2A
DH50075	--	--	EH50075-00	C2A
DH50076	-02	--	EH50076-00	C2A
DH50077	--	--	EH50077-00	C2A

Dies delivered in ESD waffle pack. Other packages available on request.



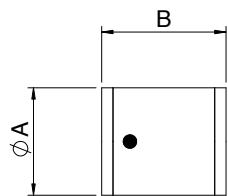
TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

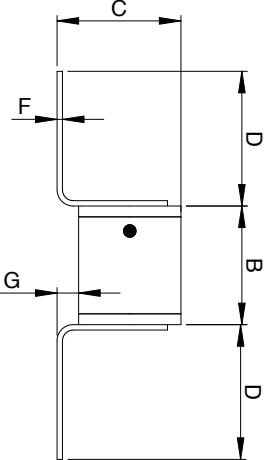
Case style: M208b C_b=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053



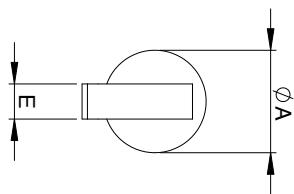
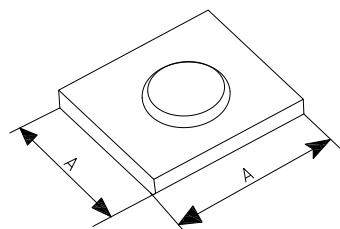
Case style: M208a C_b=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053
C	1.3	1.9	0.052	0.076
D	2.5		0.100	
E	0.55	0.65	0.022	0.026
F	0.06	0.1	0.0024	0.004
G	0.1	0.5	0.004	0.02



Case style: Die C2A

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C2A	0.34	0.4	0.013	0.016



Silicon PIN Diodes MH151-00

FEATURES

- Broadband device from HF to X-band
- Low loss, High Isolation design
- Fast switching
- Rugged, hermetically sealed package
- RoHS compliant

DESCRIPTION

This PIN silicon diode is designed for low power range switches where efficient compromise between power handling, fast switching, low losses and low distortion is required. Diodes use silicon epitaxial layers, oxide passivation and mesa design for high reliability purposes.

APPLICATIONS

These diodes assure predictable superior performances for broadband application using 50 microstrip or stripline circuits.

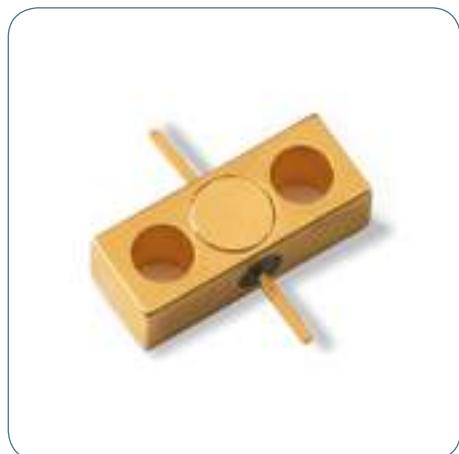
ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Frequency range	F	-	0.1		10	GHz
Reverse current at 25°C	Ir	Vr = 70 V			10	µA
Minority carrier life time	tl	If=10mA, Ir=6mA		50		ns
Insertion loss	IL	P=1mW, Vr=0V		0.3	0.6	dB
Isolation	Isol	P=1mW If=20mA	20	25		dB

MAXIMUM RATINGS

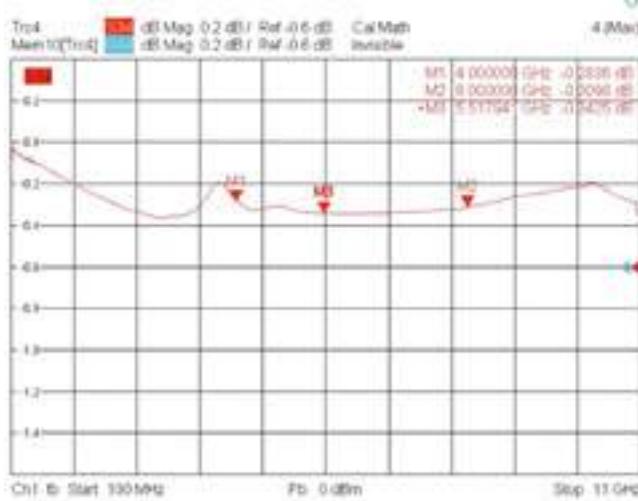
	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage	70 V
Dissipated power @ 25°C	0.8 W*

*Note: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink*

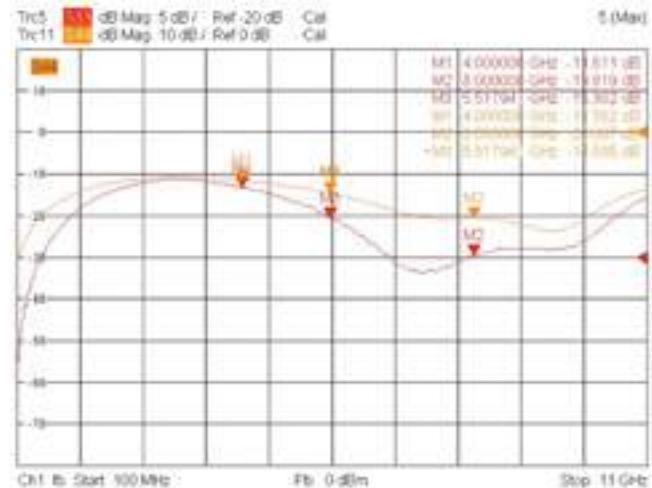


TYPICAL PERFORMANCES @ 25°C

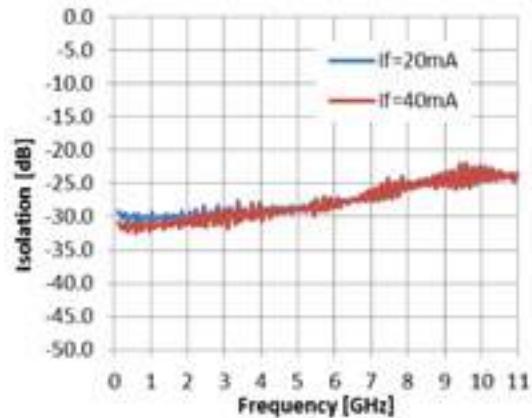
Insertion loss at Vr=0V



Input return loss at Vr=0V



Isolation at If = 20 mA

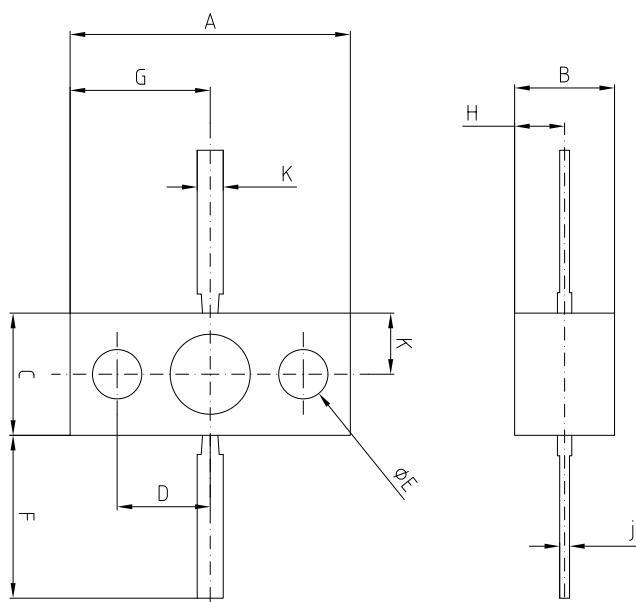


OUTLINE DRAWING

Case style: BMH76 Cb=0.5pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	10.3	10.5	0.406	0.413
B	3.02	3.22	0.119	0.127
C	4	4.2	0.157	0.165
D	3.1	3.3	0.122	0.130
ΦE	2.36	2.52	0.093	0.099
F	3.18	3.68	0.125	0.145
G	5.1	5.3	0.201	0.209
H	1.47	1.67	0.058	0.066
J	0.2	0.24	0.008	0.010
K	0.5	0.7	0.020	0.028
L	1.95	2.15	0.077	0.085

Note : cathode is grounded to the case



Silicon PIN Diodes DH5010x

FEATURES

- Low Power Handling
- Ultra Fast Switching
- Low loss, Low distortion design
- Die or package option
- Rugged, hermetically sealed package
- RoHS compliant

DESCRIPTION

The DH5010X serie is designed for low power range switches where efficient compromise between power handling, fast switching, low losses and low distortion are required. Diodes use silicon epitaxial layers, oxide passivation and mesa design for high reliability purposes. Choice of hermetic ceramic packages is proposed for thermal or microwave performances optimization.

APPLICATIONS

This diode is used for ultra fast switching applications to meet high reliability level until K band.

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Junction Capacitance Cj @ Vr=6V, 1MHz (pF)		Total Capacitance* Ct @ Vr=6V, 1MHz (pF)		Series Resistance Rs @ If=10mA, 120MHz (Ω)	Carrier Lifetime Tl @ If=10mA, Ir=6mA (ns)	Thermal Resistance Rth @ Pd=1W (C/W)
	typ	max	typ	max			
DH50100	0.025	0.04	0.20	0.22	2.5	60	150
DH50101	0.04	0.06	0.22	0.24	1.9	150	90
DH50102	0.06	0.08	0.24	0.26	1.7	150	80
DH50103	0.08	0.12	0.26	0.30	1.4	200	70
DH50104	0.12	0.17	0.30	0.35	1.2	250	60
DH50105	0.17	0.23	0.25	0.41	1.0	300	55
DH50106	0.23	0.4	0.41	0.58	0.8	400	50
DH50107	0.4	0.6	0.58	0.78	0.6	500	45

*Total capacitance Ct=Cj+Cb, values given for F27d package. Note: parallel resistance Rp>10kΩ at Vr=100V.

MAXIMUM RATINGS

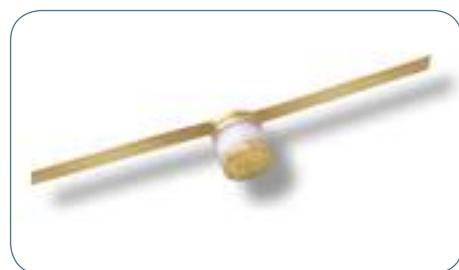
	Value
Operating temperature(Tj)	- 55°C, +175°C
Storage temperature	- 65°C, +200°C
Reverse voltage	100 V
Dissipated power @ Tcase	(Tj-Tcase)/Rth *

Note: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink

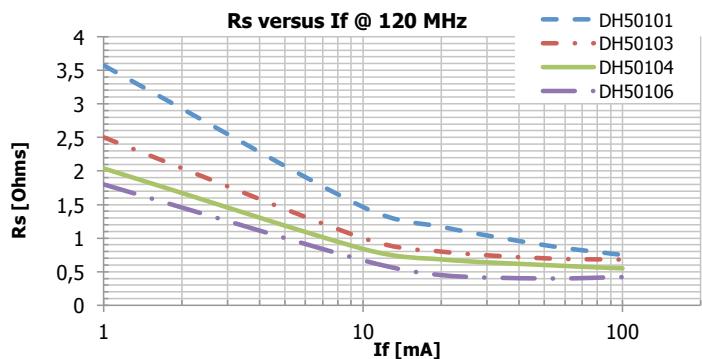
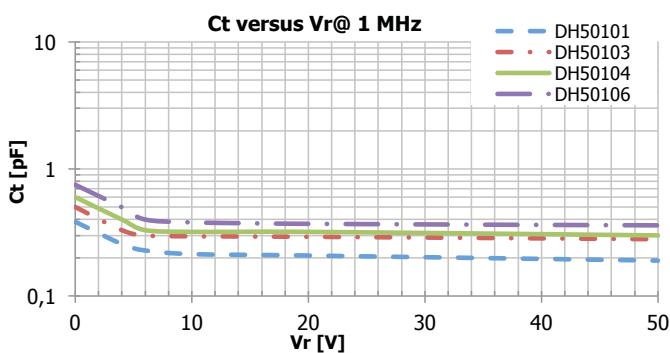
ORDERING INFORMATION

Part Number	M208a	M208b	F27d	BH194	Die Part Number	Die size
DH50100	--	--	--	--	EH50100-00	C2A
DH50101	--	--	--	-15	EH50101-00	C2A
DH50102	--	--	--	--	EH50102-00	C2A
DH50103	--	--	-01	--	EH50103-00	C2A
DH50104	-02	--	-01	--	EH50104-00	C2A
DH50105	--	--	--	--	EH50105-00	C2A
DH50106	--	--	--	--	EH50106-00	C2A
DH50107	--	--	--	--	EH50107-00	C2A

Dies Delivered in ESD waffle pack. Other packages available on request.



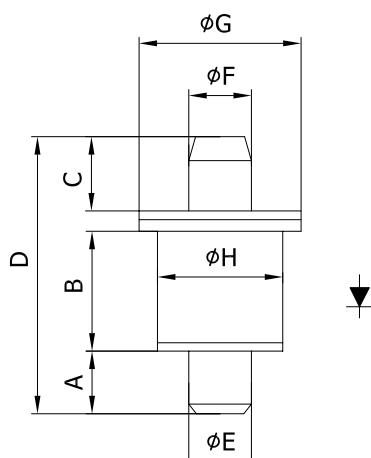
TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

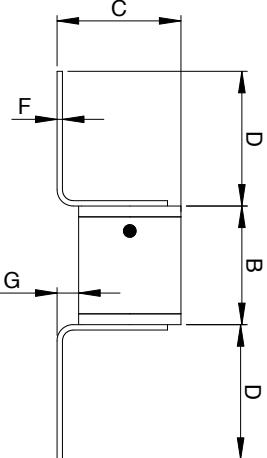
Case style: F27d C_b = 0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.55	1.59	0.061	0.063
B	1.74	1.82	0.069	0.072
C	1.55	1.59	0.061	0.063
D	5.15	5.65	0.202	0.222
ΦE	1.55	1.59	0.061	0.063
ΦF	1.55	1.59	0.061	0.063
ΦG	2.95	3.15	0.116	0.124
ΦH	2.01	2.05	0.079	0.081



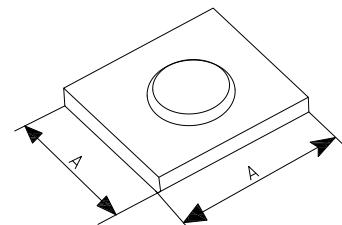
Case style: M208a C_b=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053
C	1.3	1.9	0.052	0.076
D	2.5		0.100	
E	0.55	0.65	0.022	0.026
F	0.06	0.1	0.0024	0.004
G	0.1	0.5	0.004	0.02



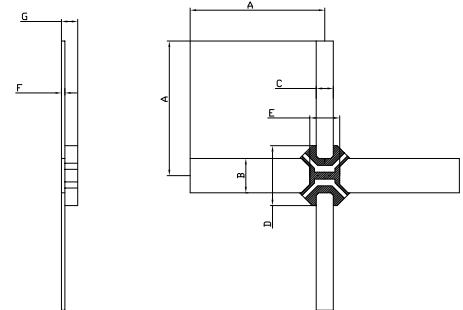
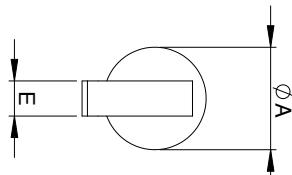
Case style: Die C2A

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C2A	0.34	0.4	0.013	0.015



Case style: BH194 C_b=0.6pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	3.5	4.5	0.138	0.177
B	0.97	1.07	0.038	0.042
C	0.46	0.56	0.018	0.022
D	1.7	1.89	0.067	0.073
E	0.81	0.97	0.032	0.038
F	0.072	0.13	0.028	0.0051
G	--	0.95	--	0.037



Silicon PIN Diodes DH5015x

FEATURES

- Low Power Handling
- Ultra Fast Switching
- Low loss, Low distortion design
- Die or package option
- Rugged, hermetically sealed package
- RoHS compliant

DESCRIPTION

The DH5015X serie is designed for low power range switches where efficient compromise between power handling, fast switching, low losses and low distortion are required. Diodes use silicon epitaxial layers, glass passivation and mesa design for high reliability purposes. Choice of hermetic ceramic packages is proposed for thermal or microwave performances optimization.

APPLICATIONS

This diode is used for ultra fast switching applications to meet high reliability level until K band.

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Junction Capacitance Cj @ Vr=50V, 1MHz (pF)		Total Capacitance* Ct @ Vr=50V, 1MHz (pF)		Series Resistance Rs @ If=10mA, 120MHz (Ω)	Carrier Lifetime Tl @ If=10mA, Ir=6mA (ns)	Thermal Resistance Rth @ Pd=1W (°C/W)
	typ	max	typ	max			
DH50151	0.04	0.06	0.14	0.18	2.0	200	90
DH50152	0.06	0.08	0.16	0.2	1.7	230	60
DH50153	0.08	0.12	0.18	0.24	1.5	300	55
DH50154	0.12	0.17	0.22	0.29	1.4	500	55
DH50155	0.17	0.23	0.27	0.35	1.0	550	50
DH50156	0.23	0.4	0.33	0.52	0.8	800	47
DH50157	0.4	0.6	0.50	0.72	0.6	950	45

*Total capacitance Ct=Cj+Cb, values given for M208 package. Nota: parallel resistance Rp>10kΩ at Vr=100V.

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +175°C
Storage temperature	- 65°C, +200°C
Reverse voltage	150 V
Dissipated power @ Tcase	(Tj-Tcase)/Rth *

Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink

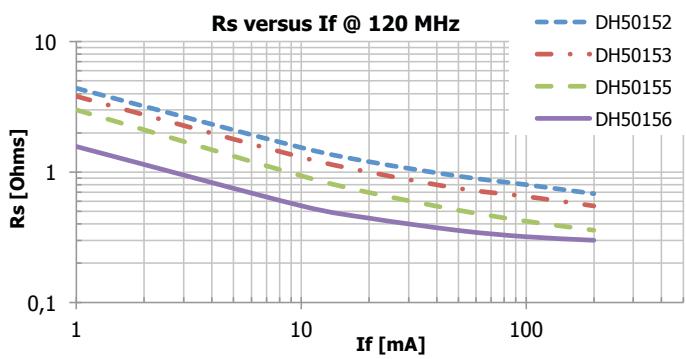
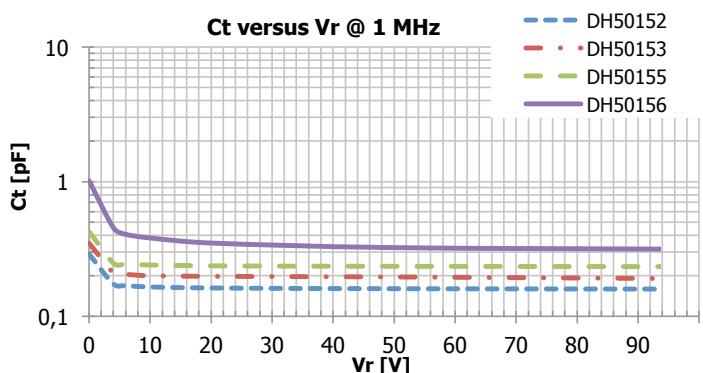
ORDERING INFORMATION

Part Number	M208a	M208b	F27d	Die Part Number	Die size
DH50151	--	--	--	EH50151-00	C2A
DH50152	--	-01	--	EH50152-00	C2A
DH50153	-02	--	--	EH50153-00	C2A
DH50154	--	--	--	EH50154-00	C2A
DH50155	--	-03	-00	EH50155-00	C2A
DH50156	--	--	--	EH50156-00	C2A
DH50157	-11	-01	--	EH50157-00	C2A

Dies delivered in ESD waffle pack. Other packages available on request.



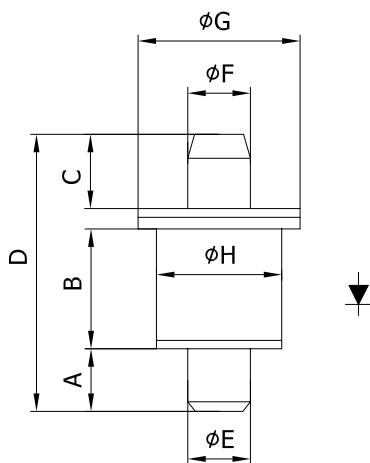
TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

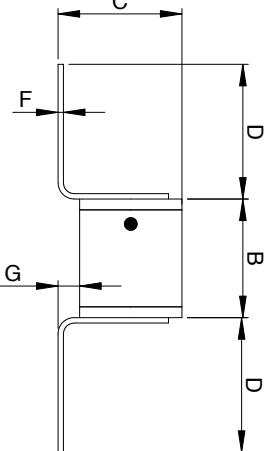
Case style: F27d C_b = 0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.55	1.59	0.061	0.063
B	1.74	1.82	0.069	0.072
C	1.55	1.59	0.061	0.063
D	5.15	5.65	0.202	0.222
ΦE	1.55	1.59	0.061	0.063
ΦF	1.55	1.59	0.061	0.063
ΦG	2.95	3.15	0.116	0.124
ΦH	2.01	2.05	0.079	0.081



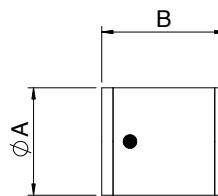
Case style: M208a C_b=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053
C	1.3	1.9	0.052	0.076
D	2.5		0.100	
E	0.55	0.65	0.022	0.026
F	0.06	0.1	0.0024	0.004
G	0.1	0.5	0.004	0.02



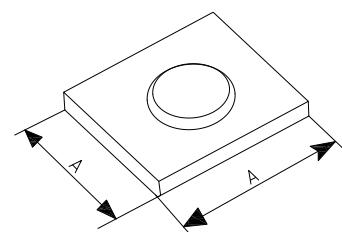
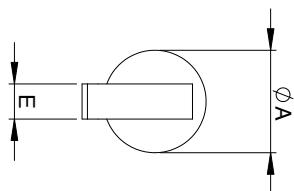
Case style: M208b C_b=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053



Case style: Die C2A

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C2A	0.34	0.4	0.013	0.015



Silicon PIN Diodes DH5020x

FEATURES

- Medium Power Handling
- Ultra Fast Switching
- Low loss, Low distortion design
- Die or package option
- Rugged, hermetically sealed package
- RoHS compliant

DESCRIPTION

The DH5020X series is designed for medium power range switches where efficient compromise between power handling, fast switching, low losses and low distortion are required. Diodes use silicon epitaxial layers, glass passivation and mesa design for high reliability purposes. Choice of hermetic ceramic packages is proposed for thermal or microwave performances optimization.

APPLICATIONS

This diode is used for fast switching applications to meet high reliability level until K band.

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Junction Capacitance Cj @ Vr=50V, 1MHz (pF)		Total Capacitance* Ct @ Vr=50V, 1MHz (pF)		Series Resistance Rs @ If=10mA, 120MHz (Ω)	Carrier Lifetime Tl @ If=10mA, Ir=6mA (ns)	Thermal Resistance Rth @ Pd=1W (°C/W)
	typ	max	typ	max			
DH50202	0.06	0.08	0.16	0.2	2.1	400	55
DH50203	0.08	0.12	0.18	0.24	1.5	500	50
DH50204	0.12	0.17	0.22	0.3	1.3	650	45
DH50205	0.17	0.23	0.27	0.35	1.0	800	40
DH50209	0.8	0.95	1.0	1.15	0.5	1500	25

*Total capacitance Ct=Cj+Cb, values given for M208 package except DH50209 given for F27d package. Note: parallel resistance Rp>10kΩ at Vr=100V.

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +175°C
Storage temperature	- 65°C, +200°C
Reverse voltage	200 V
Dissipated power @ Tcase	(Tj-Tcase)/Rth *

Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink

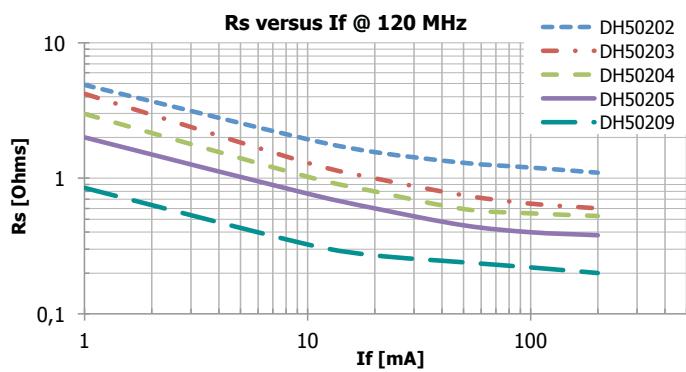
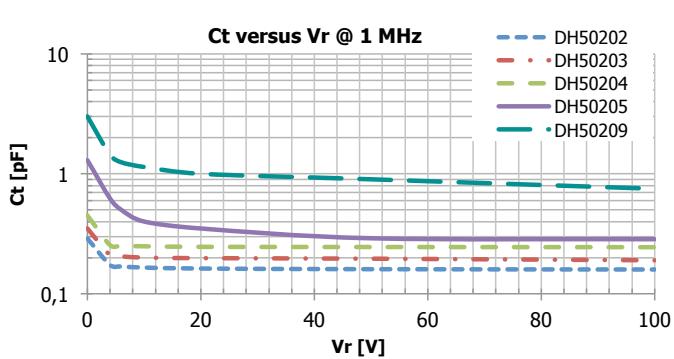
ORDERING INFORMATION

Part Number	M208a	M208f	F27d	Die part-number	Die
DH50202	--	-01	--	EH50202-00	C2A
DH50203	--	--	-01	EH50203-00	C2A
DH50204	-02	--	-01	EH50204-00	C2A
DH50205	--	-02	--	EH50205-00	C2A
DH50209	--	--	-01	EH50209-00	C2B

Dies delivered in ESD waffle pack. Other packages available on request.



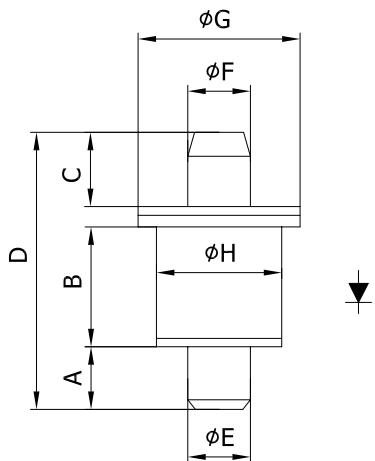
TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

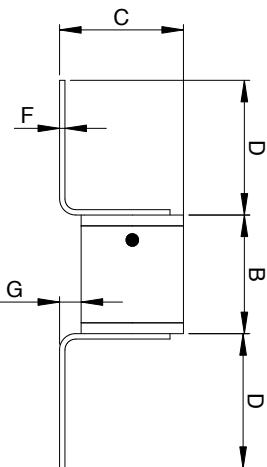
Case style: F27d C_b = 0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.55	1.59	0.061	0.063
B	1.74	1.82	0.069	0.072
C	1.55	1.59	0.061	0.063
D	5.15	5.65	0.202	0.222
ΦE	1.55	1.59	0.061	0.063
ΦF	1.55	1.59	0.061	0.063
ΦG	2.95	3.15	0.116	0.124
ΦH	2.01	2.05	0.079	0.081



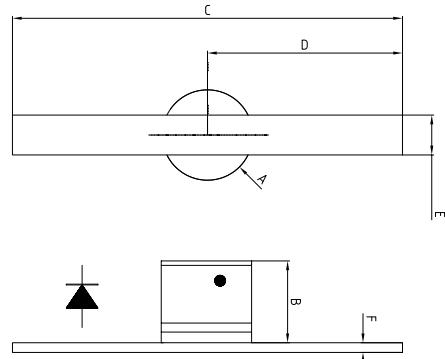
Case style: M208a C_b=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053
C	1.3	1.9	0.052	0.076
D	2.5		0.100	
E	0.55	0.65	0.022	0.026
F	0.06	0.1	0.0024	0.004
G	0.1	0.5	0.004	0.02



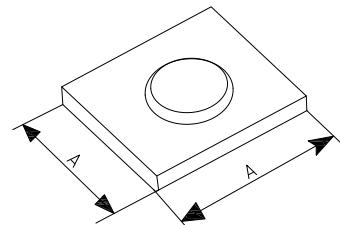
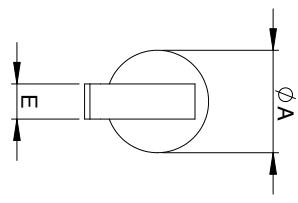
Case style: M208f C_b=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053
C	9.8	10.2	0.392	0.408
D	5		0.2	
E	0.55	0.65	0.022	0.026
F	0.06	0.1	0.0024	0.004



Case style: Die C2

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C2A	0.34	0.4	0.013	0.015
C2B	0.54	0.6	0.021	0.023



Silicon PIN Diodes DH5025x

FEATURES

- Medium Power Handling
- Fast Switching
- Low loss, Low distortion design
- Die or package option
- Rugged, hermetically sealed package
- RoHS compliant

DESCRIPTION

The DH5025X serie is designed for medium power range switches where efficient compromise between power handling, fast switching, low losses and low distortion are required. Diodes use silicon epitaxial layers, glass passivation and mesa design for high reliability purposes. Choice of hermetic ceramic packages is proposed for thermal or microwave performances optimization.

APPLICATIONS

These diodes are used for fast switching applications to meet high reliability level until K band or for high peak or CW power handling limiters.

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Junction Capacitance Cj @ Vr=50V, 1MHz (pF)		Total Capacitance* Ct @ Vr=50V, 1MHz (pF)		Series Resistance Rs @ If=10mA, 120MHz (Ω)	Carrier Lifetime Tl @ If=10mA, Ir=6mA (ns)	Thermal Resistance Rth @ Pd=1W (°C/W)
	typ	max	typ	max			
DH50251	0.04	0.06	0.14	0.18	2.4	330	80
DH50253	0.08	0.12	0.18	0.24	2.0	900	70
DH50254	0.12	0.17	0.22	0.29	1.4	900	60
DH50255	0.17	0.23	0.27	0.35	0.9	1000	50
DH50256	0.23	0.4	0.33	0.52	0.8	1150	25

*Total capacitance Ct=Cj+Cb, values given for M208 package. Note: parallel resistance Rp>10kΩ at Vr=100V.

MAXIMUM RATINGS

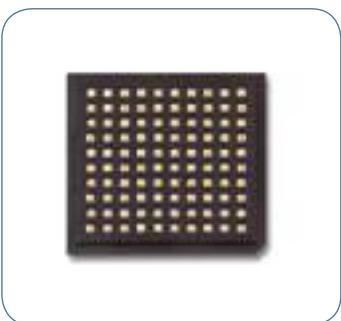
	Value
Operating temperature (Tj)	- 55°C, +175°C
Storage temperature	- 65°C, +200°C
Reverse voltage	250 V
Dissipated power @ Tcase	(Tj-Tcase)/Rth *

Note: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink

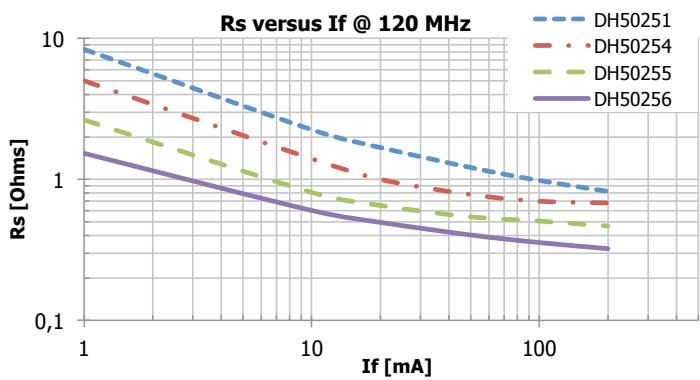
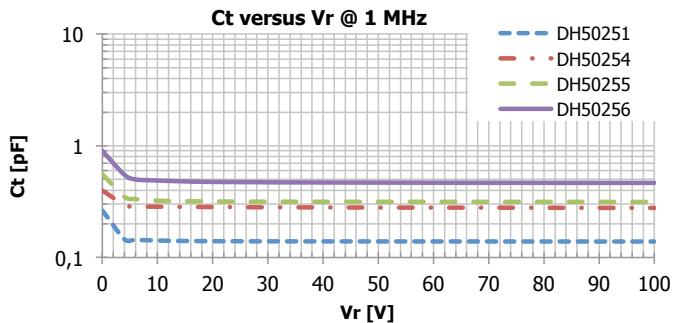
ORDERING INFORMATION

Part Number	M208a	M208b	F27d	BH142a	Die Part Number	Die size
DH50251	--	-02	--	--	EH50251-00	C2A
DH50253	--	--	--	--	EH50253-00	C2A
DH50254	--	--	-02	--	EH50254-00	C2A
DH50255	-04	--	-01	--	EH50255-00	C2A
DH50256	--	--	-02	-01	EH50256-00	C2A

Die delivered in ESD waffle pack. Other packages available on request.



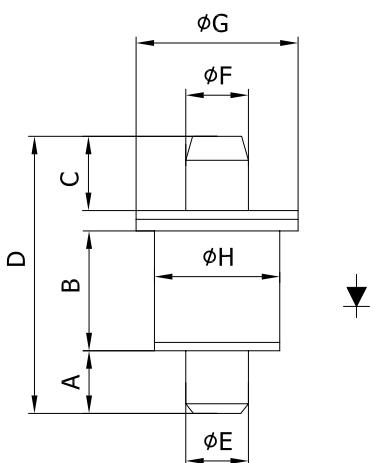
TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

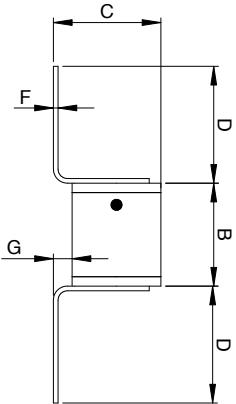
Case style: F27d C_b = 0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.55	1.59	0.061	0.063
B	1.74	1.82	0.069	0.072
C	1.55	1.59	0.061	0.063
D	5.15	5.65	0.202	0.222
ΦE	1.55	1.59	0.061	0.063
ΦF	1.55	1.59	0.061	0.063
ΦG	2.95	3.15	0.116	0.124
ΦH	2.01	2.05	0.079	0.081



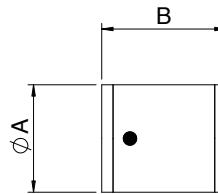
Case style: M208a C_b=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053
C	1.3	1.9	0.052	0.076
D	2.5		0.100	
E	0.55	0.65	0.022	0.026
F	0.06	0.1	0.0024	0.004
G	0.1	0.5	0.004	0.02



Case style: M208b C_b=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053

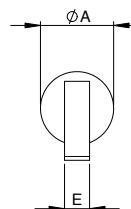
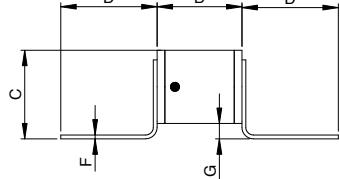
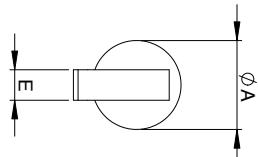
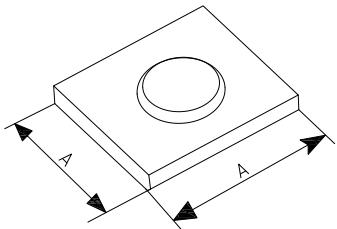


Case style: BH142a C_b=0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.90	2.20	0.075	0.087
B	1.24	1.58	0.049	0.062
C	2.10	2.70	0.083	0.106
D	2.5		0.098	
E	0.55	0.65	0.022	0.026
F	0.06	0.10	0.0024	0.0039
G	0.1	0.5	0.004	0.020

Case style: Die C2

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C2A	0.34	0.4	0.013	0.015



Silicon PIN Diodes DH8004x

FEATURES

- Very small capacitance value
- Medium Power Handling
- Low loss, Low distortion design
- Die or package option
- Rugged, hermetically sealed package
- RoHS compliant

DESCRIPTION

The DH8004x series is designed for high frequency medium power range switches where efficient compromise between power handling, fast switching, low losses and low distortion are required. Diodes use glass passivation technology and mesa design for high reliability purposes. Choice of hermetic ceramic packages is proposed for thermal or microwave performances optimization.

APPLICATIONS

The excellent electrical and thermal properties assure predictable superior performances in high frequency and medium power switching application.

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Junction Capacitance Cj @ Vr=50V, 1MHz (pF)		Total Capacitance* Ct @ Vr=50V, 1MHz (pF)		Series Resistance Rs @ If=100mA, 120MHz (Ω)	Carrier Lifetime Tl @ If=10mA, Ir=6mA (ns)	Thermal Resistance Rth @ Pd=1W (°C/W)
	typ	max	typ	max			
DH80041	0.045	0.06	0.15	0.18	2.0	1.5	45
DH80042	0.08	0.12	0.18	0.24	1.5	2.0	40

*Total capacitance Ct=Cj+Cb, values given for M208 package. Nota: Vf @ If=100mA < 1.0V; Ir @ Vr=450 V < 10.0µA; parallel resistance Rp > 10kΩ at Vr=100V.

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +175°C
Storage temperature	- 65°C, +200°C
Reverse voltage	450 V
Dissipated power @ 25°C	3 W*

Nota: any operation above these parameters may cause permanent

ORDERING INFORMATION

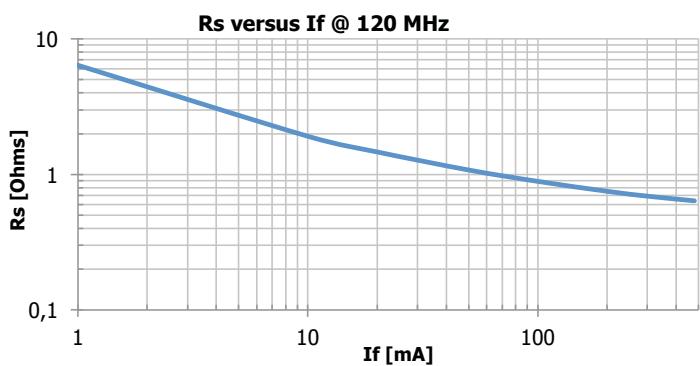
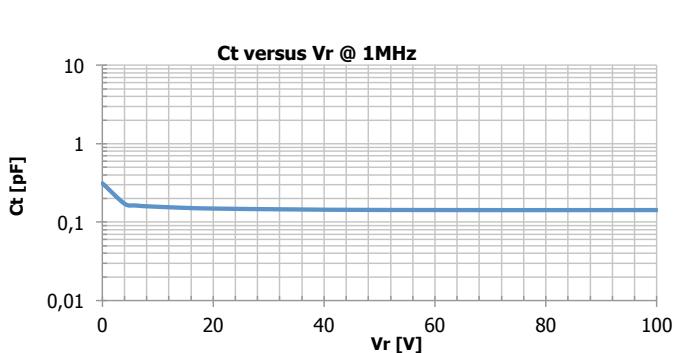
Part number	Package
EH80041-00	Die form delivered in ESD waffle pack, C2A
EH80042-00	Die form delivered in ESD waffle pack, C2A
DH80041-03	M208b

Other packages available on request.

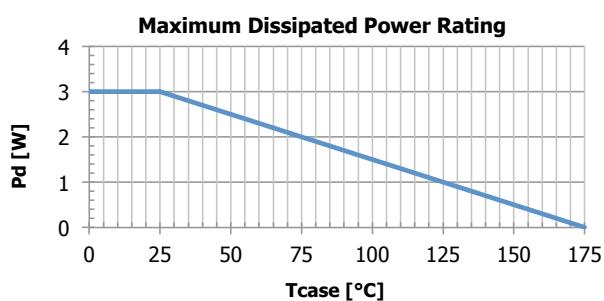


TYPICAL PERFORMANCES @ 25°C

DH 80041-03 :



*M208B package. DH80041-03



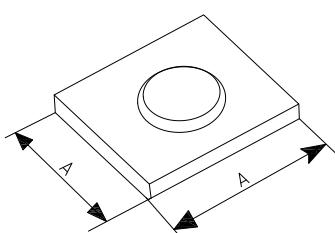
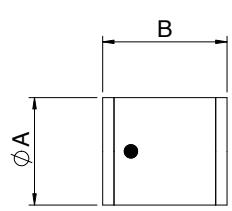
OUTLINE DRAWING

Case style: M208b C_b=0.12pF

Case style: Die C2

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C2A	0.34	0.4	0.013	0.016



Silicon PIN Diodes DH8005x

FEATURES

- Medium Power Handling (50 to 250W)
- Low loss, Low distortion design
- Die or package option
- Rugged, hermetically sealed package
- RoHS compliant

DESCRIPTION

The DH8005X serie is designed for medium power range switches where efficient compromise between power handling, fast switching, low losses and low distortion are required. Diodes use glass passivation technology and mesa design for high reliability purposes. Choice of hermetic ceramic packages with or without heatsink is proposed for thermal or microwave performances optimization.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in medium power application such as switches for filter bank and antenna application.

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Junction Capacitance Cj @ Vr=50V, 1MHz (pF)		Total Capacitance* Ct @ Vr=50V, 1MHz (pF)		Series Resistance Rs @120MHz (Ω)		Carrier Lifetime Tl @ If=10 mA, Ir=6 mA (μs)		Thermal Resistance Rth @ Pd=1W (°C/W)	
	typ	max	typ	max	If =100 mA	If =200 mA	min	typ	typ	max
DH80050	0.15	0.2	0.35	0.4	0.7	0.65	1.1	3.0	22.0	25.0
DH80051	0.3	0.4	0.5	0.6	0.6	0.55	1.5	3.5	15.0	18.0
DH80052	0.6	0.7	0.8	0.9	0.4	0.3	2.0	4.0	12.0	15.0
DH80053	0.8	0.9	1.0	1.1	0.3	0.25	2.5	5.0	9.0	12.0
DH80055	1.0	1.3	1.2	1.5	0.25	0.22	3.0	6.0	8.0	10.0

*Total capacitance Ct=Cj+Cb, values given for F27d package. Note : parallel resistance Rp>100kΩ at Vr=100V

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +175°C
Storage temperature	- 65°C, +200°C
Reverse voltage	500 V
Dissipated power @ Tcase	(Tj-Tcase)/Rth *

*Note: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink*

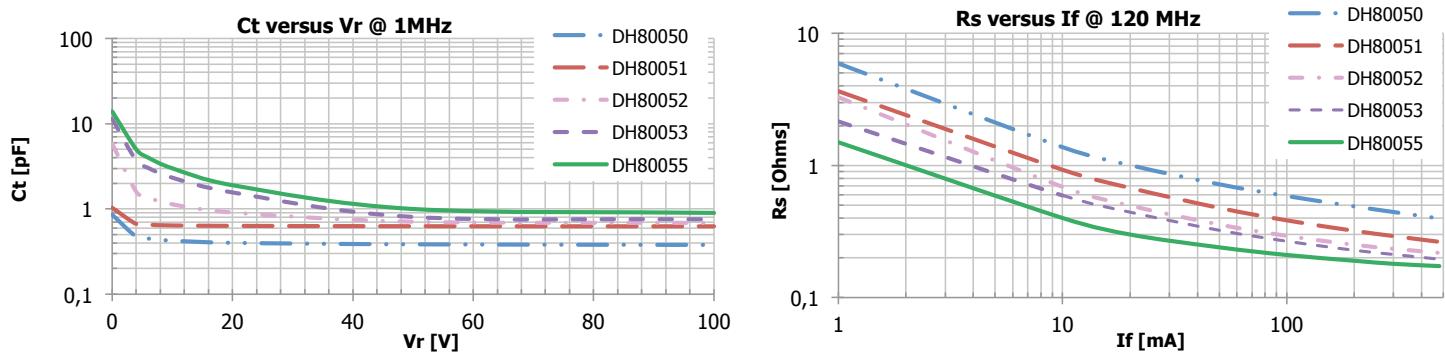
ORDERING INFORMATION

Part Number	F27d	BH202	Die Part-Number	Die Size
DH80050	-01	-03	EH80050-00	C2B
DH80051	01	-03	EH80051-00	C2C
DH80052	-01	-	EH80052-00	C2D
DH80053	-01	-03	EH80053-00	C2D
DH80055	01	-03	EH80055-00	C2D

Dies delivered in ESD waffle pack. Other packages available on request.



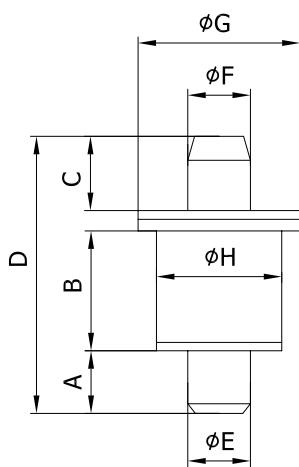
TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

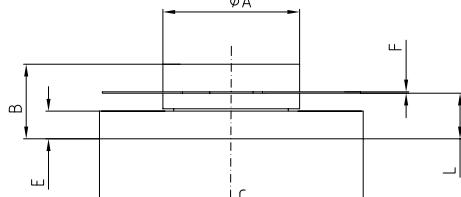
Case style: F27d C_b = 0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.55	1.59	0.061	0.063
B	1.74	1.82	0.069	0.072
C	1.55	1.59	0.061	0.063
D	5.15	5.65	0.202	0.222
ΦE	1.55	1.59	0.061	0.063
ΦF	1.55	1.59	0.061	0.063
ΦG	2.95	3.15	0.116	0.124
ΦH	2.01	2.05	0.079	0.081



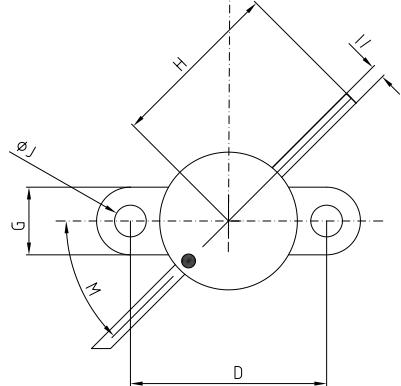
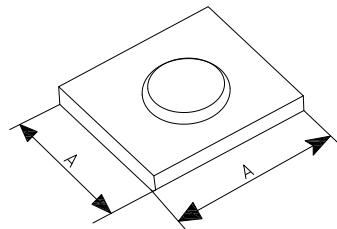
Case style: BH202 C_b=0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	12.63	12.83	0.497	0.505
B	6.78	7.19	0.267	0.283
C	24.65	24.9	0.970	0.980
D	18.26	16.67	0.719	0.735
E	2.5	2.67	0.098	0.105
F	0.23	0.27	0.009	0.011
G	6.3	6.4	0.248	0.252
H	16.3	16.7	0.642	0.658
I	1.25	1.29	0.049	0.051
ΦJ	3.1	3.25	0.122	0.128
L	4.12	4.52	0.162	0.178
M*	43	47	-	-



Case style: Die C2

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C2B	0.54	0.6	0.021	0.023
C2C	0.74	0.8	0.029	0.031
C2D	0.84	0.9	0.033	0.036



Silicon PIN Diodes DH8008x

FEATURES

- Medium Power Handling (60 to 80W)
- Low loss, Low distortion design
- Die or package option
- Rugged, hermetically sealed package
- RoHS compliant

DESCRIPTION

The DH8008x series is designed for medium power range switches where efficient compromise between power handling, fast switching, low losses and low distortion are required. Diodes use glass passivation technology and mesa design for high reliability purposes. Choice of hermetic ceramic packages with heatsink or hermetic stripline packages with glass feed through is proposed for thermal or microwave performances optimization.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank and antenna application.

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Junction Capacitance Cj @ Vr=50V, 1MHz (pF)		Total Capacitance* Ct @ Vr=50V, 1MHz (pF)		Series Resistance Rs @120MHz (Ω)		Carrier Lifetime Tl @ If=10 mA, Ir=6 mA (μs)	Thermal Resistance Rth @ Pd=1W (°C/W)	
	typ	max	typ	max	max	max		typ	max
DH80080	0.15	0.35	0.35	0.55	0.8	0.7	2.0	14.0	18.0
DH80083	0.8	0.9	1.0	1.1	0.4	0.3	3.0	10.0	12.0

*Total capacitance Ct=Cj+Cb, values given for F27d package. Note : parallel resistance Rp>100kΩ at Vr=100V

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +175°C
Storage temperature	- 65°C, +200°C
Reverse voltage	800 V
Dissipated power @ Tcase	(Tj-Tcase)/Rth *

Note: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink

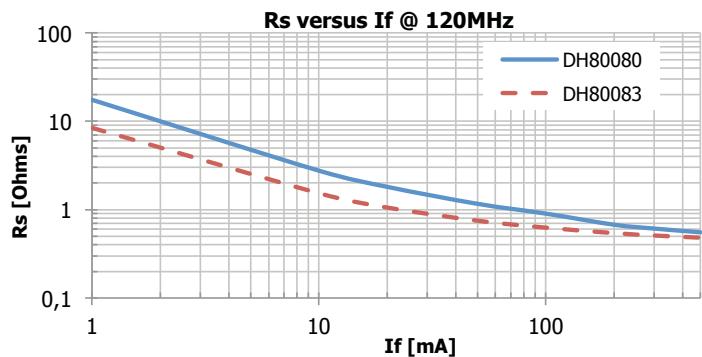
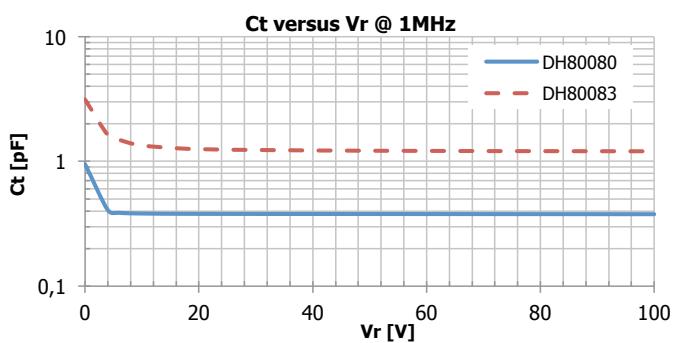
ORDERING INFORMATION

Part Number	F27d	BH141	BH202	BMH76	Die Part-Number	Die Size
DH80080	-00	-	-02	-01	EH80080-00	C2C
DH80083	-01	-05	-	-07	EH80083-00	C2E

Dies delivered in ESD waffle pack. Other packages available on request.



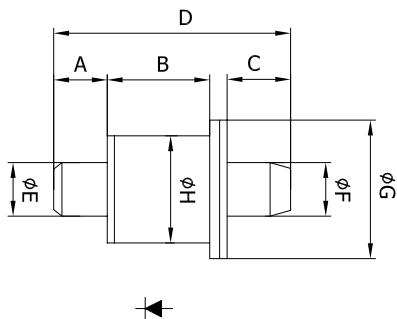
TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

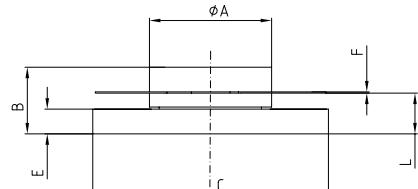
Case style: F27d C_b = 0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.55	1.59	0.061	0.063
B	1.74	1.82	0.069	0.072
C	1.55	1.59	0.061	0.063
D	5.15	5.65	0.202	0.222
ΦE	1.55	1.59	0.061	0.063
ΦF	1.55	1.59	0.061	0.063
ΦG	2.95	3.15	0.116	0.124
ΦH	2.01	2.05	0.079	0.081



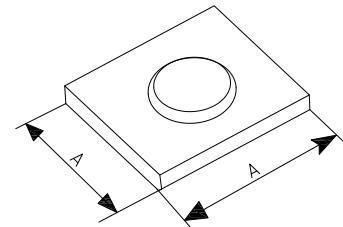
Case style: BH202 C_b=0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	12.63	12.83	0.497	0.505
B	6.78	7.19	0.267	0.283
C	24.65	24.9	0.970	0.980
D	18.26	16.67	0.719	0.735
E	2.5	2.67	0.098	0.105
F	0.23	0.27	0.009	0.011
G	6.3	6.4	0.248	0.252
H	16.3	16.7	0.642	0.658
I	1.25	1.29	0.049	0.051
ΦJ	3.1	3.25	0.122	0.128
L	4.12	4.52	0.162	0.178
M°	43	47	-	-



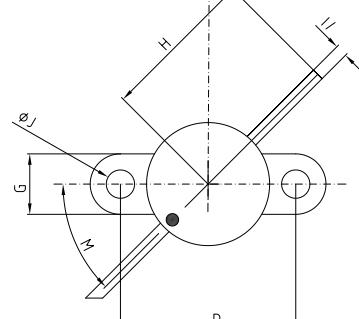
Case style: Die C2

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C2C	0.74	0.8	0.029	0.0315
C2E	0.94	1	0.037	0.039



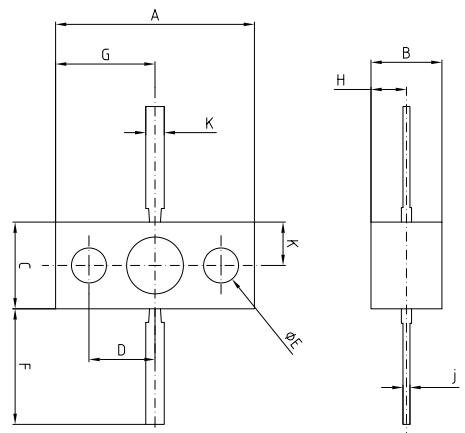
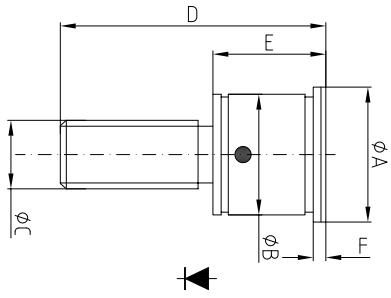
Case style: BMH76 C_b=0.5pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	10.3	10.5	0.406	0.413
B	3.02	3.22	0.119	0.127
C	4	4.2	0.157	0.165
D	3.1	3.3	0.122	0.130
ΦE	2.36	2.52	0.093	0.099
F	3.18	3.68	0.125	0.145
G	5.1	5.3	0.201	0.209
H	1.47	1.67	0.058	0.066
J	0.2	0.24	0.008	0.10
K	0.5	0.7	0.020	0.028
L	1.95	2.15	0.077	0.085



Case style: BH141 C_b=0.4pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	6.5	6.7	0.256	0.263
ΦB	5.2	5.4	0.203	0.205
ΦC	6.40 UNF - 3A			
D	12.8	13.4	0.504	0.526
E	4.7	5.1	0.185	0.201
F	-	0.7	-	0.028



Switching Silicon PIN Diodes in AlN package

FEATURES

- High voltage diode up to 1000V
- Medium Power Handling (100W)
- Low loss, Low distortion design
- Surface mount AlN based package
- RoHS compliant

DESCRIPTION

The DH80082 and DH80100 series are designed for medium power range switches where efficient compromise between power handling, fast switching, low losses and low distortion are required. Diodes use glass passivation technology and mesa design for high reliability purposes. The package is based on Aluminium Nitride substrate for thermal performances optimization.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank and antenna application.

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Max Reverse Voltage Vr @ Ir=10µA (V)	Forward voltage Vf @ If=100mA (V)	Total Capacitance Ct @ Vr=50V, 1MHz (pF)		Series Resistance Rs @ F=120MHz (Ω)		Carrier Lifetime I @ If=10mA, Ir=6mA (µs)		Thermal Resistance Rth @ Pd=1W (°C/W)	
			If =100 mA	If =200 mA	max	max	min	typ	typ	max
DH80082-11N	800	1.0	0.85	1.0	0.45	0.35	3.0	7.0	10	13
DH80100-11N	1000	1.0	0.5	0.65	0.7	0.6	3.0	7.0	11	15
DH80102-11N	1000	1.0	0.9	1.2	0.45	0.35	4.0	8.0	8	12

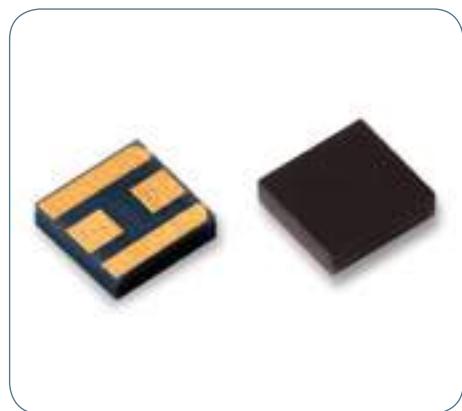
MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Dissipated power @ Tcase	(Tcase-Tj)/Rth*

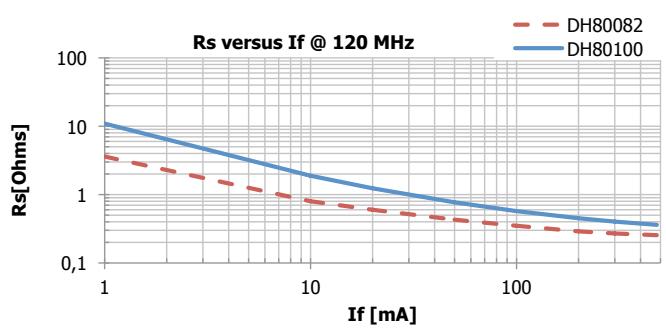
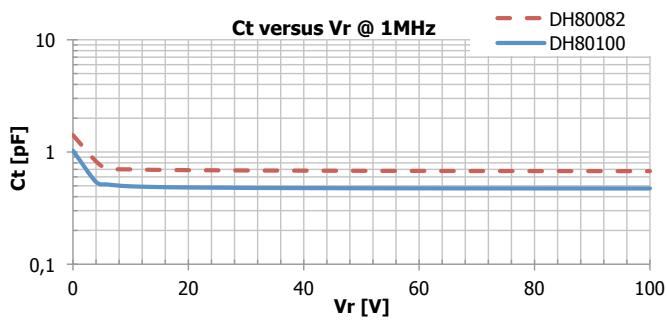
Nota: any operation above these parameters may cause permanent damages. * Contact on infinite copper heatsink

ORDERING INFORMATION

Delivered in bulk or in tape & reel with suffix T1 for 1000 p per reel.



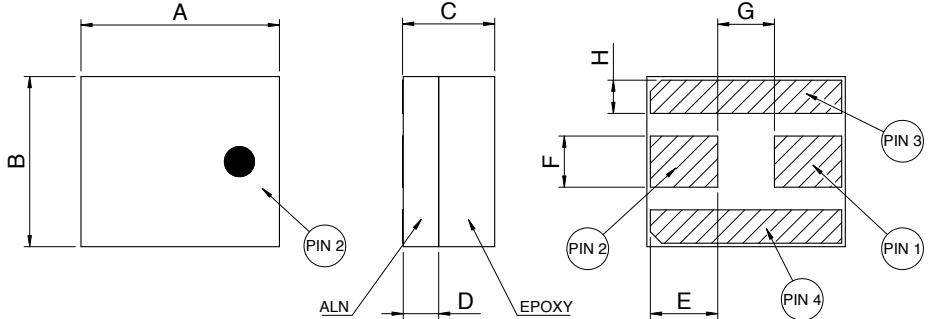
TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

Case style: BH64 Cb = 0.24 pF typ.

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	3.43	3.68	0.135	0.145
B	2.92	3.175	0.115	0.125
C	-	1.65	-	0.065
D	-	0.685	-	0.027
E	1.13	1.28	0.044	0.050
F	0.865	0.965	0.034	0.038
G	0.94	1.09	0.037	0.043
H	0.55	0.65	0.022	0.025



Pin 1 : Anode

Pin 2 : Cathode, marked upside by a dot

Pin 3 & 4 : Heat dissipation pads

Mat Tin termination

Silicon PIN Diodes DH8010x & DH80120

FEATURES

- Medium (80W to 100W) Power Handling
- Low loss, Low distortion design
- Die or package option
- Rugged, hermetically sealed package
- RoHS compliant

DESCRIPTION

The DH8010x serie is designed for medium power range switches where efficient compromise between power handling, fast switching, low losses and low distortion are required. Diodes use glass passivation technology and mesa design for high reliability purposes. Choice of hermetic ceramic packages with heatsink or hermetic stripline packages with glass feed through are proposed for thermal or microwave performances optimization.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank and antenna application.

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Junction Capacitance Cj @ Vr=50V, 1MHz (pF)		Total Capacitance* Ct @ Vr=50V, 1MHz (pF)		Series Resistance Rs @120MHz (Ω)		Carrier Lifetime Tl @ If=10 mA, Ir=6 mA (μs)		Thermal Resistance Rth @ Pd=1W (°C/W)	
					If = 100 mA	If = 200 mA				
	typ	max	typ	max	max	max	min	typ	typ	max
DH80100	0.3	0.4	0.5	0.6	0.7	0.6	3.0	7.0	12.0	15.0
DH80102	0.6	0.75	0.8	0.95	0.4	0.35	4.0	8.0	10.0	12.0
	@ Vr=100V, 1MHz		@ Vr=100V, 1MHz		200 mA	300 mA				
DH80120	0.3	0.4	0.5	0.6	0.6	0.55	6.0	8.0	12.0	15.0

*Total capacitance $Ct=Cj+Cb$, values given for F27d package. Note : parallel resistance $Rp>100k\Omega$ at $Vr=100V$

MAXIMUM RATINGS

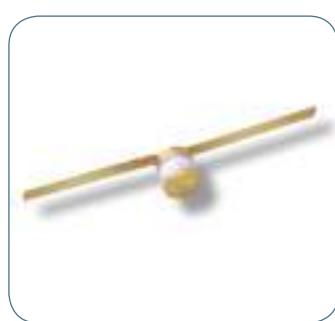
	Value
Operating temperature (Tj)	- 55°C, +175°C
Storage temperature	- 65°C, +200°C
Reverse voltage DH8010x	1000 V
DH80120	1200 v
Dissipated power @ Tcase	(Tj-Tcase)/Rth *

Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink

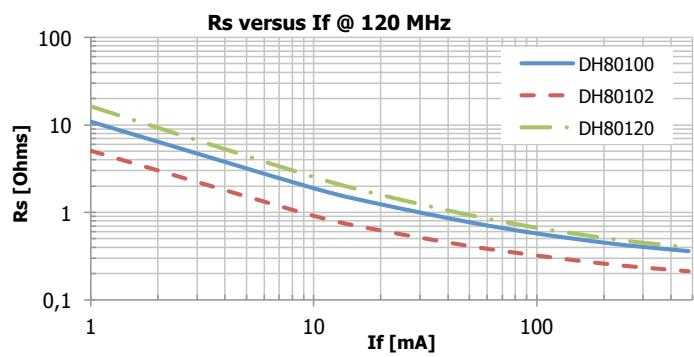
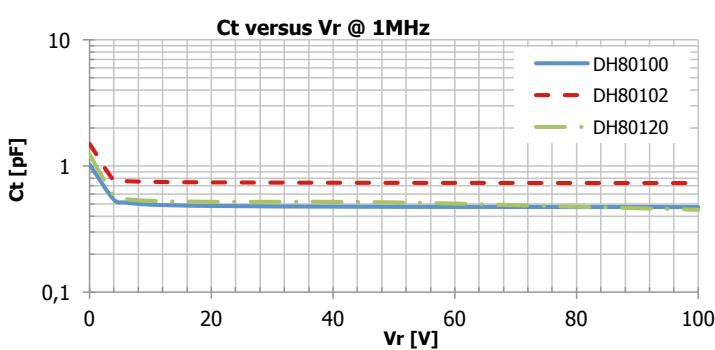
ORDERING INFORMATION

Part Number	F27d	BH142a	BH142b	BH301	BH141	Die Part-Number	Die Size
DH80100	-01	-04	-10	--	--	EH80100-00	C2D
DH80102	-01	--	--	-02	-04	EH80102-00	C2E
DH80120	-01	--	-14	-02	--	EH80120-00	C2D

Dies delivered in ESD waffle pack. Other packages available on request.



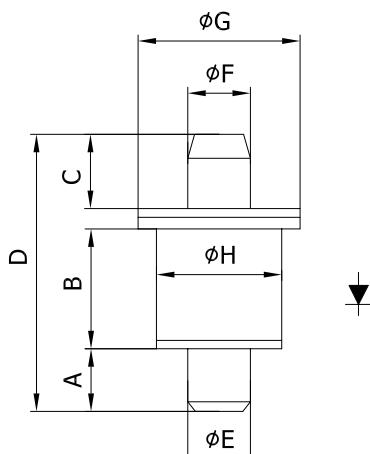
TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

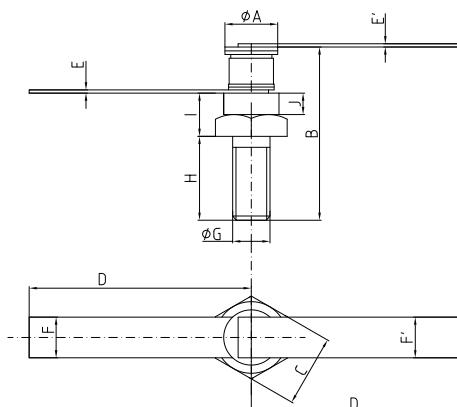
Case style: F27d C_b = 0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.55	1.59	0.061	0.063
B	1.74	1.82	0.069	0.072
C	1.55	1.59	0.061	0.063
D	5.15	5.65	0.202	0.222
ΦE	1.55	1.59	0.061	0.063
ΦF	1.55	1.59	0.061	0.063
ΦG	2.95	3.15	0.116	0.124
ΦH	2.01	2.05	0.079	0.081



Case style: BH301 C_b = 0.2pF

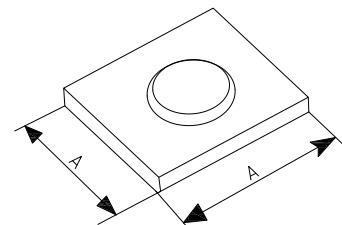
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	3	3.2	0.118	0.126
B	9.46	10.54	0.372	0.415
C	4.7	4.8	0.185	0.189
D	16.67	16.18	0.617	0.637
E	0.18	0.2	0.007	0.008
E'	0.06	0.1	0.002	0.004
F	2.16	2.58	0.002	0.004
F'	1.95	2	0.077	0.079
ΦG	4 – 40 UNC – 3A			
H	4.42	4.82	0.174	0.90
I	2.82	3.02	0.111	0.119
J	1.52	1.62	0.060	0.064



Case style: BH141 C_b=0.4pF

Case style: Die C2

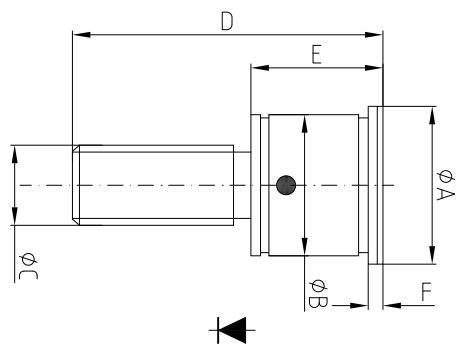
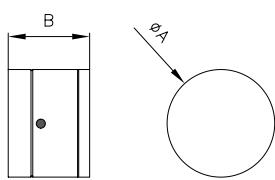
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C2D	0.84	0.9	0.033	0.036
C2E	0.94	1.0	0.037	0.039



Case style: BH142b C_b=0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	6.5	6.7	0.256	0.263
ΦB	5.2	5.4	0.203	0.205
ΦC	6. 40 UNF – 3A			
D	12.8	13.4	0.504	0.526
E	4.7	5.1	0.185	0.201
F	-	0.7	-	0.028

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.9	2.2	0.75	0.087
B	1.24	1.58	0.049	0.062



Silicon PIN Diode DH80106

FEATURES

- High Power Handling (400 to 500W)
- Low loss, Low distortion design
- Die or package option
- Rugged, hermetically sealed package
- RoHS compliant

DESCRIPTION

The DH80106 series is designed for high power range switches where efficient compromise between power handling, low losses and low distortion are required. Diodes use glass passivation technology and mesa design for high reliability purposes. Choice of hermetic ceramic packages with various heatsink types are proposed for thermal or microwave performances optimization.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna and MRI application.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Forward voltage	Vf	If = 100 mA			1.0	V
Junction capacitance	Cj	Vr= 50V, F = 1 MHz		1.4	1.7	pF
Forward series resistance	Rsf	If = 100 mA, F=120 MHz		0.28	0.35	
Forward series resistance	Rsf	If = 200 mA, F=120 MHz		0.2	0.3	Ω
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	7.0	10.0		μs
Thermal resistance BH141	Rth	Pd=1W		4.0	6.0	°C/W
Total capacitance*	CT	Vr= 50V, F = 1 MHz		1.8	2.1	pF

*Total capacitance $C_t = C_j + C_b$, values given for BH158AM and BH141 package. Note : parallel resistance $R_p > 100k\Omega$ at $V_r=100V$

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +175°C
Storage temperature	- 65°C, +200°C
Reverse voltage : all P/N	1000V
Except DH80106-10N	900V
Dissipated power @ Tcase	(Tj-Tcase)/Rth *

Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink.

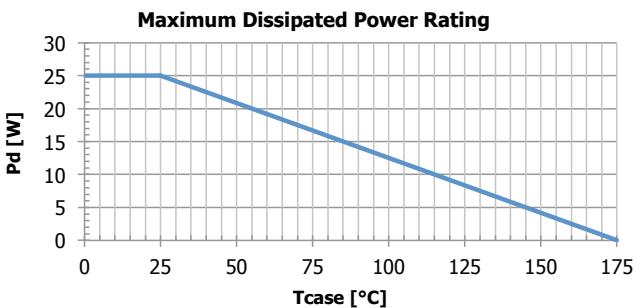
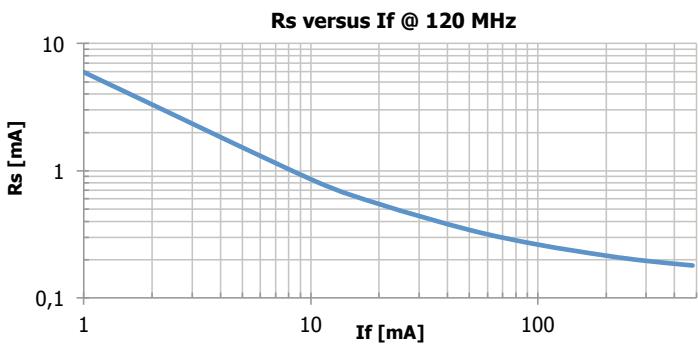
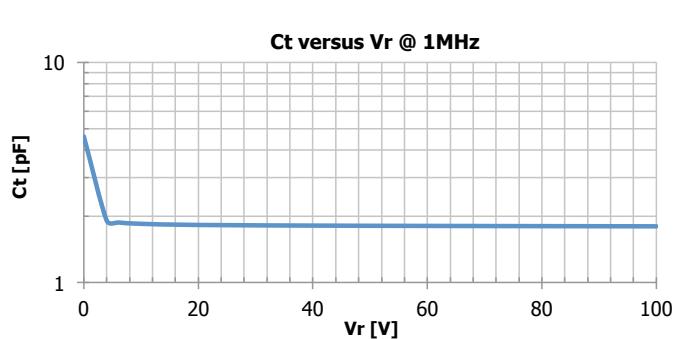
ORDERING INFORMATION

Part number	Package
EH80106-00	Die form delivered in ESD waffle pack, C2I
DH80106-01	BH141
DH80106-03	BH202
DH80106-10N	BH158am

Other packages available on request.



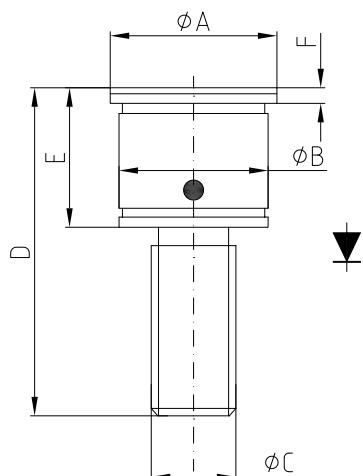
TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

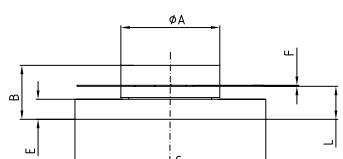
Case style: BH141 C_b=0.4pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	6.5	6.7	0.256	0.263
ΦB	5.2	5.4	0.203	0.205
ΦC	6.40 UNF – 3A			
D	12.8	13.4	0.504	0.526
E	4.7	5.1	0.185	0.201
F	-	0.7	-	0.028



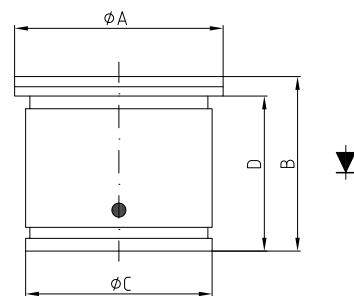
Case style: BH202 C_b=0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	12.63	12.83	0.497	0.505
B	6.78	7.19	0.267	0.283
C	24.65	24.9	0.970	0.980
D	18.26	16.67	0.719	0.735
E	2.5	2.67	0.098	0.105
F	0.23	0.27	0.009	0.011
G	6.3	6.4	0.248	0.252
H	16.3	16.7	0.642	0.658
I	1.25	1.29	0.049	0.051
ΦJ	3.1	3.25	0.122	0.128
L	4.12	4.52	0.162	0.178
M°	43	47	-	-



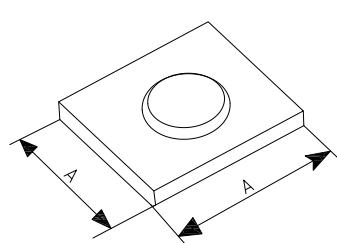
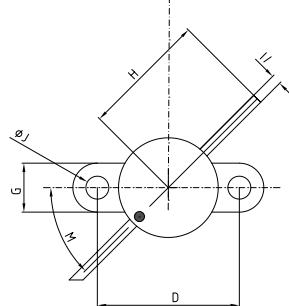
Case style: BH158AM C_b=0.4pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	5.7	6.1	0.224	0.24
B	4.7	5.2	0.185	0.205
ΦC	5.2	5.5	0.204	0.216
D	4.1	4.4	0.160	0.173



Case style: Die C2I

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C2I	1.5	1.6	0.059	0.063



Silicon PIN Diodes DH8012x & DH8015x

FEATURES

- High Power Handling (250 to 1000W)
- Low loss, Low distortion design
- Die or package option
- Rugged, hermetically sealed package
- ROhs compliant

DESCRIPTION

The DH8012x and DH8015x series are designed for high power range switches where efficient compromise between power handling, fast switching, low losses and low distortion are required. Diodes use glass passivation technology and mesa design for high reliability purposes. Choice of hermetic ceramic packages with various heatsink types are proposed for thermal or microwave performances optimization.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna and MRI application.

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Junction Capacitance Cj @ Vr=100V, 1MHz (pF)		Total Capacitance* Ct @ Vr=100V, 1MHz (pF)		Series Resistance Rs @120MHz (Ω)		Carrier Lifetime Tl @ If=10 mA, Ir=6 mA (μs)	Thermal Resistance Rth @ Pd=1W (°C/W)	
	typ	max	typ	max	max	max			
DH80124	1.0	1.2	1.4	1.6	0.45	0.35	10.0	4.0	8.0
DH80154	1.0	1.2	1.4	1.6	0.45	0.35	10.0	4.0	8.0
DH80129	2.0	2.3	2.4	2.7	0.3	0.25	15.0	3.0	4.5
DH80159	2.0	2.3	2.4	2.7	0.3	0.25	15.0	3.0	4.5

*Total capacitance Ct=Cj+Cb, values given for BH141 or BH158AM package. Nota : parallel resistance Rp>100kΩ at Vr=100V

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +175°C
Storage temperature	- 65°C, +200°C
Reverse voltage DH8012x	1200V
DH8015x	1500V
Dissipated power @ Tcase	(Tj-Tcase)/Rth *

Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink

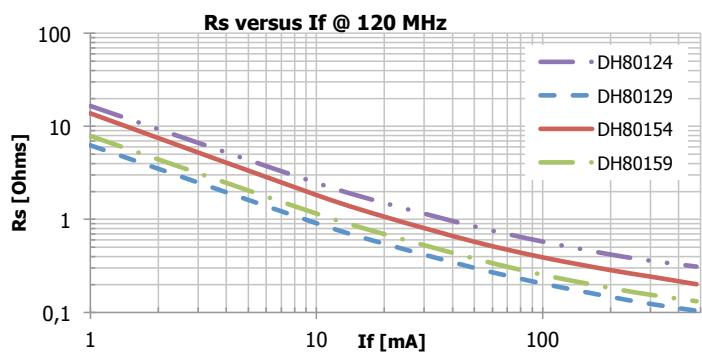
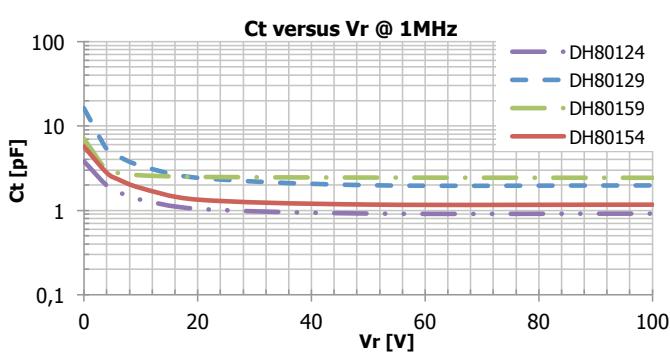
ORDERING INFORMATION

Part Number	BH141	BH158AM	BH300	BH200a	Die Part-Number	Die Size
DH80124	-01	-10	--	--	EH80124-00	C2I
DH80129	-01	--	-02	--	EH80129-00	C2L
DH80154	-01	--	-02	-03	EH80154-00	C2I
DH80159	-01	--	--	-03	EH80159-00	C2L

Dies delivered in ESD waffle pack. Other packages available on request.



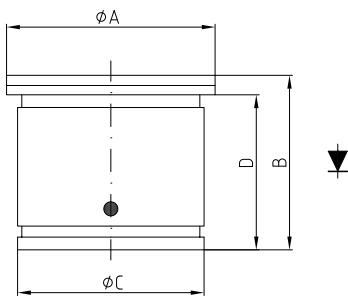
TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

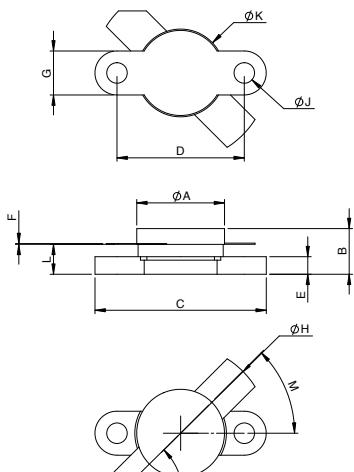
Case style: BH158AM C_b=0.4pF non magnetic variant

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	5.7	6.1	0.224	0.24
B	4.7	5.2	0.185	0.205
ΦC	5.2	5.5	0.204	0.216
D	4.1	4.4	0.160	0.173



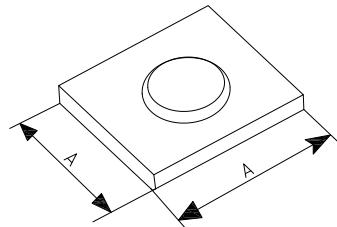
Case style: BH200a C_b=0.4pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	12.5	12.9	0.492	0.508
B	2.5	2.667	0.098	0.105
C	3.86	4.27	0.152	0.168
D	6.78	7.19	0.267	0.283
E	0.10	0.127	0.04	0.005
ΦF	3.1	3.25	0.122	0.128
G	24.64	24.89	0.970	0.980
H	18.26	18.6	0.719	0.735
I	6.30	6.40	0.248	0.252
ΦJ	30.48	31.50	1.2	1.24
K	5.49	5.89	0.216	0.232
L	43°	47°	43°	4°



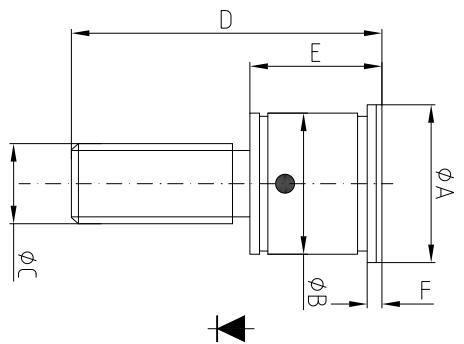
Case style: Die C2

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C2I	1.5	1.6	0.059	0.063
C2L	2.1	2.2	0.082	0.087



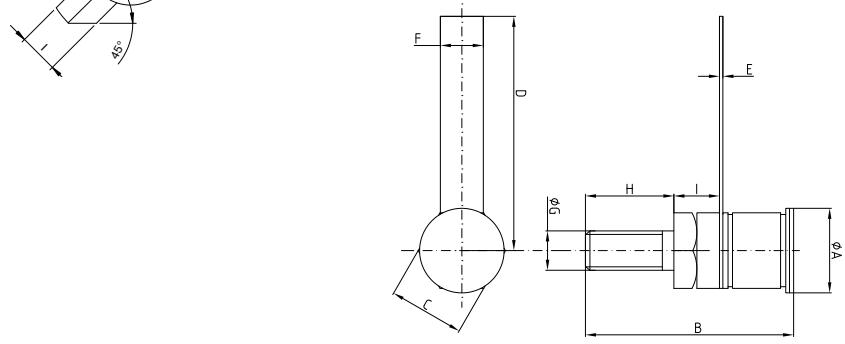
Case style: BH141 C_b=0.4pF, available in non magnetic variant

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	6.5	6.7	0.256	0.263
ΦB	5.2	5.4	0.203	0.205
ΦC	6.40 UNF - 3A			
D	12.8	13.4	0.504	0.526
E	4.7	5.1	0.185	0.201
F	-	0.7	-	0.028



Case style: BH300 C_b=0.4pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	6.5	6.7	0.256	0.264
ΦB	13.95	15.05	0.549	0.593
ΦC	6.30	6.40	0.248	0.252
ΦD	20	-	0.787	-
E	0.20	0.30	0.008	0.012
F	2.97	3.38	0.177	0.133
G	6 -32 UNC -3A			
H	5.6	6.00	0.220	0.236
I	3.25	3.45	0.128	0.136



Silicon PIN Diode DH80182 & DH802xx

FEATURES

- High Power Handling (200 to 1000W)
- Low loss, Low distortion design
- Rugged, hermetically sealed package
- RoHS compliant

DESCRIPTION

The DH80182 and DH802xx series are designed for high power range switches where efficient compromise between power handling, fast switching, low losses and low distortion are required. Diodes use 200µm I zone thickness, glass passivation technology and mesa design for high reliability purposes. Choice of hermetic ceramic packages with various heatsink types are proposed for thermal or microwave performances optimization.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna and MRI application.

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Junction Capacitance Cj @ Vr=200V, 1MHz (pF)		Total Capacitance* Ct @ Vr=200V, 1MHz (pF)		Series Resistance Rs @120MHz (Ω)		Carrier Lifetime Tl @ If=10 mA, Ir=6 mA (µs)		Thermal Resistance Rth @ Pd=1W (°C/W)	
	typ	max	typ	max	If =200 mA	If =300 mA	min	typ	typ	max
DH80182	0.6	0.8	1.0	1.2	0.6	0.5	12.0	20.0	8.0	10.0
DH80204	1.0	1.3	1.4	1.7	0.5	0.4	14.0	20.0	6.5	8.0
DH80209	2.0	2.4	2.4	2.8	0.35	0.3	18.0	25.0	2.5	4.5
DH80210	3.0	3.4	3.4	3.8	0.2	0.15	25.0	30.0	2.0	2.5

*Total capacitance Ct=Cj+Cb, all values given for BH141 package. Note : parallel resistance Rp>100kΩ at Vr=100V

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +175°C
Storage temperature	- 65°C, +200°C
Reverse voltage DH802xx	2000V
DH80182	1800V
Dissipated power @ Tcase	(Tj-Tcase)/Rth *

Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink

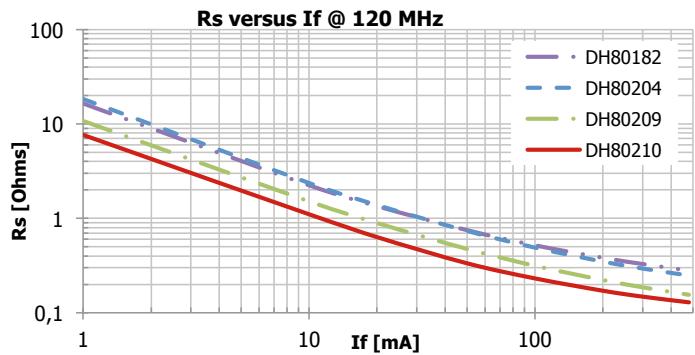
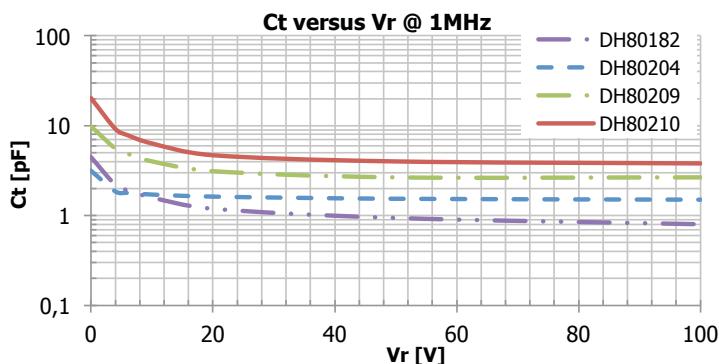
ORDERING INFORMATION

Part Number	BH141	BH158AM	BH300	BH200a	BH303
DH80182	-01	--	--	--	--
DH80204	-01	-09	-02	--	--
DH80209	-01	-13	-02	-03	-10
DH80210	-01	-10	-02	-03	-04

Other packages available on request.



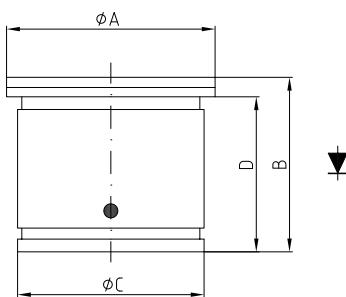
TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

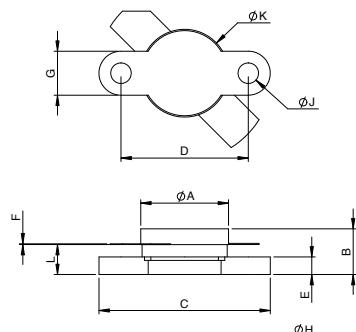
Case style: BH158AM C_b=0.4pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	5.7	6.1	0.224	0.24
B	4.7	5.2	0.185	0.205
ΦC	5.2	5.5	0.204	0.216
D	4.1	4.4	0.160	0.173



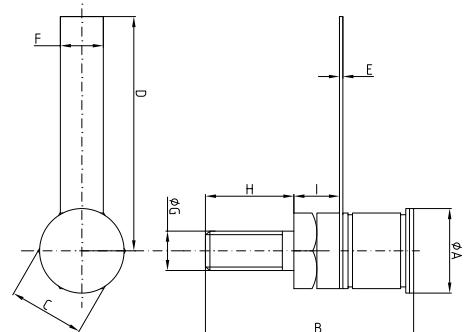
Case style: BH200a C_b=0.4pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	12.5	12.9	0.492	0.508
B	2.5	2.667	0.098	0.105
C	3.86	4.27	0.152	0.168
D	6.78	7.19	0.267	0.283
E	0.10	0.127	0.004	0.005
ΦF	3.1	3.25	0.122	0.128
G	24.64	24.89	0.970	0.80
H	18.26	18.6	0.719	0.735
I	6.30	6.40	0.248	0.252
ΦJ	30.48	31.50	1.2	1.24
K	5.49	5.89	0.216	0.232
L	43°	47°	43°	47°



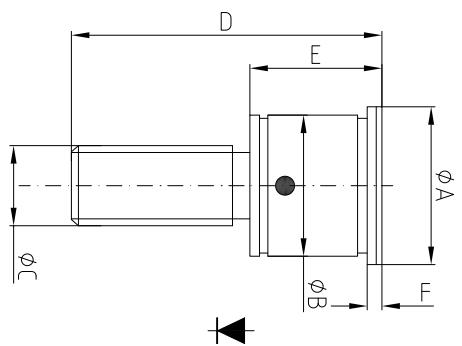
Case style: BH300 and BH303* C_b=0.4pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	6.5	6.7	0.256	0.264
B	13.5	15.05	0.549	0.593
ΦC	6.30	6.40	0.248	0.252
D	20	-	0.787	-
E	0.20	0.30	0.008	0.012
F	2.97	3.38	0.177	0.133
ΦG	6 -32 UNC -3A			
H	5.6	6.00	0.220	0.236
I	3.25	3.45	0.128	0.136



Case style: BH141 C_b=0.4pF, available in non magnetic variant

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	6.5	6.7	0.256	0.263
ΦB	5.2	5.4	0.203	0.205
ΦC	6. 40 UNF – 3A			
D	12.8	13.4	0.504	0.526
E	4.7	5.1	0.185	0.201
F	-	0.7	-	0.028



*Same package with lead on the anode and non magnetic variant available

Silicon PIN Diodes DH80289 & DH8030x

FEATURES

- High Power Handling in kW range
- Low loss, Low distortion design
- Non magnetic package option
- Rugged, hermetically sealed package
- RoHS compliant

DESCRIPTION

The DH8030x and DH80289 series are designed for very high power range switches where efficient compromise between power handling, low losses and low distortion are required. Diodes use glass passivation technology and mesa design for high reliability purposes. Choice of hermetic ceramic packages with various heatsink types are proposed for thermal or microwave performances optimization.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank and antenna application or for MRI application.

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Junction Capacitance Cj @ Vr=200V, 1MHz (pF)		Total Capacitance Ct @ Vr=200V 1MHz (pF)		Series Resistance Rs @ If =500mA, 120MHz (Ω)		Carrier Lifetime Tl @ If=10 mA, Ir=6 mA (μs)		Thermal Resistance Rth @ Pd=1W (°C/W)	
	typ	max	typ	max	typ	max	min	typ	typ	max
DH80307	1.5	2.1	1.5	2.5	0.2	0.35	25.0	36.0	3.0	5.0
DH80289	2.8	3.6	3.2	4.0	0.13	0.25	35.0	45.0	2.5	3.0
DH80309										

Nota : parallel resistance Rp>100kΩ at Vr=100V

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +175°C
Storage temperature	- 65°C, +200°C
Reverse voltage DH8030x	3000 V
DH80289	2800 V
Forward current DH80307	20 A
DH80289 and DH80309	25 A
Dissipated power @ Tcase	(Tj-Tcase)/Rth *

Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink

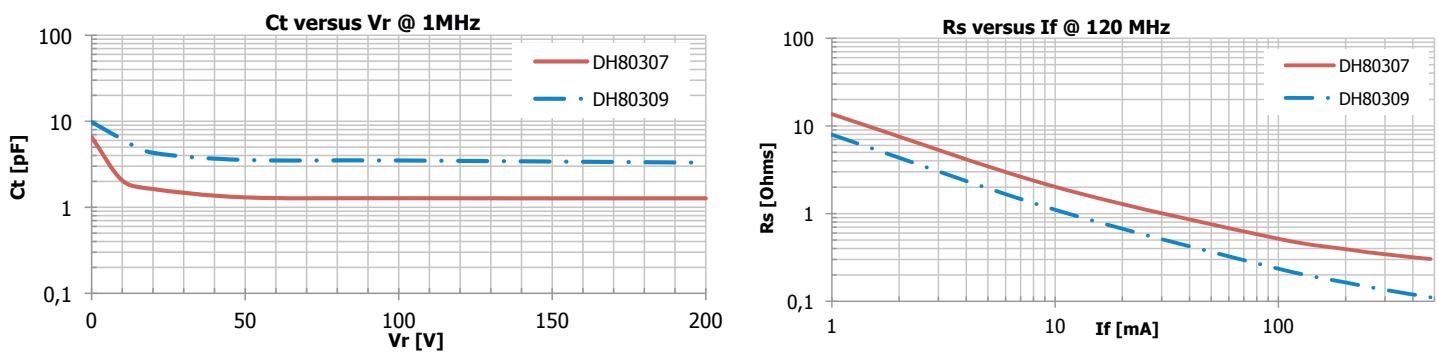
ORDERING INFORMATION

Part Number	BH141	BH158AM	BH300	BH303AM
DH80289	-02	-01	--	--
DH80307	-08	-01	-02	-05
DH80309	-08	-01	-02	--

Other packages available on request.



TYPICAL PERFORMANCES @ 25°C

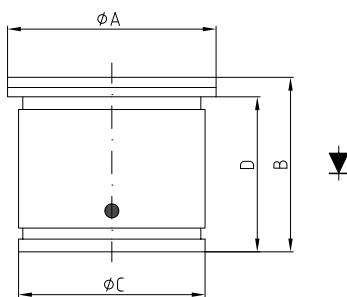


OUTLINE DRAWING

Case style: BH158AM

$C_b = 0.4\text{pF}$

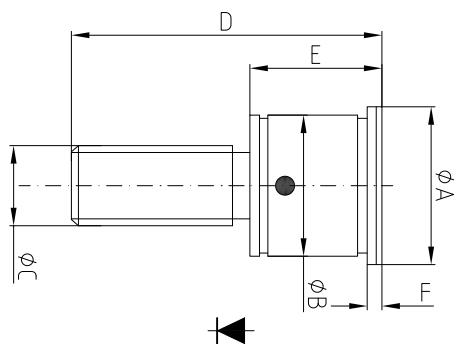
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	5.7	6.1	0.224	0.24
B	4.7	5.2	0.185	0.205
ΦC	5.2	5.5	0.204	0.216
D	4.1	4.4	0.160	0.173



Case style: BH141

$C_b = 0.4\text{pF}$

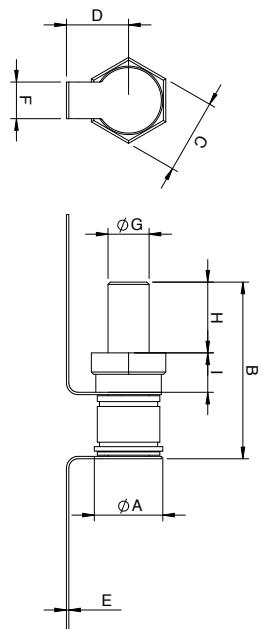
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	6.5	6.7	0.256	0.263
ΦB	5.2	5.4	0.203	0.205
ΦC	6.40 UNF - 3A			
D	12.8	13.4	0.504	0.526
E	4.7	5.1	0.185	0.201
F	-	0.7	-	0.028



Case style: BH303AM-A

$C_b = 0.4\text{pF}$, bended leads, other shapes on request (see drawing p.190)

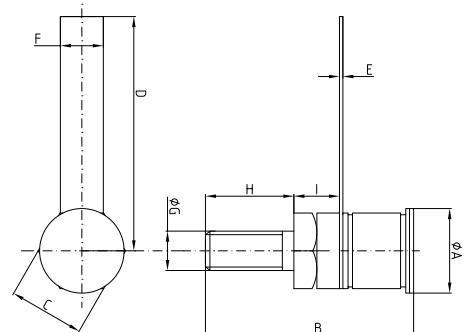
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	6.5	6.7	0.256	0.264
B	13.95	15.0	0.549	0.593
ΦC	6.30	6.40	0.248	0.252
D	3.5	-	0.138	-
E	0.17	0.30	0.007	0.012
F	2.97	3.38	0.177	0.133
ΦG	6 -32 UNC - 3A			
H	5.6	6.00	0.220	0.236
I	3.25	3.45	0.128	0.136



Case style: BH300

$C_b = 0.4\text{pF}$

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	6.5	6.7	0.256	0.264
ΦB	13.95	15.05	0.549	0.593
ΦC	6.30	6.40	0.248	0.252
ΦD	20	-	0.787	-
E	0.20	0.30	0.008	0.012
F	2.97	3.38	0.177	0.133
G	6 -32 UNC - 3A			
H	5.6	6.00	0.220	0.236
I	3.25	3.45	0.128	0.136



Silicon PIN Diodes, AlN package DH80309-05

FEATURES

- High Power Handling in kW range
- Low loss, Low distortion design
- Compact, Flat pack, two terminals package
- Improved thermal resistance : electrically isolated heatsink at the backside
- RoHS compliant
- Non-magnetic package

DESCRIPTION

The DH80309 serie is designed for very high power range switches. Diodes use glass passivation technology and mesa design for high reliability purposes. For new developments, this package combines the advantage of AlN for thermal dissipation and plastic encapsulation for very compact design. It is non-magneticity is especially designed for medical applications (MRI) when effective cost solution is required without reducing the high performances of isolation, low loss and low distortion.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank and antenna application or for MRI application.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr min = 3000 V			10.0	µA
Forward voltage	Vf	If = 100 mA		0.7	1.0	V
Total capacitance	Ct	Vr= 200V, F = 1 MHz		3.0	4.0	pF
Forward series resistance	Rsf	If = 500 mA, F=120 MHz		0.13	0.25	Ω
Parallel resistance	Rp	Vr= 100V, F = 100 MHz		>100		kΩ
I region thickness	-			300		µm
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	35.0	45.0		µs
Thermal resistance*	Rth	Pd=1W		3.5	5.0	°C/W

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage	3000 V
Dissipated power @ Tcase	(Tj-Tcase)/Rth *

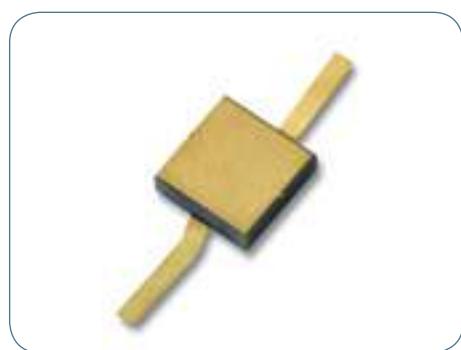
Nota: any operation above these parameters may cause permanent damages.

*Backside pad in contact on infinite copper heatsink

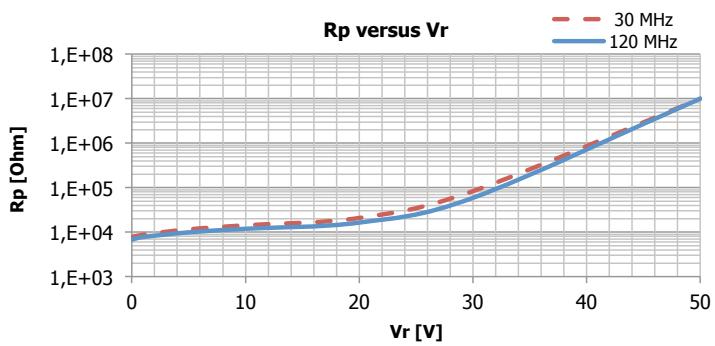
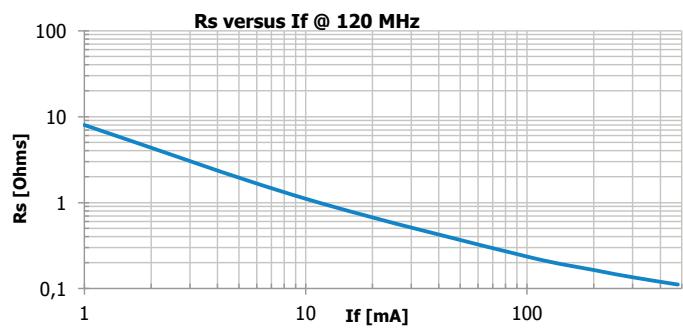
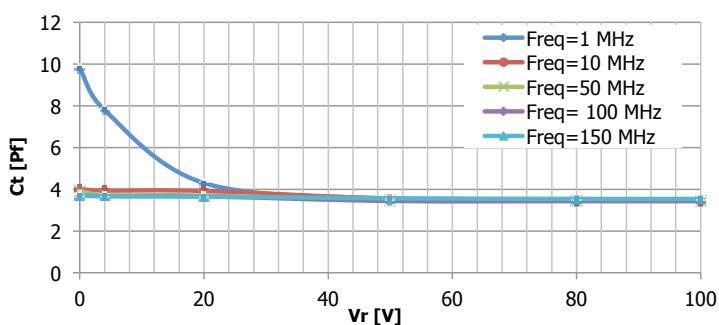
ORDERING INFORMATION

Part number	Package
DH80309-05	Flat pack AlN package with two leads

*See factory for shunt diode.



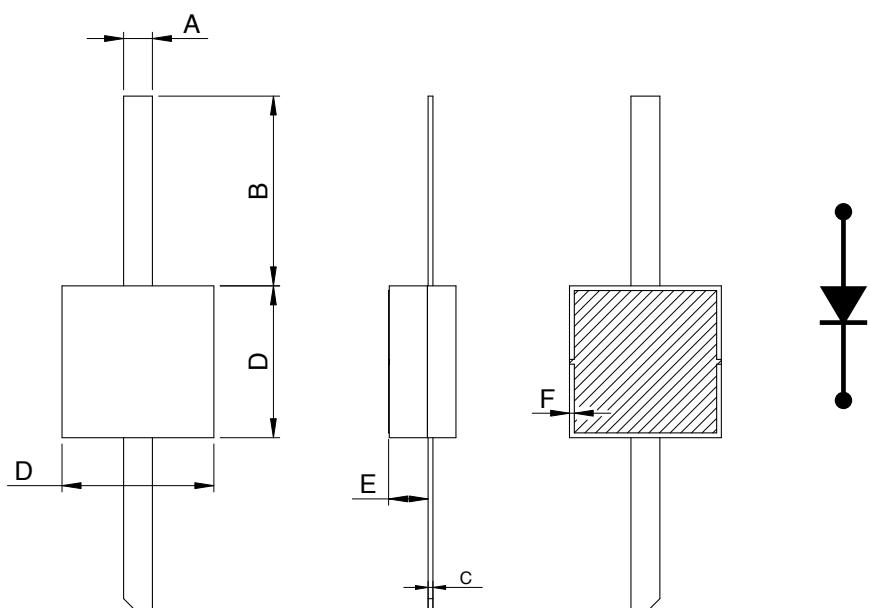
TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

Case style: BH68AM

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.4	1.6	0.055	0.062
B	9.9	10.1	0.389	0.397
C	0.2	0.3	0.008	0.012
D	7.9	8.1	0.311	0.318
E	1.9	2.1	0.074	0.082
F	0.2	0.3	0.008	0.012



Silicon PIN Diodes Square MELF DH50209

FEATURES

- Medium Power Handling (200V)
- Low loss, Low distortion design
- Rugged, hermetically Sealed package
- RoHS compliant

DESCRIPTION

The DH50209 square MELF is designed for medium power switches where low losses and low distortion are required at frequencies from HF. Diode uses SMD hermetic ceramic package and glass passivation technology and mesa design.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna switching and MRI application when supplied in non magnetic package.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr max = 200 V		0.1	10	µA
Forward voltage	Vf	If = 100 mA		0.8	1	V
Total capacitance	Ct	Vr= 50V, F = 1 MHz		1.0	1.2	pF
Forward series resistance	Rsf	If = 50 mA, F=120 MHz		0.2	0.25	Ω
Parallel resistance	Rp	Vr = 100V, F = 120 MHz		>100	-	kΩ
I region thickness				20		µm
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	1.0	2.0		µs
Thermal resistance	Rth	Pd=1W		22	25	°C/W

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage	200 V
Dissipated power @ 25°C	4.5 W*

Nota: any operation above these parameters may cause permanent damages.

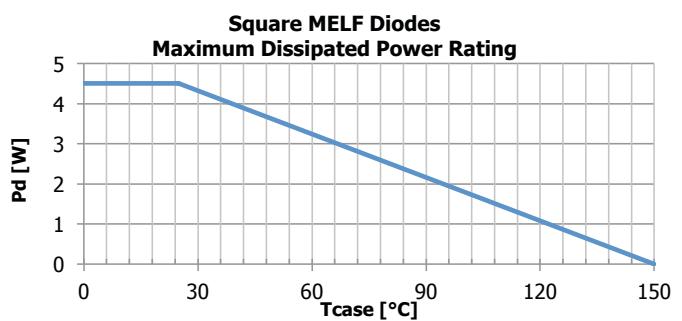
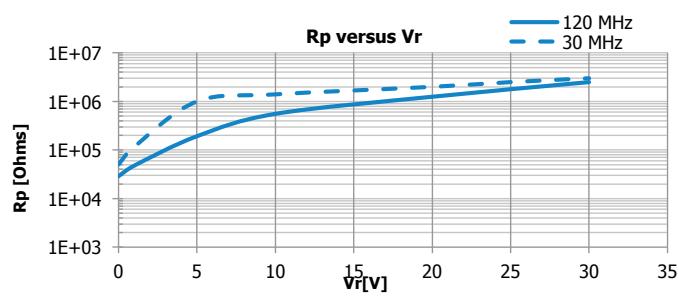
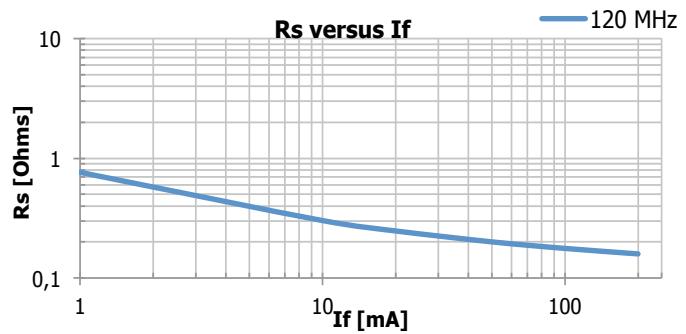
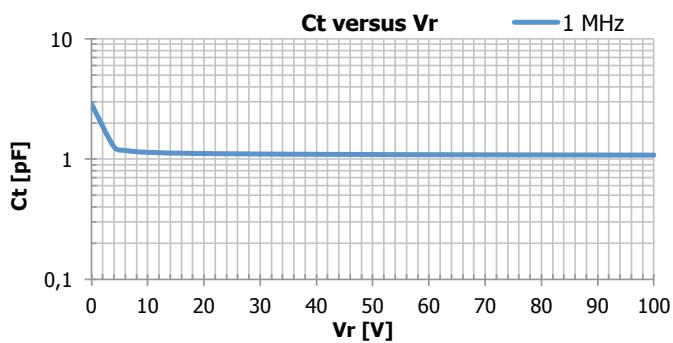
*Contact on infinite copper heatsink

ORDERING INFORMATION

Part number	Package
DH50209-06N	in Bulk
DH50209-40N	in Bulk
DH50209-06NT1	Tape & reel, 1000 p
DH50209-40NT1	Tape & reel, 1000 p
DH50209-06NT3	Tape & reel, 3000 p
DH50209-40NT3	Tape & reel, 3000 p



TYPICAL PERFORMANCES @ 25°C

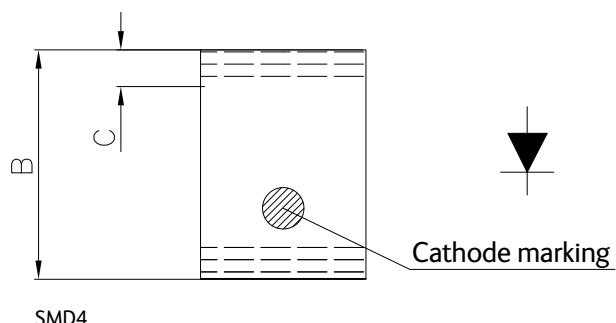
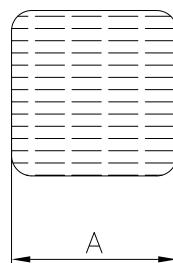


OUTLINE DRAWING

Case style: DH50209-xxN C_b = 0.24 pF

- 06N SMD4
- 40N SMD4AM (non magnetic)

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.9	2.3	0.076	0.091
B	2.7	3.5	0.108	0.138
C	0.2	0.8	0.008	0.031



SMD4

Silicon PIN Diodes Square MELF DH80050

FEATURES

- Medium Power Handling (500V)
- Low loss, Low distortion design
- Rugged, hermetically Sealed package
- RoHS compliant

DESCRIPTION

The DH80050 square MELF is designed for medium power switches where low losses and low distortion are required at frequencies from HF. Diode uses SMD hermetic ceramic package and glass passivation technology and mesa design.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna switching and MRI application when supplied in non magnetic package.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr max = 500 V		0.1	10	µA
Forward voltage	Vf	If = 100 mA		0.9	1	V
Total capacitance	Ct	Vr= 50V, F = 1 MHz		0.4	0.45	pF
Forward series resistance	Rsf	If = 100 mA, F=120 MHz		0.6	0.7	Ω
Forward series resistance	Rsf	If = 200 mA, F=120 MHz		0.5	0.65	Ω
Parallel resistance	Rp	Vr = 100V, F = 120 MHz		>100		kΩ
I region thickness				50		µm
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	1.1	2.6		µs
Thermal resistance	Rth	Pd=1W		25	30	°C/W

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage	500 V
Dissipated power @ 25°C	3.5 W*

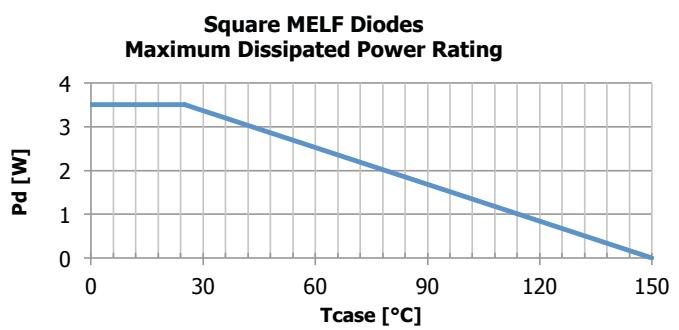
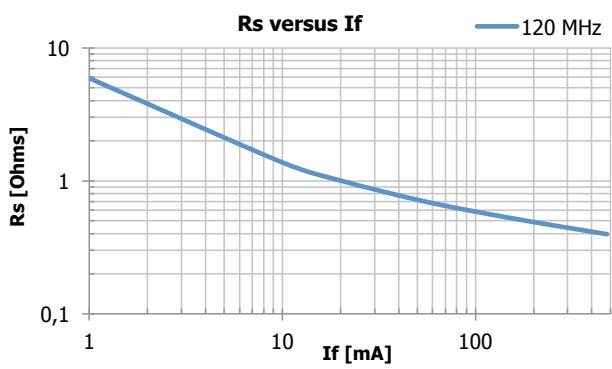
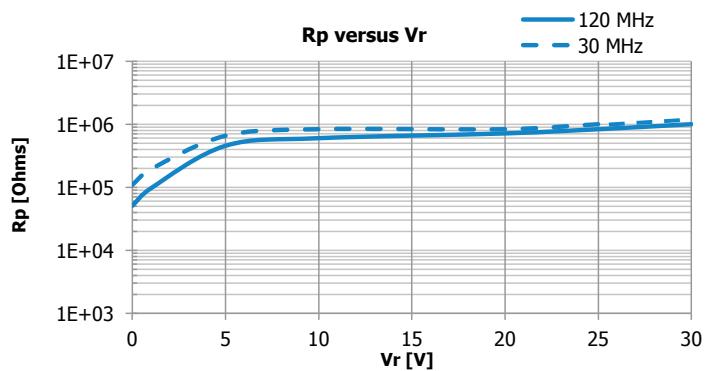
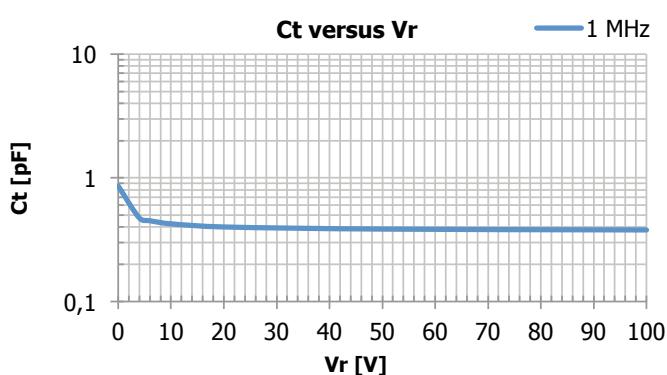
Note: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink.

ORDERING INFORMATION

Part number	Package
DH80050-06N	In bulk
DH80050-40N	In bulk
DH80050-41N	In bulk
DH80050-06NT1	Tape & reel, 1000 p
DH80050-40NT1	Tape & reel, 1000 p
DH80050-06NT3	Tape & reel, 3000 p
DH80050-40NT3	Tape & reel, 3000 p



TYPICAL PERFORMANCES @ 25°C

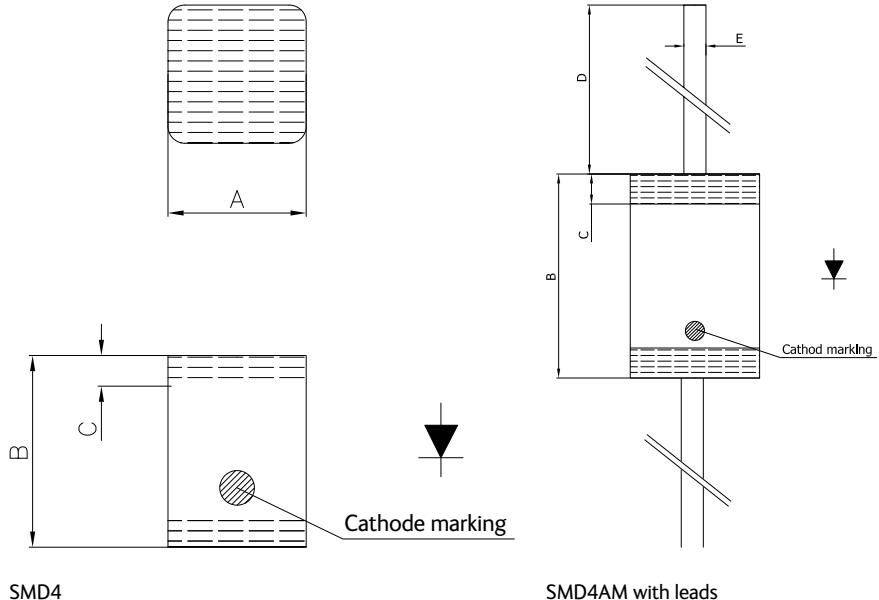


OUTLINE DRAWING

Case style: DH80050-xxN C_b = 0.24 pF

- 06N SMD4
- 40N SMD4AM (non magnetic)
- 41N SMD4AM with lead (non magnetic)

Symbol	Millimeters			Inches		
	Min	Typ	Max	Min	Typ	Max
A	1.9		2.3	0.076		0.091
B	2.75		3.5	0.108		0.138
C	0.2		0.8	0.008		0.031
D		20			0.8	
ΦE	0.68	...	0.72	0.027	...	0.028



Silicon PIN Diodes Square MELF DH80051

FEATURES

- Medium Power Handling (500V)
- Low loss, Low distortion design
- Rugged, hermetically Sealed package
- RoHS compliant

DESCRIPTION

The DH80051 square MELF is designed for medium power switches where low losses and low distortion are required at frequencies from HF. Diode uses SMD hermetic ceramic package and glass passivation technology and mesa design.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna switching and MRI application when supplied in non magnetic package.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr max = 500 V		0.1	10	µA
Forward voltage	Vf	If = 100 mA		0.8	1	V
Total capacitance	Ct	Vr= 50V, F = 1 MHz		0.55	0.65	pF
Forward series resistance	Rsf	If = 100 mA, F=120 MHz		0.4	0.60	Ω
Forward series resistance	Rsf	If = 200 mA, F=120 MHz		0.3	0.55	Ω
Parallel resistance	Rp	Vr = 100V, F = 120 MHz		>100		kΩ
I region thickness				50		µm
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	1.5	3.5		µs
Thermal resistance	Rth	Pd=1W		22	25	°C/W

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage	500 V
Dissipated power @ 25°C	4 W*

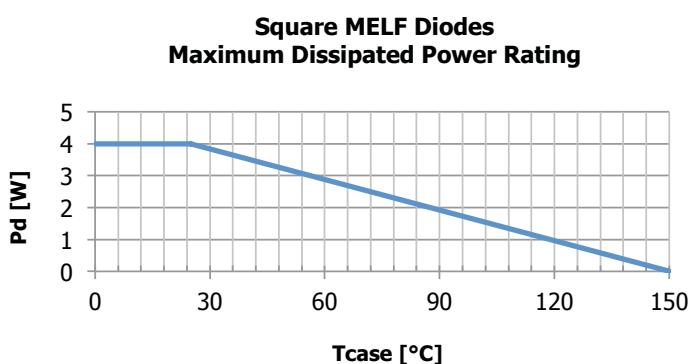
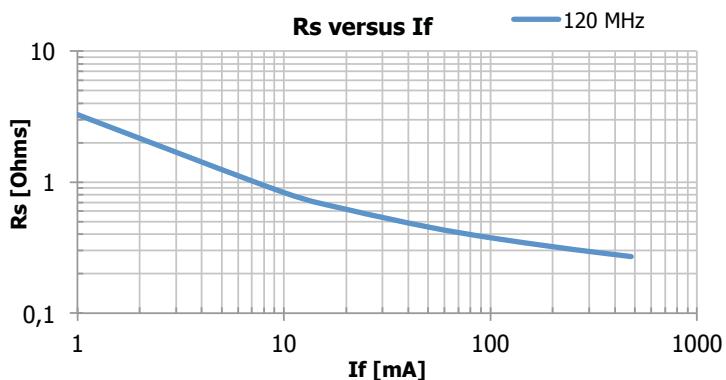
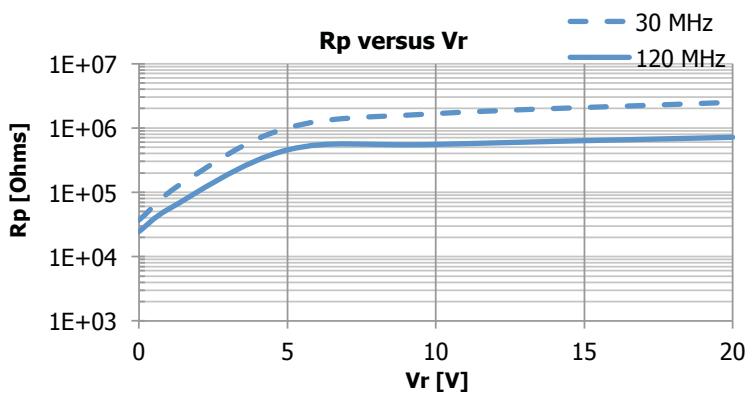
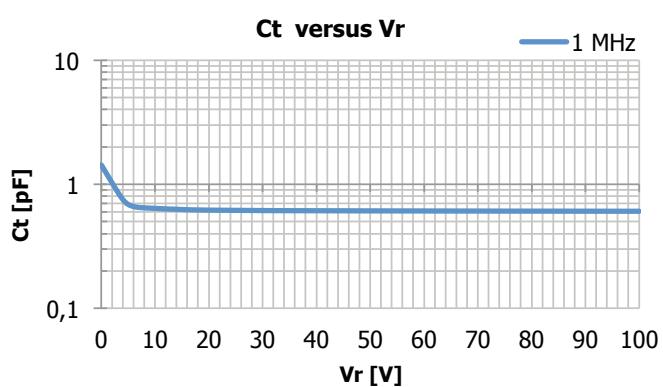
Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink.

ORDERING INFORMATION

Part number	Package
DH80051-06N	In bulk
DH80051-40N	In bulk
DH80051-06NT1	Tape & reel, 1000 p
DH80051-40NT1	Tape & reel, 1000 p
DH80051-06NT3	Tape & reel, 3000 p
DH80051-40NT3	Tape & reel, 3000 p



TYPICAL PERFORMANCES @ 25°C

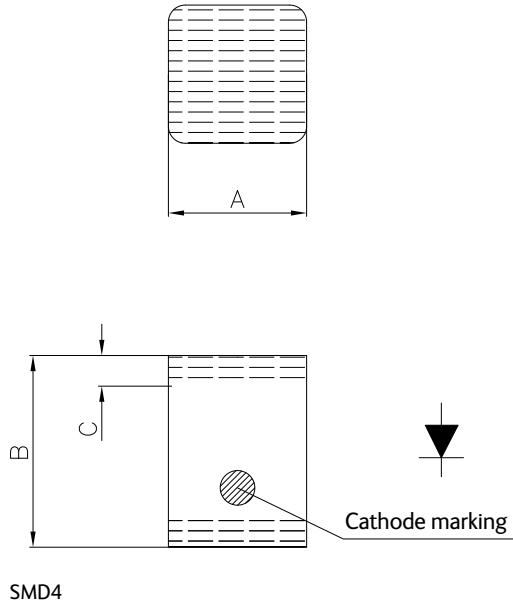


OUTLINE DRAWING

Case style: DH80051-xxN C_b= 0.24 pF

- 06N SMD4
- 40N SMD4AM (non magnetic)

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.9	2.3	0.076	0.091
B	2.7	3.5	0.108	0.138
C	0.2	0.8	0.008	0.031



Silicon PIN Diodes Square MELF DH80052

FEATURES

- Medium Power Handling (500V)
- Low loss, Low distortion design
- Rugged, hermetically Sealed package
- RoHS compliant

DESCRIPTION

The DH80052 square MELF is designed for medium power switches where low losses and low distortion are required at frequencies from HF. Diode uses SMD hermetic ceramic package and glass passivation technology and mesa design.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna switching and MRI application when supplied in non magnetic package.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr max = 500 V		0.1	10	µA
Forward voltage	Vf	If = 100 mA		0.83	1	V
Total capacitance	Ct	Vr= 50V, F = 1 MHz		0.8	1.05	pF
Forward series resistance	Rsf	If = 100 mA, F=120 MHz		0.35	0.40	Ω
Forward series resistance	Rsf	If = 200 mA, F=120 MHz		0.3	0.35	Ω
Parallel resistance	Rp	Vr = 100V, F = 120 MHz		>100		kΩ
I region thickness				50		µm
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	2.1	3.4		µs
Thermal resistance	Rth	Pd=1W		18	23	°C/W

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage	500 V
Dissipated power @ 25°C	5 W*

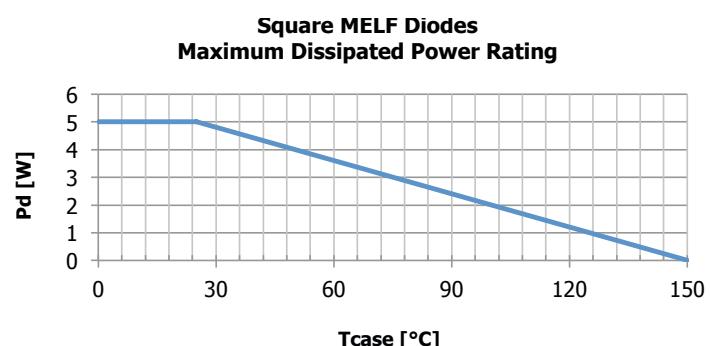
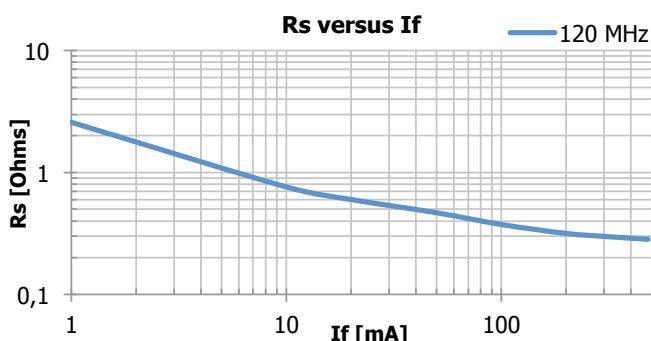
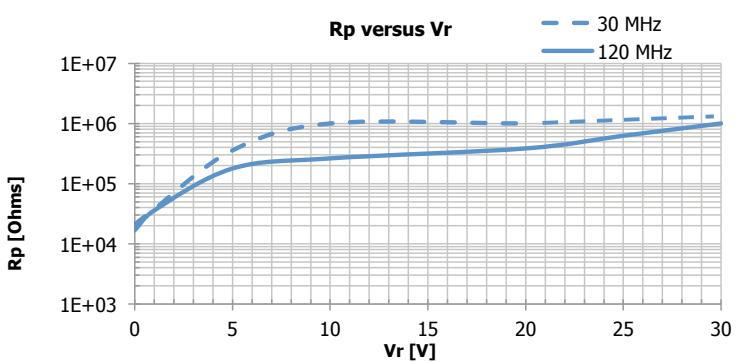
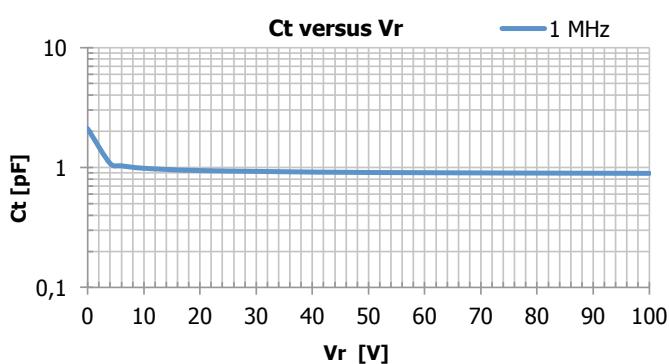
Note: any operation above these parameters may cause permanent damages. *Contact on infinite heatsink.

ORDERING INFORMATION

Part number	Package
DH80052-06N	In bulk
DH80052-40N	In bulk
DH80052-06NT1	Tape & reel, 1000 p
DH80052-40NT1	Tape & reel, 1000 p
DH80052-06NT3	Tape & reel, 3000 p
DH80052-40NT3	Tape & reel, 3000 p



TYPICAL PERFORMANCES @ 25°C

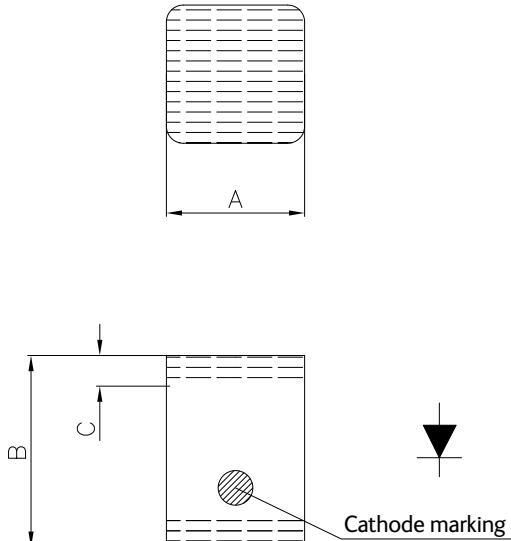


OUTLINE DRAWING

Case style: DH80052-xxN C_b = 0.24 pF

- 06N SMD4
- 40N SMD4AM (non magnetic)

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.9	2.3	0.076	0.091
B	2.7	3.5	0.108	0.138
C	0.2	0.8	0.008	0.031



SMD4

Silicon PIN Diodes Square MELF DH80053

FEATURES

- Medium Power Handling (500V)
- Low loss, Low distortion design
- Rugged, hermetically Sealed package
- RoHS compliant

DESCRIPTION

The DH80053 square MELF is designed for medium power switches where low losses and low distortion are required at frequencies from HF. Diode uses SMD hermetic ceramic package and glass passivation technology and mesa design.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna switching and MRI application when supplied in non magnetic package.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr max = 500 V		0.1	10	µA
Forward voltage	Vf	If = 100 mA		0.8	1.0	V
Total capacitance	Ct	Vr= 50V, F = 1 MHz		1.0	1.2	pF
Forward series resistance	Rsf	If = 100 mA, F=120 MHz		0.3	0.35	Ω
Forward series resistance	Rsf	If = 200 mA, F=120 MHz		0.26	0.30	Ω
Parallel resistance	Rp	Vr = 100V, F = 120 MHz		>100		kΩ
I region thickness				50		µm
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	2.5	4		µs
Thermal resistance	Rth	Pd=1W		18	22	°C/W

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C +150°C
Reverse voltage	500 V
Dissipated power @ 25°C	5 W*

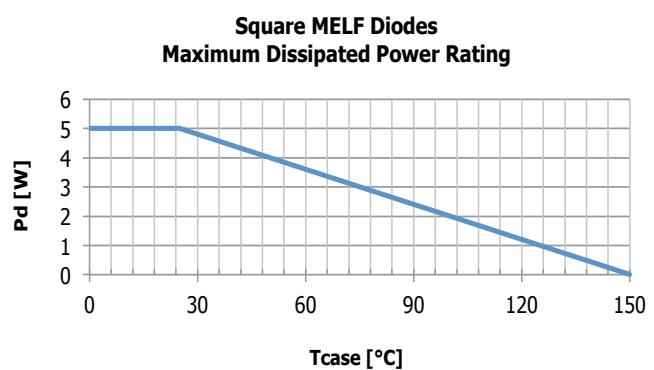
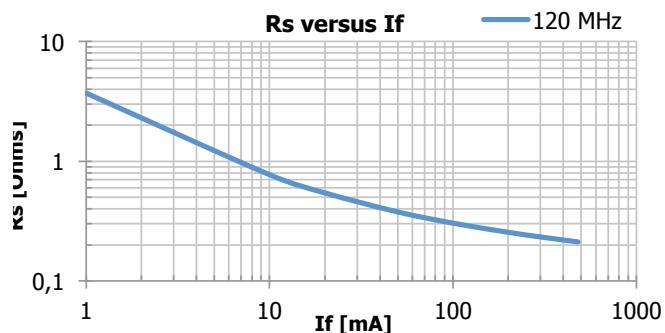
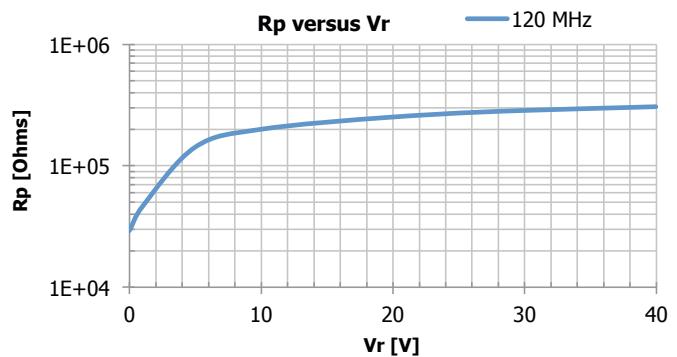
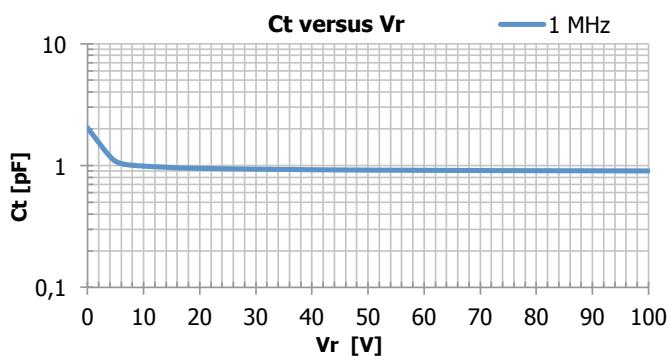
Note: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink.

ORDERING INFORMATION

Part number	Package
DH80053-06N	In bulk
DH80053-40N	In bulk
DH80053-06NT1	Tape & reel, 1000 p
DH80053-40NT1	Tape & reel, 1000 p
DH80053-06NT3	Tape & reel, 3000 p
DH80053-40NT3	Tape & reel, 3000 p



TYPICAL PERFORMANCES @ 25°C

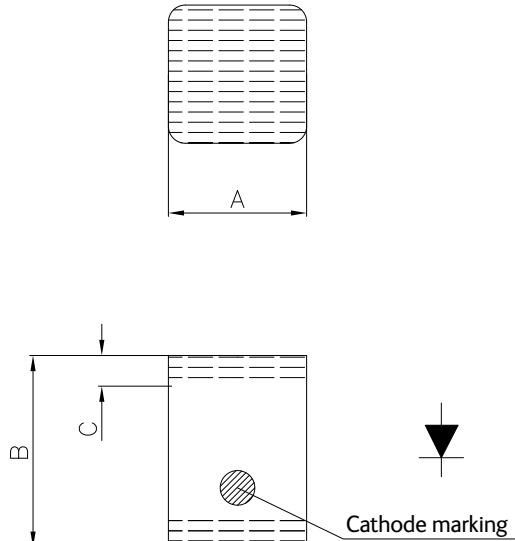


OUTLINE DRAWING

Case style: DH80053-xxN C_b = 0.24 pF

- 06N SMD4
- 40N SMD4AM (non magnetic)

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.9	2.3	0.076	0.091
B	2.7	3.5	0.108	0.138
C	0.2	0.8	0.008	0.031



Silicon PIN Diodes Square MELF DH80054

FEATURES

- Medium Power Handling (500V)
- Low loss, Low distortion design
- Rugged, hermetically Sealed package
- RoHS compliant

DESCRIPTION

The DH80054 square MELF is designed for medium power switches where low losses and low distortion are required at frequencies from HF. Diode uses SMD hermetic ceramic package and glass passivation technology and mesa design.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna switching and MRI application when supplied in non magnetic package.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr max = 500 V		0.1	10	µA
Forward voltage	Vf	If = 100 mA		0.8	1	V
Total capacitance	Ct	Vr= 50V, F = 1 MHz		1.10	1.35	pF
Forward series resistance	Rsf	If = 100 mA, F=120 MHz		0.28	0.30	Ω
Forward series resistance	Rsf	If = 200 mA, F=120 MHz		0.25	0.27	Ω
Parallel resistance	Rp	Vr = 100V, F = 120 MHz		>100		kΩ
I region thickness				50		µm
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	3.0	5		µs
Thermal resistance	Rth	Pd=1W		18	22	°C/W

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage	500 V
Dissipated power @ 25°C	5.5 W*

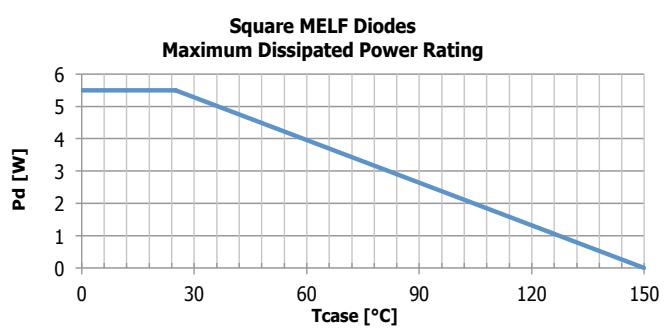
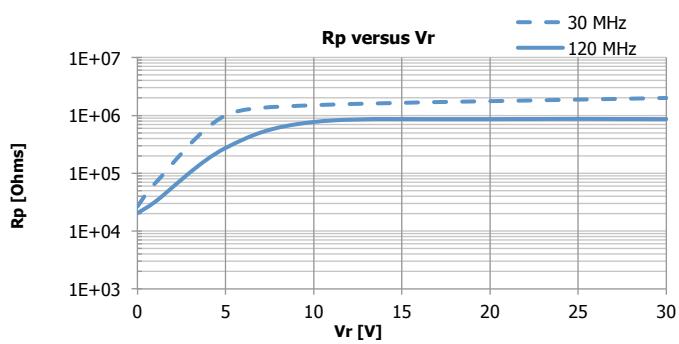
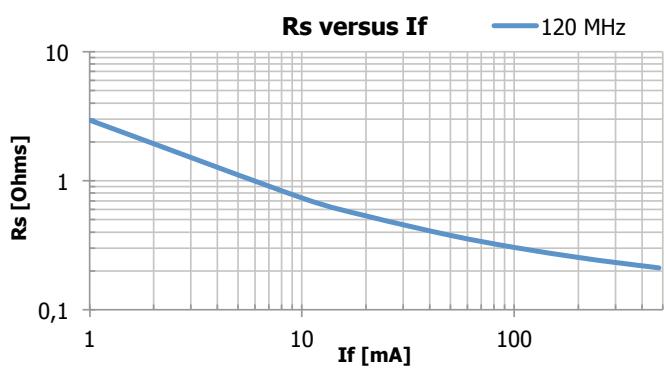
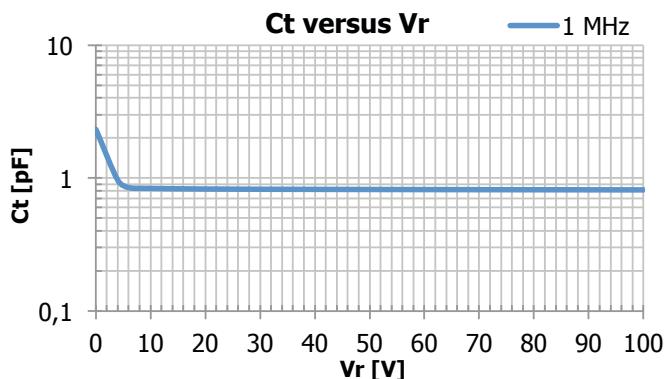
Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink.

ORDERING INFORMATION

Part number	Package
DH80054-06N	In bulk
DH80054-40N	In bulk
DH80054-06NT1	Tape & reel, 1000 p
DH80054-40NT1	Tape & reel, 1000 p
DH80054-06NT3	Tape & reel, 3000 p
DH80054-40NT3	Tape & reel, 3000 p



TYPICAL PERFORMANCES @ 25°C

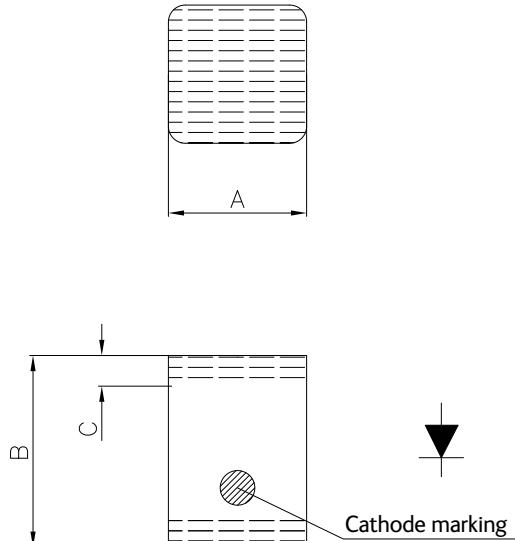


OUTLINE DRAWING

Case style: DH80054-xxN C_b= 0.24 pF

- 06N SMD4
- 40N SMD4AM (non magnetic)

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.9	2.3	0.076	0.091
B	2.7	3.5	0.108	0.138
C	0.2	0.8	0.008	0.031



SMD4

High Power Silicon PIN Diodes Square MELF DH80055

FEATURES

- Medium Power Handling (500V)
- Low loss, Low distortion design
- Rugged, hermetically Sealed package
- RoHS compliant

DESCRIPTION

The DH80055 square MELF is designed for medium power switches where low losses and low distortion are required at frequencies from HF. Diode uses SMD hermetic ceramic package and glass passivation technology and mesa design.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna switching and MRI application when supplied in non magnetic package.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr max = 500 V		0.1	10	µA
Forward voltage	Vf	If = 100 mA		0.8	1	V
Total capacitance	Ct	Vr= 50V, F = 1 MHz		1.25	1.55	pF
Forward series resistance	Rsf	If = 100 mA, F=120 MHz		0.25	0.28	Ω
Forward series resistance	Rsf	If = 200 mA, F=120 MHz		0.23	0.25	Ω
Parallel resistance	Rp	Vr = 100V, F = 120 MHz		>100		kΩ
I region thickness				50		µm
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	3.5	6		µs
Thermal resistance	Rth	Pd=1W		17	20	°C/W

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage	500 V
Dissipated power @ 25°C	6 W*

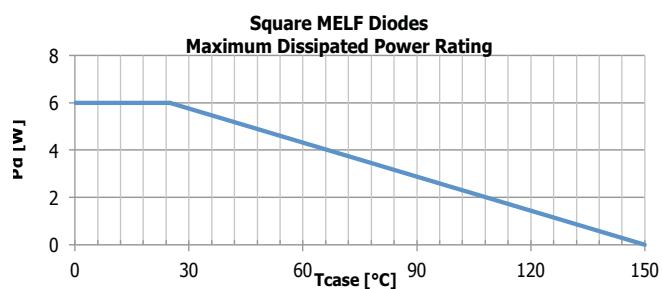
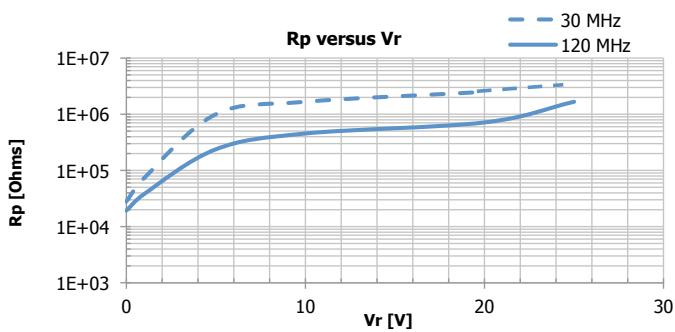
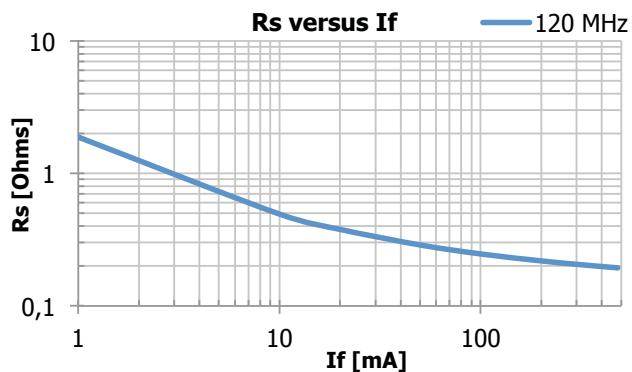
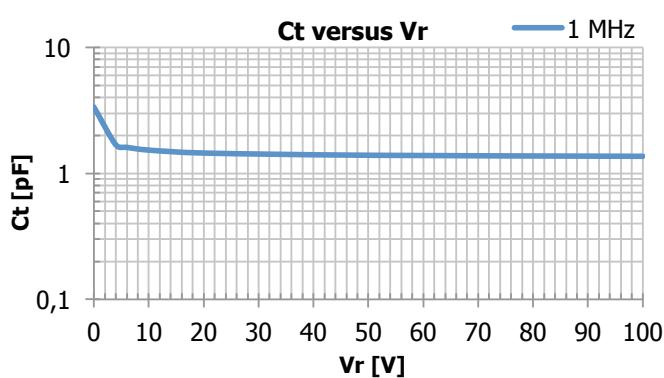
Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink.

ORDERING INFORMATION

Part number	Package
DH80055-06N	In bulk
DH80055-40N	In bulk
DH80055-20N	In bulk
DH80055-06NT1	Tape & reel, 1000 p
DH80055-40NT1	Tape & reel, 1000 p
DH80055-20NT1	Tape & reel, 1000 p
DH80055-06NT3	Tape & reel, 3000 p
DH80055-40NT3	Tape & reel, 3000 p
DH80055-20NT3	Tape & reel, 3000 p



TYPICAL PERFORMANCES @ 25°C

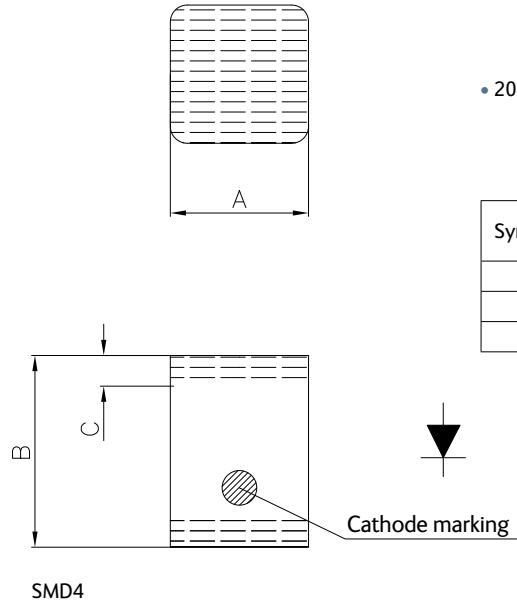


OUTLINE DRAWING

Case style: DH80055-xxN C_b = 0.24 pF

- 06N SMD4
- 40N SMD4AM (non magnetic)

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.9	2.3	0.076	0.091
B	2.7	3.5	0.108	0.138
C	0.2	0.8	0.008	0.031



Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	2.5	2.8	0.098	0.110
B	4.7	5.2	0.185	0.205
C	0.3	0.8	0.012	0.031

Silicon PIN Diodes Square MELF DH80058

FEATURES

- High Power Handling
- Low loss, Low distortion design
- Rugged, hermetically Sealed package
- Non magnetic package
- RoHS compliant

DESCRIPTION

The DH80058 square MELF is designed for high power switches where low losses and low distortion are required at frequencies from HF. Diode uses SMD hermetic ceramic package and glass passivation technology and mesa design.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna switching and MRI application.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr max = 500 V		0.1	10	µA
Forward voltage	Vf	If = 100 mA		0.8	1.0	V
Total capacitance	Ct	Vr= 100V, F = 1 MHz		2.8	3.5	pF
Forward series resistance	Rsf	If = 200 mA, F=120 MHz		0.1	0.15	Ω
Parallel resistance	Rp	Vr = 100V, F = 120 MHz		>100		kΩ
Non-magnetic		Distorsion Bo field			0.5	ppm
I region thickness				50		µm
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	6.0			µs

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage	500 V
Dissipated power @ 25°C	13 W*

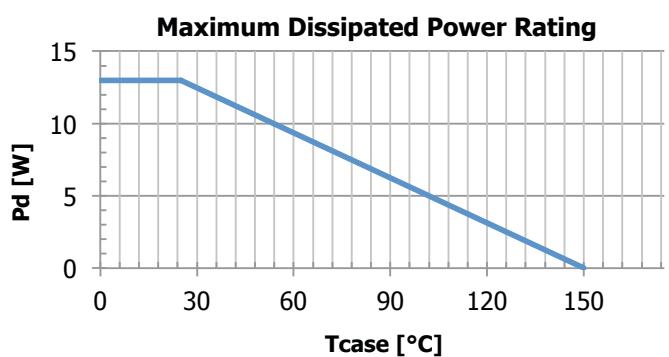
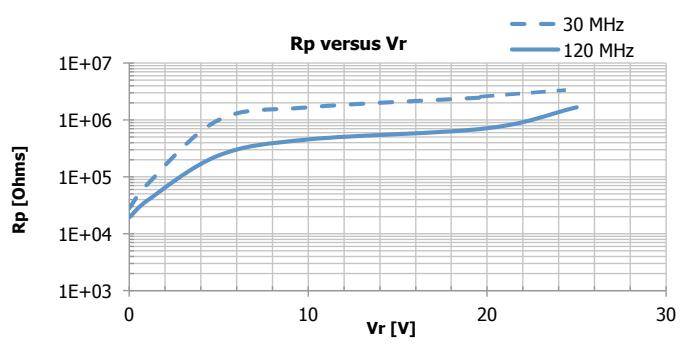
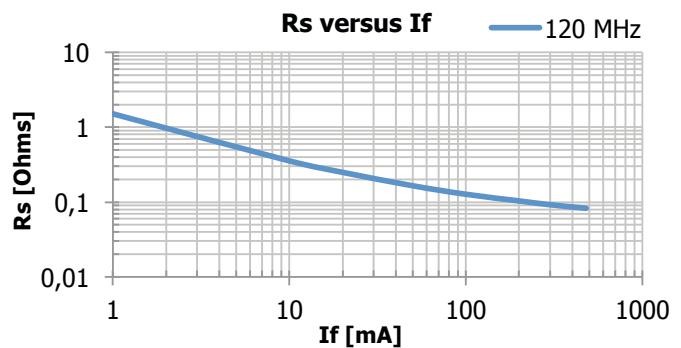
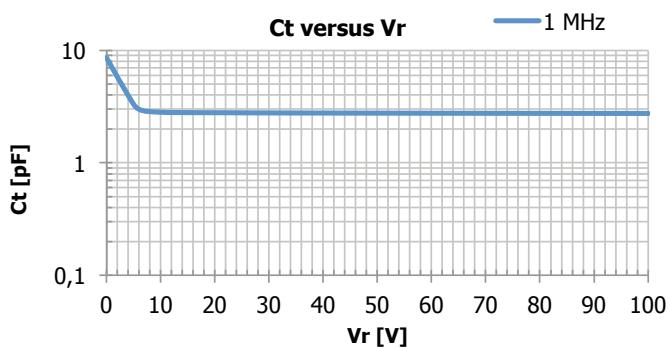
Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink.

ORDERING INFORMATION

Part number	Package
DH80058-44N	In bulk
DH80058-44NT1	Tape & reel, 1000 p
DH80058-44NT3	Tape & reel, 3000 p



TYPICAL PERFORMANCES @ 25°C

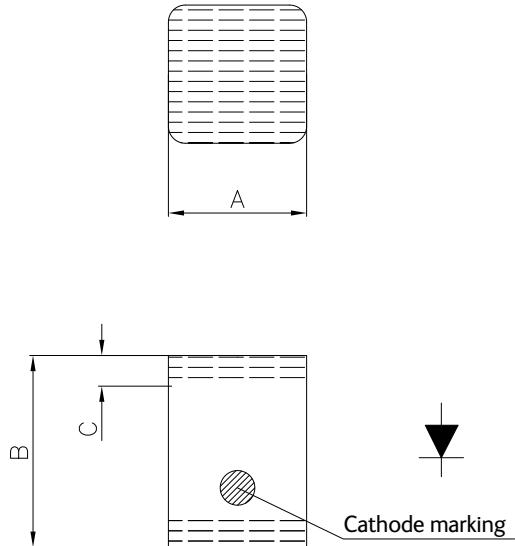


OUTLINE DRAWING

Case style: C_b= 0.4 pF

- 44N SMD8AM

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	3.5	3.8	0.138	0.15
B	4.7	5.2	0.185	0.205
C	0.2	0.6	0.008	0.024



High Power Silicon PIN Diodes Square MELF DH80080

FEATURES

- High Power Handling (800V)
- Low loss, Low distortion design
- Rugged, hermetically Sealed package
- RoHS compliant

DESCRIPTION

The DH80080 square MELF is designed for medium power switches where low losses and low distortion are required at RF and microwave frequencies. Diode uses SMD hermetic ceramic package and glass passivation technology and mesa design.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna switching and MRI application when supplied in non magnetic package.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr max = 800 V		0.1	10	µA
Forward voltage	Vf	If = 100 mA		0.9	1	V
Total capacitance	Ct	Vr= 50V, F = 1 MHz		0.5	0.65	pF
Forward series resistance	Rsf	If = 100 mA, F=120 MHz		0.55	0.80	Ω
Forward series resistance	Rsf	If = 200 mA, F=120 MHz		0.45	0.70	Ω
Parallel resistance	Rp	Vr = 100V, F = 120 MHz		>100		kΩ
I region thickness				75		µm
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	2	4		µs
Thermal resistance	Rth	Pd=1W		16	23	°C/W

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage	800 V
Dissipated power @ 25°C	5.5 W*

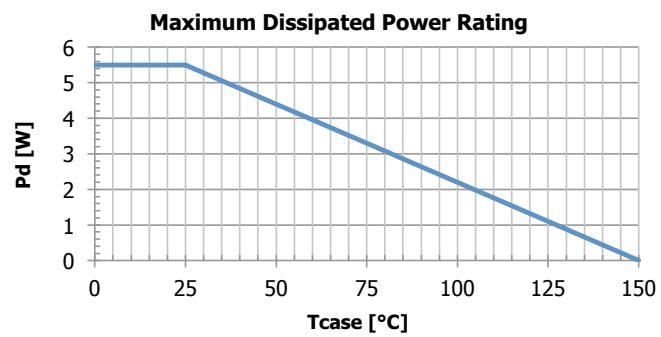
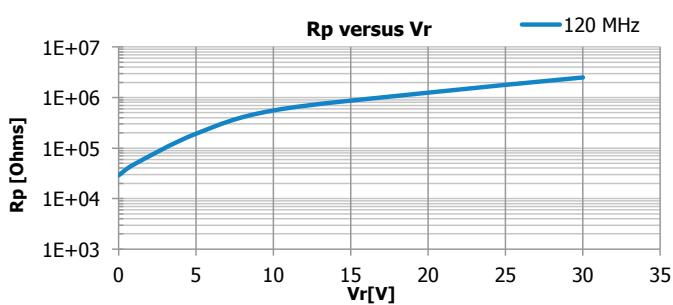
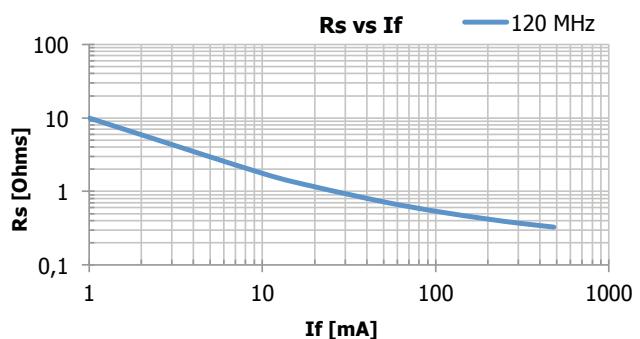
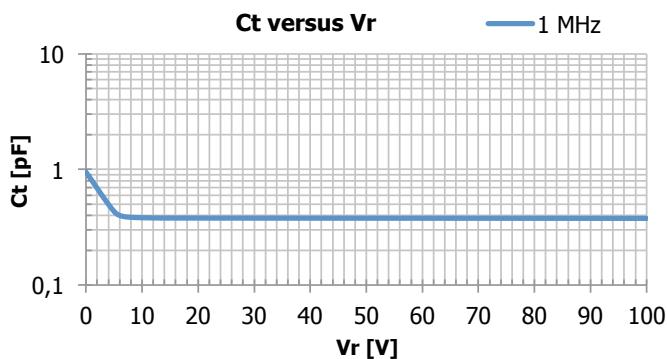
Note: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink.

ORDERING INFORMATION

Part number	Package
DH80080-06N	In bulk
DH80080-40N	In bulk
DH80080-06NT1	Tape & reel, 1000 p
DH80080-40NT1	Tape & reel, 1000 p
DH80080-06NT3	Tape & reel, 3000 p
DH80080-40NT3	Tape & reel, 3000 p



TYPICAL PERFORMANCES @ 25°C

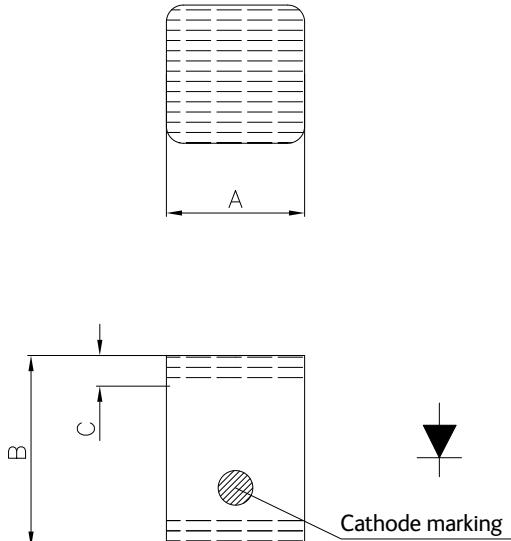


OUTLINE DRAWING

Case style: DH80080-xxN C_b = 0.24 pF

- 06N SMD4
- 40N SMD4AM (non magnetic)

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.9	2.3	0.076	0.091
B	2.7	3.5	0.108	0.138
C	0.2	0.8	0.008	0.031



SMD4

High Power Silicon PIN Diodes Square MELF DH80082

FEATURES

- Medium Power Handling (800V)
- Low loss, Low distortion design
- Rugged, hermetically Sealed package
- RoHS compliant

DESCRIPTION

The DH80082 square MELF is designed for medium power switches where low losses and low distortion are required at frequencies from HF. Diode uses SMD hermetic ceramic package and glass passivation technology and mesa design.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna switching and MRI application when supplied in non magnetic package.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr max = 800 V		0.1	10	µA
Forward voltage	Vf	If = 100 mA		0.8	1	V
Total capacitance	Ct	Vr= 50V, F = 1 MHz		0.8	1.0	pF
Forward series resistance	Rsf	If = 100 mA, F=120 MHz		0.35	0.4	Ω
Forward series resistance	Rsf	If = 200 mA, F=120 MHz		0.3	0.35	Ω
Parallel resistance	Rp	Vr = 100V, F = 120 MHz		>100		kΩ
I region thickness				75		µm
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	3.0	7		µs
Thermal resistance	Rth	Pd=1W		15	20	°C/W

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage	800 V
Dissipated power @ 25°C	6 W*

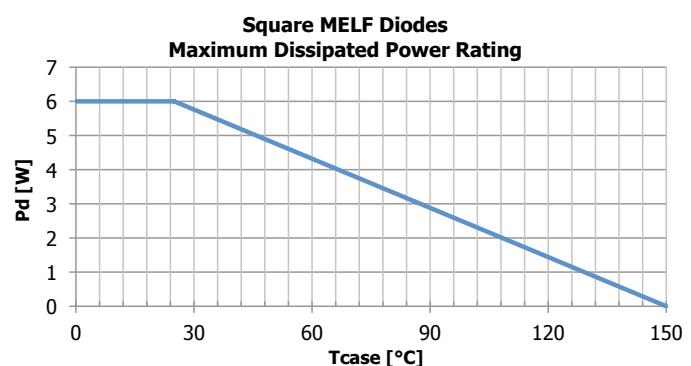
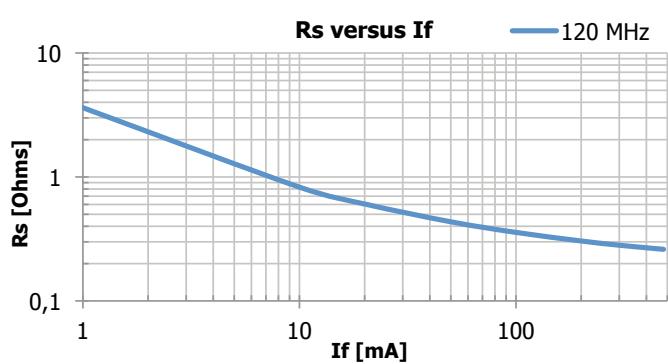
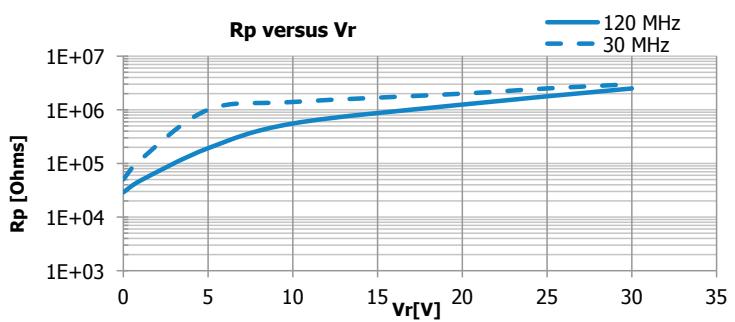
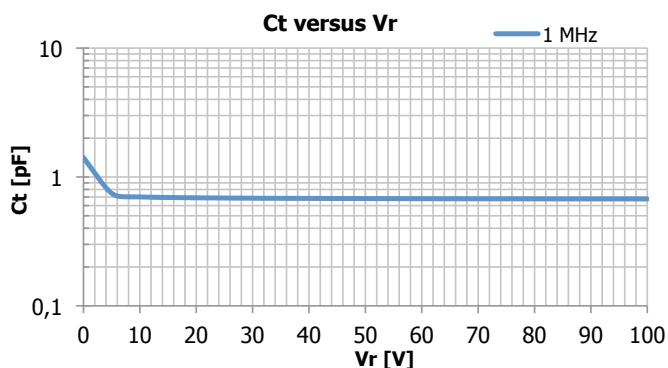
*Note: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink.*

ORDERING INFORMATION

Part number	Package
DH80082-06N	In bulk
DH80082-40N	In bulk
DH80082-20N	In bulk
DH80082-06NT1	Tape & reel, 1000 p
DH80082-40NT1	Tape & reel, 1000 p
DH80082-20NT1	Tape & reel, 1000 p
DH80082-06NT3	Tape & reel, 3000 p
DH80082-40NT3	Tape & reel, 3000 p
DH80082-20NT3	Tape & reel, 3000 p



TYPICAL PERFORMANCES @ 25°C

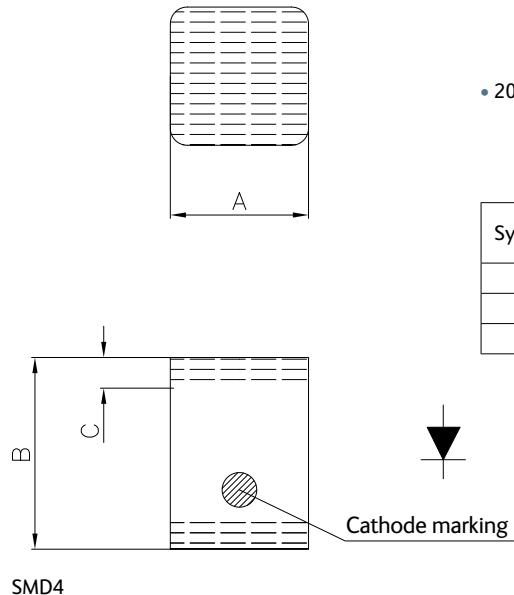


OUTLINE DRAWING

Case style: DH80082-xxN C_b = 0.24 pF

- 06N SMD4
- 40N SMD4AM (non magnetic)

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.9	2.3	0.076	0.091
B	2.7	3.5	0.108	0.138
C	0.2	0.8	0.008	0.031



Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	2.5	2.8	0.098	0.110
B	4.7	5.2	0.185	0.205
C	0.3	0.8	0.012	0.031

High Power Silicon PIN Diodes Square MELF DH80100

FEATURES

- High voltage Handling (1000V)
- Low loss, Low distortion design
- Rugged, hermetically Sealed package
- RoHS compliant

DESCRIPTION

The DH80100 square MELF is designed for high power switches where low losses and low distortion are required at frequencies from HF. Diode uses SMD hermetic ceramic package and glass passivation technology and mesa design.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna switching and MRI application when supplied in non magnetic package.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr max = 1000 V		0.2	10	µA
Forward voltage	Vf	If = 100 mA		0.9	1	V
Total capacitance	Ct	Vr= 50V, F = 1 MHz		0.5	0.65	pF
Forward series resistance	Rsf	If = 100 mA, F=120 MHz		0.5	0.70	Ω
Forward series resistance	Rsf	If = 200 mA, F=120 MHz		0.4	0.60	Ω
Parallel resistance	Rp	Vr = 100V, F = 120 MHz		>100		kΩ
I region thickness				100		µm
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	3	6		µs
Thermal resistance	Rth	Pd=1W		15	20	°C/W

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage	1000 V
Dissipated power @ 25°C	6 W*

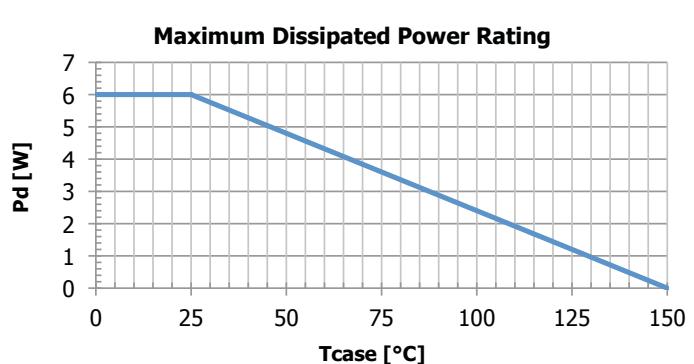
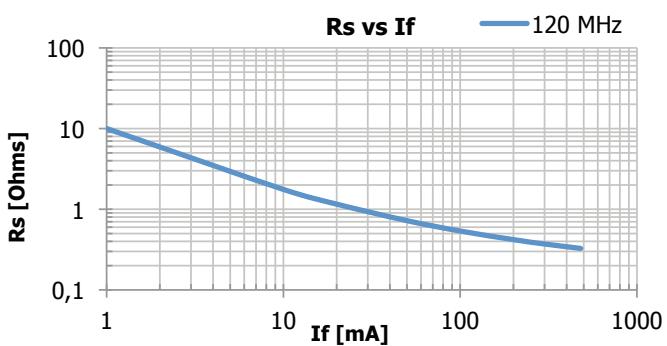
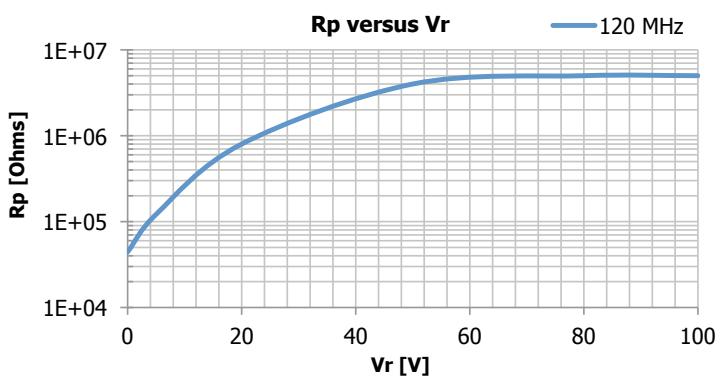
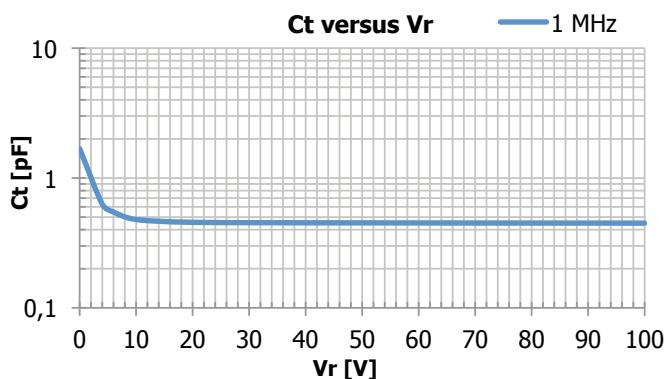
Note: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink

ORDERING INFORMATION

Part number	Package
DH80100-06N	In bulk
DH80100-40N	In bulk
DH80100-41N	In bulk
DH80100-20N	In bulk
DH80100-06NT1	Tape & reel, 1000 p
DH80100-40NT1	Tape & reel, 1000 p
DH80100-20NT1	Tape & reel, 1000 p
DH80100-06NT3	Tape & reel, 3000 p
DH80100-40NT3	Tape & reel, 3000 p
DH80100-20NT3	Tape & reel, 3000 p



TYPICAL PERFORMANCES @ 25°C

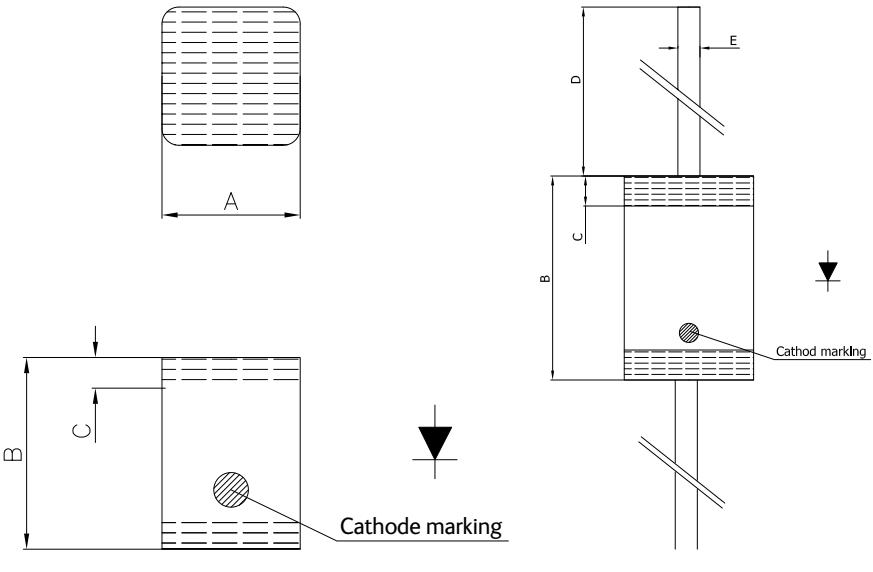


OUTLINE DRAWING

Case style: DH80100-xxN C_b = 0.24 pF

- 06N SMD4
- 40N SMD4AM (non magnetic)
- 41N SMD4AM with lead (non magnetic)

Symbol	Millimeters			Inches		
	Min	Typ	Max	Min	Typ	Max
A	1.9		2.3	0.076		0.091
B	2.7		3.5	0.108		0.138
C	0.2		0.8	0.008		0.031
D		20			0.8	
ΦE	0.68		0.72	0.027		0.028



- 20N SMD6

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	2.5	2.8	0.098	0.110
B	4.7	5.2	0.185	0.205
C	0.3	0.8	0.012	0.031

High Power Silicon PIN Diodes Square MELF DH80102

FEATURES

- High Power Handling (1000V)
- Low loss, Low distortion design
- Rugged, hermetically Sealed package
- RoHS compliant

DESCRIPTION

The DH80102 square MELF is designed for high power switches where low losses and low distortion are required at frequencies from HF. Diode uses glass passivation technology and mesa design.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna switching and MRI application when supplied in non magnetic package.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr max = 1000 V		0.2	10	µA
Forward voltage	Vf	If = 100 mA		0.8	1	V
Total capacitance SMD8	Ct	Vr= 50V, F = 1 MHz	0.95	1.15		pF
Total capacitance SMD6	Ct	Vr= 50V, F = 1 MHz	0.85	1.0		pF
Forward series resistance	Rsf	If = 100 mA, F=120 MHz		0.4	0.5	Ω
Forward series resistance	Rsf	If = 200 mA, F=120 MHz		0.3	0.35	Ω
Parallel resistance	Rp	Vr = 100V F=120 MHz	> 100			kΩ
I region thickness			100			µm
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	4.0	7		µs
Thermal resistance	Rth	Pd=1W		13	16	°C/W

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage	1000 V
Dissipated power @ 25°C	8 W*

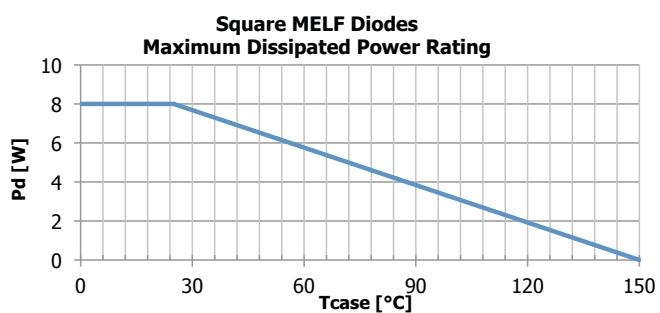
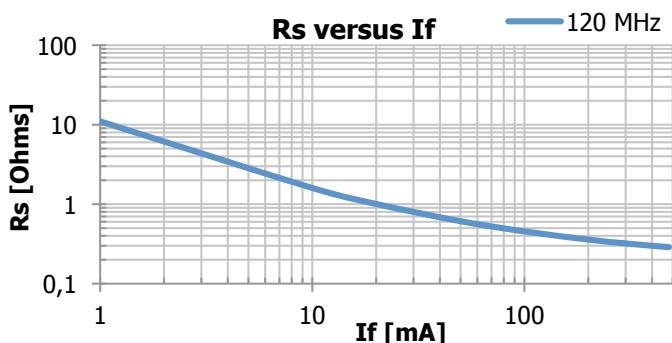
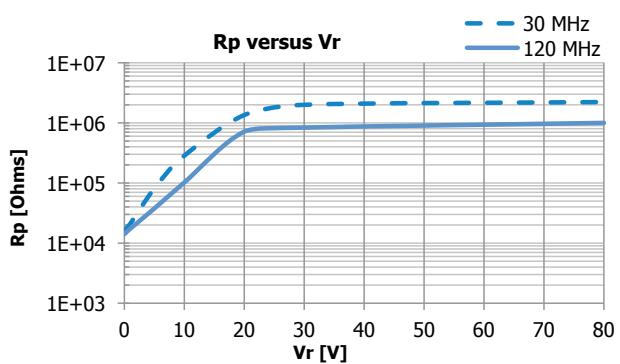
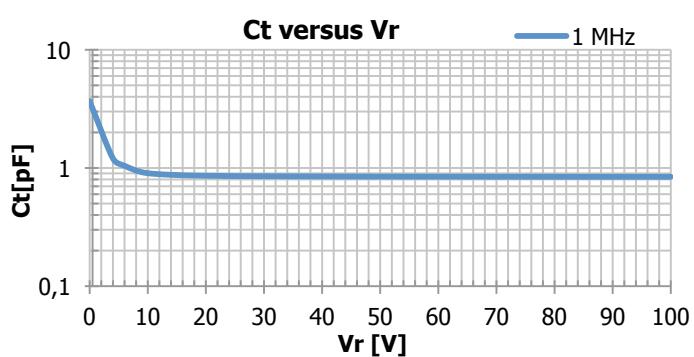
Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink

ORDERING INFORMATION

Part number	Package
DH80102-20N	In bulk
DH80102-24N	In bulk
DH80102-44N	In bulk
DH80102-20NT1	Tape & reel, 1000 p
DH80102-24NT1	Tape & reel, 1000 p
DH80102-44NT1	Tape & reel, 1000 p
DH80102-20NT3	Tape & reel, 3000 p
DH80102-24NT3	Tape & reel, 3000 p
DH80102-44NT3	Tape & reel, 3000 p



TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

Case style: DH80102-xxN

- 20N SMD6

C_b = 0.24 pF

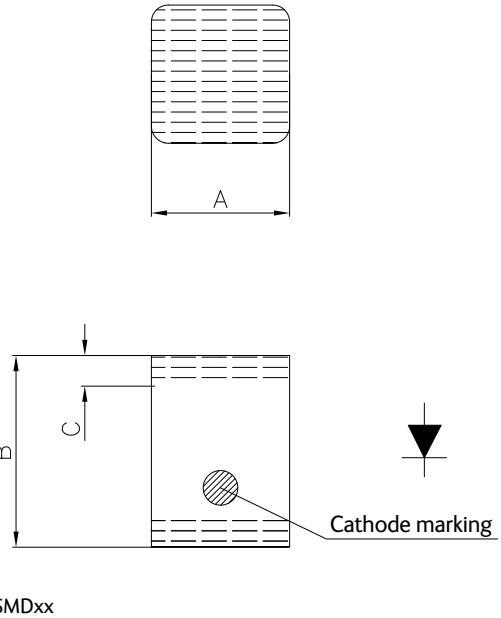
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	2.5	2.8	0.098	0.110
B	4.7	5.2	0.185	0.205
C	0.3	0.8	0.012	0.031

- 24N SMD8
- 44N SMD8AM (non magnetic)

C_b = 0.4 pF

C_b = 0.4 pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	3.5	3.8	0.138	0.15
B	4.7	5.2	0.185	0.205
C	0.2	0.6	0.008	0.024



High Power Silicon PIN Diodes Square MELF DH80106

FEATURES

- High Power Handling (1000V)
- Low loss, Low distortion design
- Rugged, hermetically Sealed package
- RoHS compliant

DESCRIPTION

The DH80106 square MELF is designed for high power switches where low losses and low distortion are required at frequencies as low as 1 MHz. Diode uses glass passivation technology and mesa design.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna switching and MRI application when supplied in non magnetic package.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr max = 1000 V		0.2	10	µA
Forward voltage	Vf	If = 100 mA		0.8	1	V
Total capacitance	Ct	Vr= 50V, F = 1 MHz		1.5	2.1	pF
Forward series resistance	Rsf	If = 100 mA, F=120 MHz		0.25	0.35	Ω
Forward series resistance	Rsf	If = 200 mA, F=120 MHz		0.20	0.30	Ω
Parallel resistance	Rp	Vr = 100V F=120 MHz		> 100		kΩ
I region thickness				100		µm
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	7.0	11		µs
Thermal resistance	Rth	Pd=1W		10	12.5	°C/W

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage	1000 V
Dissipated power @ 25°C	10 W*

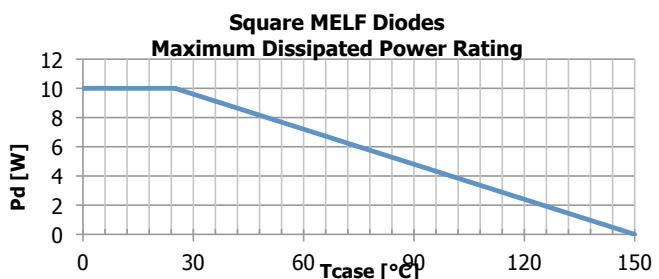
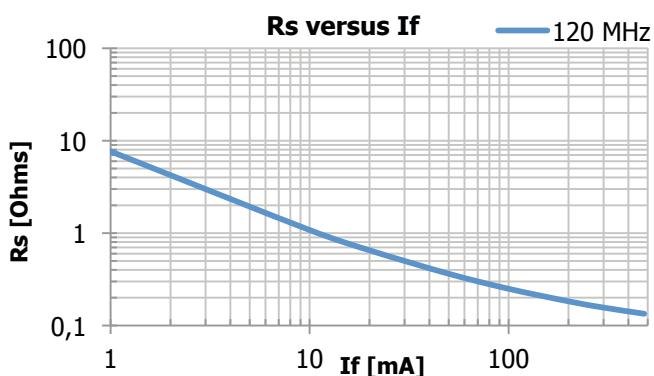
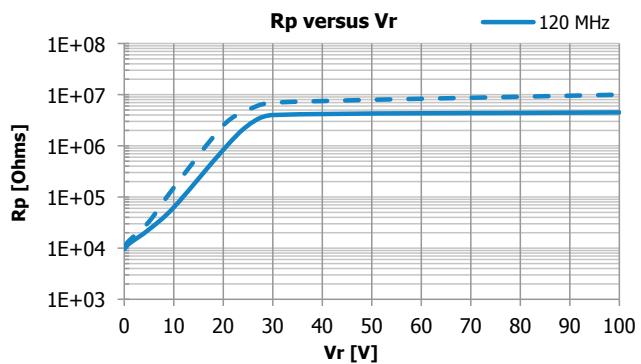
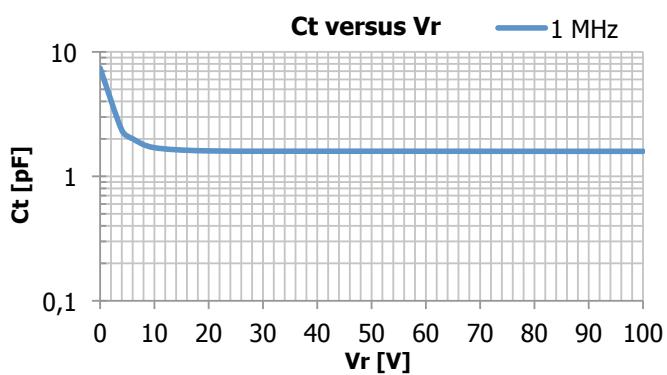
Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink

ORDERING INFORMATION

Part number	Package
DH80106-24N	In bulk
DH80106-26N	In bulk
DH80106-44N	In bulk
DH80106-45N	In bulk
DH80106-24NT1	Tape & reel, 1000 p
DH80106-44NT1	Tape & reel, 1000 p
DH80106-24NT3	Tape & reel, 3000 p
DH80106-44NT3	Tape & reel, 3000 p



TYPICAL PERFORMANCES @ 25°C

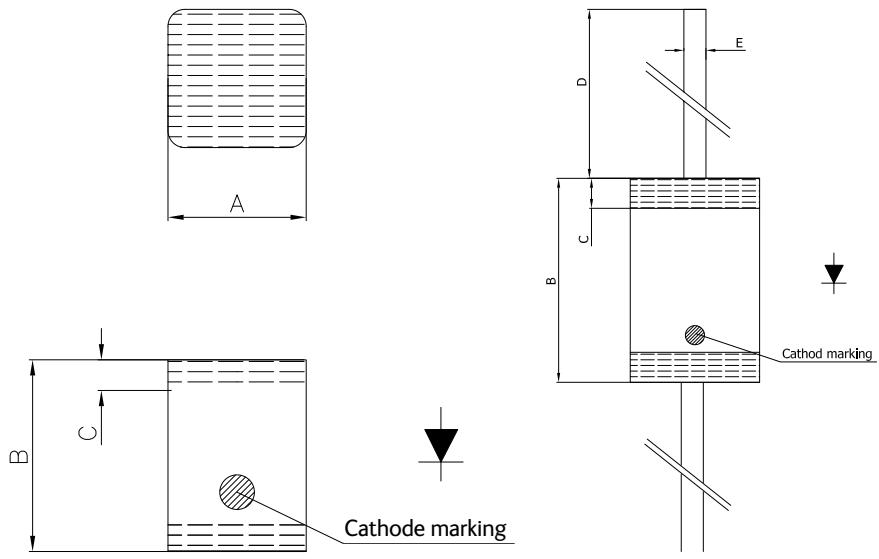


OUTLINE DRAWING

Case style: DH80106-xxN C_b = 0.4 pF

- 24N SMD8
- 26N SMD8 with leads
- 44N SMD8AM (non magnetic)
- 45N SMD8AM with leads (non magnetic)

Symbol	Millimeters			Inches		
	Min	Typ	Max	Min	Typ	Max
A	3.5		3.8	0.138		0.15
B	4.7		5.2	0.185		0.205
C	0.2		0.6	0.008		0.024
D		25			0.98	
ΦE	0.95		1.05	0.037		0.041



SMD8

SMD8AM with leads

Silicon PIN Diodes Square MELF SQM1050N & SQM2050N

FEATURES

- Medium Power Handling
- Low loss, Low distortion design
- Rugged, hermetically Sealed package
- RoHS compliant

DESCRIPTION

This square MELF is designed for medium power switches where low losses and low distortion are required at frequencies from HF. Diode uses SMD hermetic ceramic package and glass passivation technology and mesa design.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna switching and MRI application when supplied in non magnetic package.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr max = 50 V		10		µA
Forward voltage	Vf	If = 50 mA		0.9	1	V
Total capacitance	Ct	Vr= 50V, F = 1 MHz		0.5	0.7	pF
Forward series resistance SQM1050N	Rsf	If = 50 mA, F=120 MHz		0.7	0.9	Ω
Forward series resistance SQM2050N	Rsf	If = 50 mA, F=120 MHz		0.8	1.0	Ω
Parallel resistance	Rp	Vr = 50V, F = 120 MHz		>100		kΩ
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	1.0	2.0		µs
Thermal resistance	Rth	Pd=1W		30	35	°C/W

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage	50 V
Dissipated power @ 25°C	3 W*

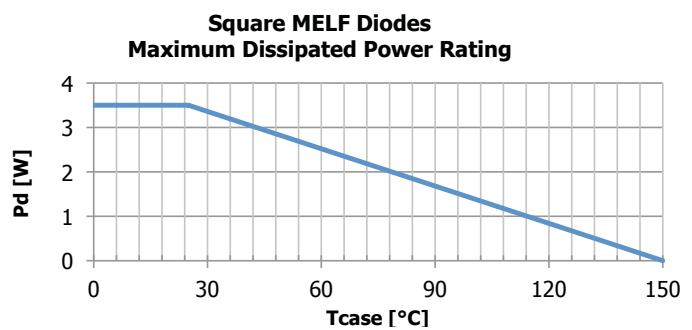
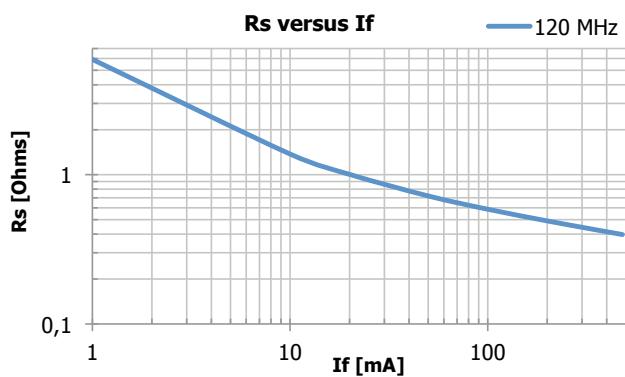
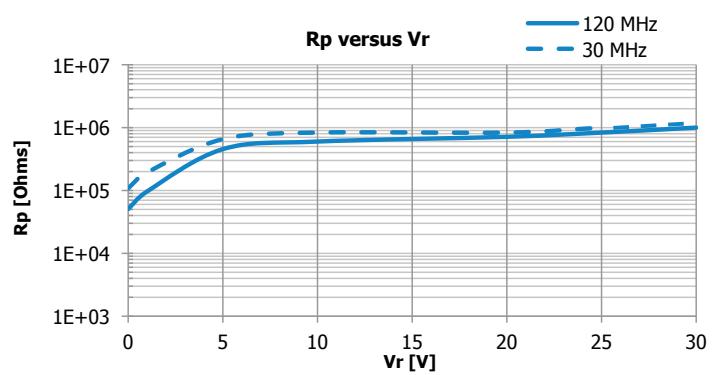
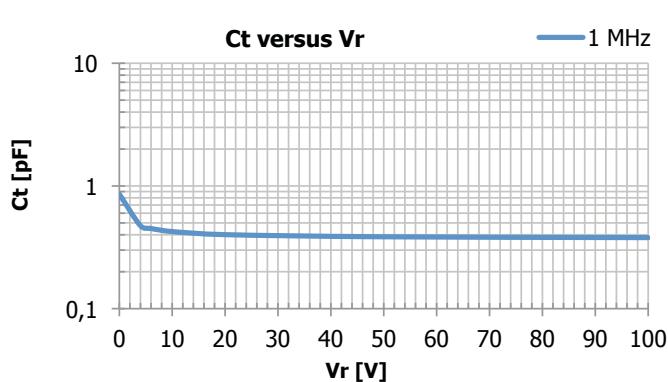
*Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink*

ORDERING INFORMATION

Part number	Package
SQM1050N	In bulk
SQM2050N	In bulk
SQM1050NT1	Tape & reel, 1000 p
SQM2050NT1	Tape & reel, 1000 p
SQM1050NT3	Tape & reel, 3000 p
SQM2050NT3	Tape & reel, 3000 p



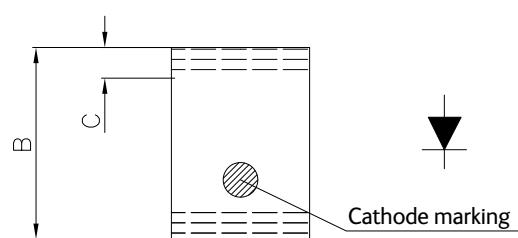
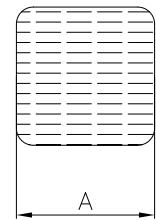
TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

Case style: SMD4 C_b = 0.24 pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.9	2.3	0.076	0.091
B	2.7	3.5	0.108	0.138
C	0.2	0.8	0.008	0.031



Silicon PIN Diodes Square MELF SQM1150N & SQM2150N

FEATURES

- Medium Power Handling
- Low loss, Low distortion design
- Rugged, hermetically Sealed package
- RoHS compliant

DESCRIPTION

This square MELF is designed for medium power switches where low losses and low distortion are required at frequencies from HF. Diode uses SMD hermetic ceramic package and glass passivation technology and mesa design.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna switching and MRI application when supplied in non magnetic package.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr max ¹			10	µA
Forward voltage	Vf	If = 50 mA		0.8	1.0	V
Total capacitance	Ct	Vr= 50V, F = 1 MHz		1.0	1.2	pF
Forward series resistance	Rsf	If = 50 mA, F=120 MHz		0.2	0.35	Ω
Parallel resistance	Rp	Vr = 50V, F = 120 MHz		>100		kΩ
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	1.0	2.0		µs
Thermal resistance	Rth	Pd=1W		22	25	°C/W

¹ Vrmax=50V for SQM2150N, and Vrmax=200V for SQM1150N

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage SQM2150N	50 V
Reverse voltage SQM1150N	200 V
Dissipated power @ 25°C	4.5 W*

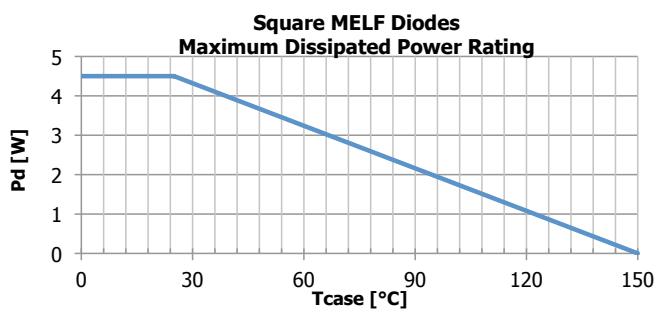
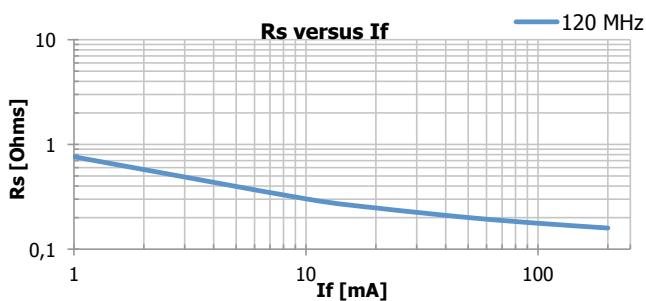
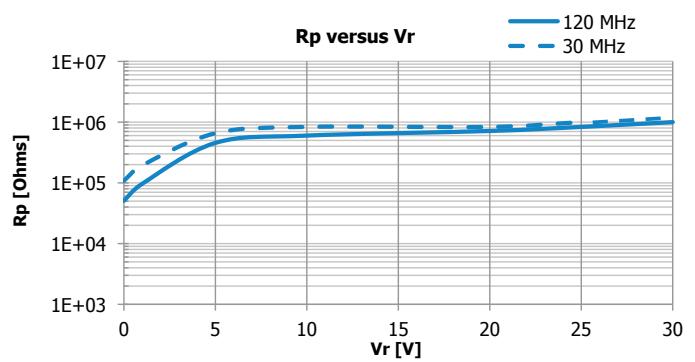
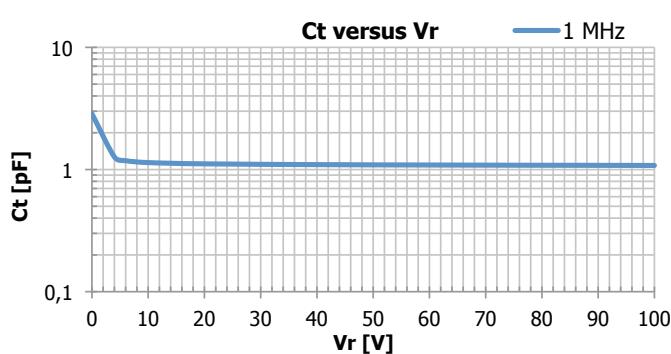
Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink

ORDERING INFORMATION

Part number	Package
SQM1150N	In bulk
SQM2150N	In bulk
SQM1150NT1	Tape & reel, 1000 p
SQM2150NT1	Tape & reel, 1000 p
SQM1150NT3	Tape & reel, 3000 p
SQM2150NT3	Tape & reel, 3000 p



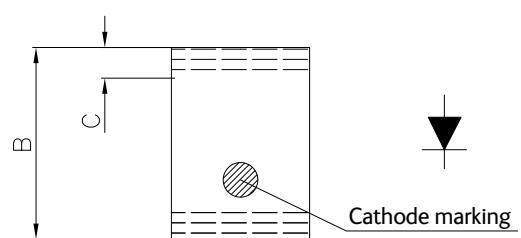
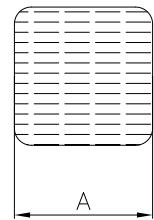
TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

Case style: SMD4 C_b = 0.24 pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.9	2.3	0.076	0.091
B	2.7	3.5	0.108	0.138
C	0.2	0.8	0.008	0.031



Silicon PIN Diodes Square MELF SQM1250N

FEATURES

- Medium Power Handling
- Low loss, Low distortion design
- Rugged, hermetically Sealed package
- RoHS compliant

DESCRIPTION

This square MELF is designed for medium power switches where low losses and low distortion are required at frequencies from HF. Diode uses SMD hermetic ceramic package and glass passivation technology and mesa design.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna switching and MRI application when supplied in non magnetic package.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr max = 50 V			10	µA
Forward voltage	Vf	If = 50 mA		0.8	1.0	V
Total capacitance	Ct	Vr= 50V, F = 1 MHz		0.9	1.2	pF
Forward series resistance	Rsf	If = 50 mA, F=120 MHz		0.45	0.75	Ω
Parallel resistance	Rp	Vr = 50V, F = 120 MHz		>100		kΩ
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	2.0			µs
Thermal resistance	Rth	Pd=1W		20	22	°C/W

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage	50 V
Dissipated power @ 25°C	5 W*

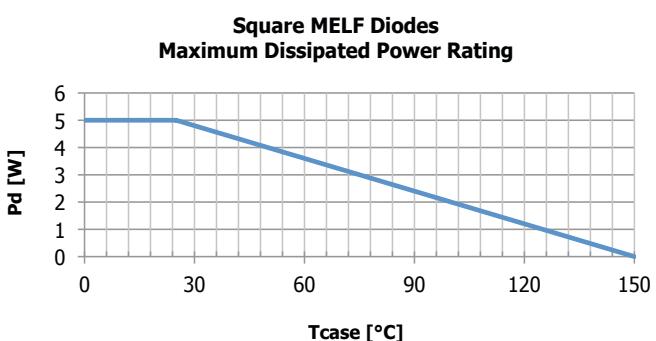
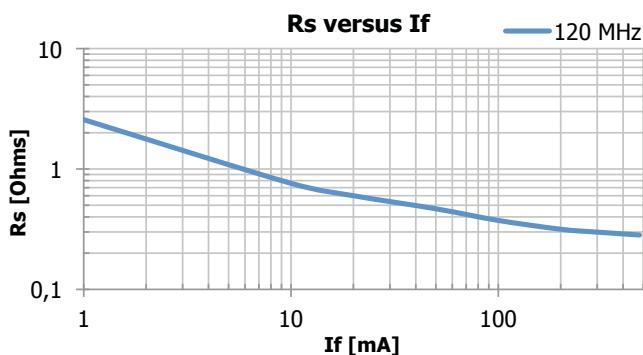
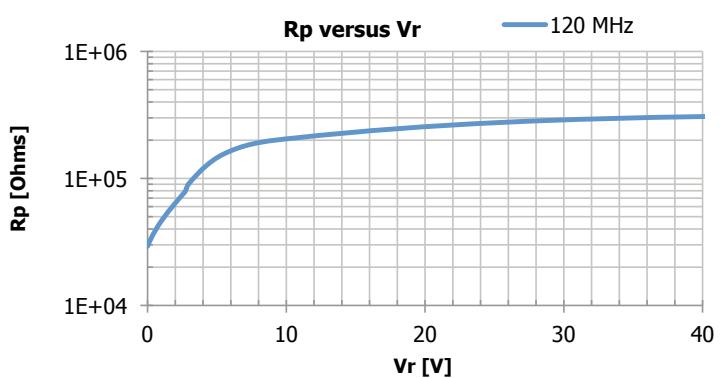
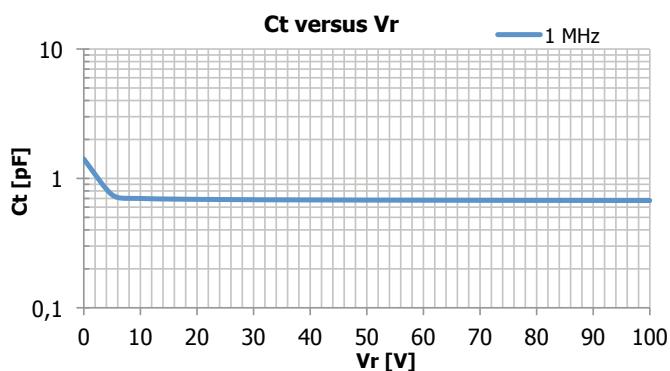
Note: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink

ORDERING INFORMATION

Part number	Package
SQM1250N	In bulk
SQM1250-40N	In bulk
SQM1250NT1	Tape & reel, 1000 p
SQM1250-40NT1	Tape & reel, 1000 p
SQM1250NT3	Tape & reel, 3000 p
SQM1250-40NT3	Tape & reel, 3000 p



TYPICAL PERFORMANCES @ 25°C

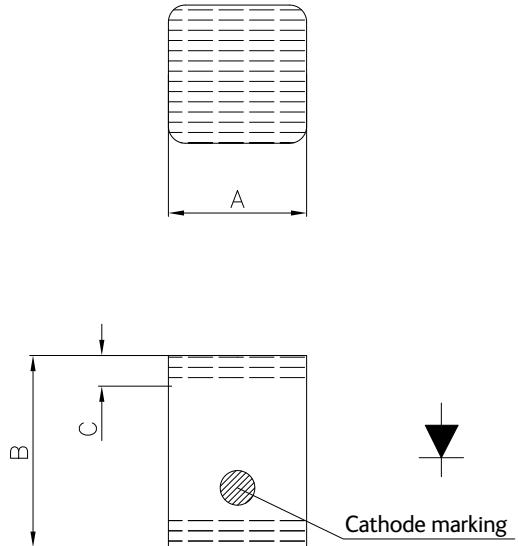


OUTLINE DRAWING

Case style: SQM1250x C_b= 0.24 pF

- N: SMD
- -40N: SMD4AM (non magnetic)

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.9	2.3	0.076	0.091
B	2.7	3.5	0.108	0.138
C	0.2	0.8	0.008	0.031



Silicon PIN Diodes Square MELF SQM1350N

FEATURES

- Medium Power Handling
- Low loss, Low distortion design
- Rugged, hermetically Sealed package
- RoHS compliant

DESCRIPTION

This square MELF is designed for medium power switches where low losses and low distortion are required at frequencies from HF. Diode uses SMD hermetic ceramic package and glass passivation technology and mesa design.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna switching and MRI application when supplied in non magnetic package.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr max = 50 V			10	µA
Forward voltage	Vf	If = 50 mA		0.8	1.0	V
Total capacitance	Ct	Vr= 50V, F = 1 MHz		1.1	1.7	pF
Forward series resistance	Rsf	If = 50 mA, F=120 MHz		0.4	0.6	Ω
Parallel resistance	Rp	Vr = 50V, F = 120 MHz		>100		kΩ
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	3.5	6		µs
Thermal resistance	Rth	Pd=1W		20	22	°C/W

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage	50 V
Dissipated power @ 25°C	5 W*

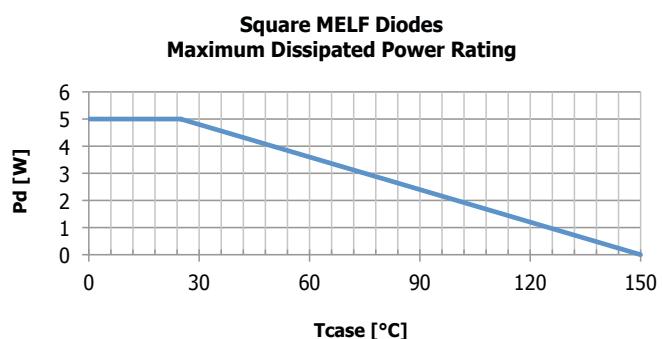
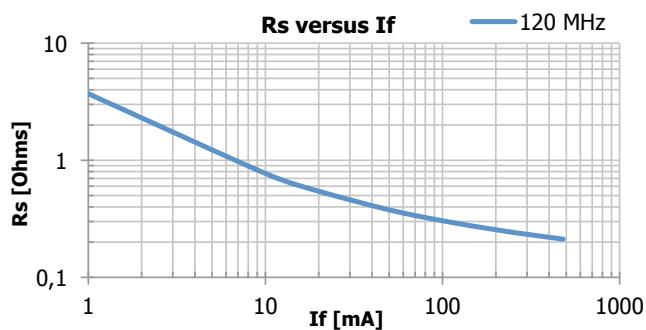
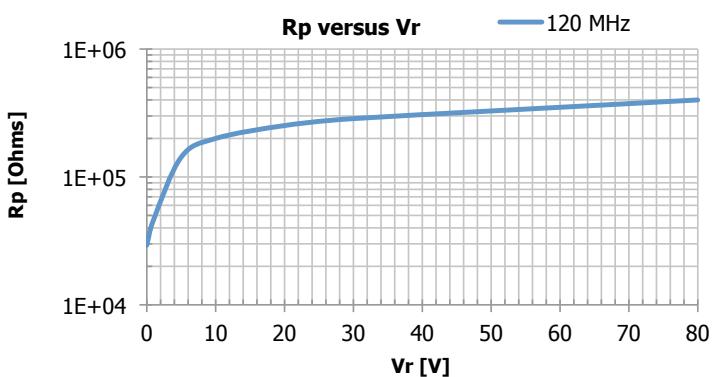
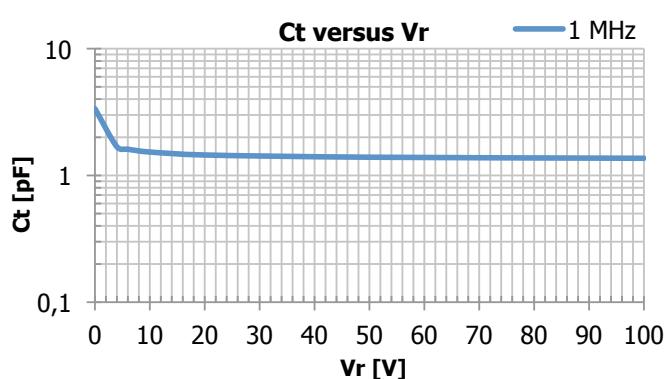
*Note: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink*

ORDERING INFORMATION

Part number	Package
SQM1350N	In bulk
SQM1350NT1	Tape & reel, 1000 p
SQM1350NT3	Tape & reel, 3000 p



TYPICAL PERFORMANCES @ 25°C

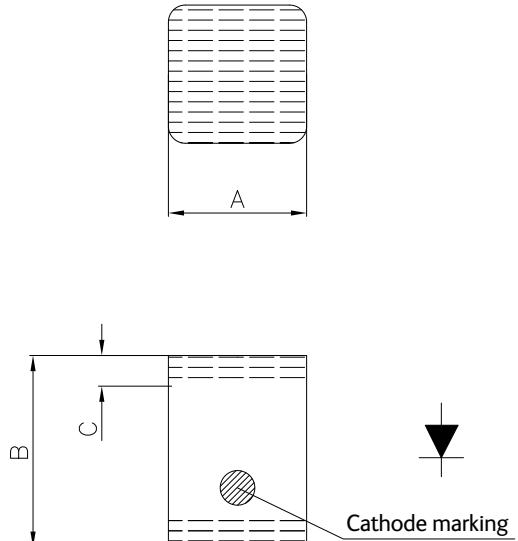


OUTLINE DRAWING

Case style: SMD6

C_b = 0.24 pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	2.5	2.8	0.098	0.110
B	4.7	5.2	0.185	0.205
C	0.3	0.8	0.012	0.031



Silicon PIN Diodes Square MELF SQM1450N

FEATURES

- Medium Power Handling
- Low loss, Low distortion design
- Rugged, hermetically Sealed package
- RoHS compliant

DESCRIPTION

This square MELF is designed for medium power switches where low losses and low distortion are required at frequencies from HF. Diode uses SMD hermetic ceramic package and glass passivation technology and mesa design.

APPLICATIONS

The excellent thermal properties assure predictable superior performances in high power application such as switches for filter bank, antenna switching and MRI application when supplied in non magnetic package.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr max = 50 V			10	µA
Forward voltage	Vf	If = 50 mA		0.8	1.0	V
Total capacitance	Ct	Vr= 50V, F = 1 MHz		1.80	2.50	pF
Forward series resistance	Rsf	If = 50 mA, F=120 MHz		0.4	0.75	Ω
Parallel resistance	Rp	Vr = 50V, F = 120 MHz		>100		kΩ
Minority carrier lifetime	Tl	If=10mA, Ir=6mA	5.0	11.0		µs
Thermal resistance	Rth	Pd=1W		10.0	12.5	°C/W

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage	50 V
Dissipated power @ 25°C	10 W*

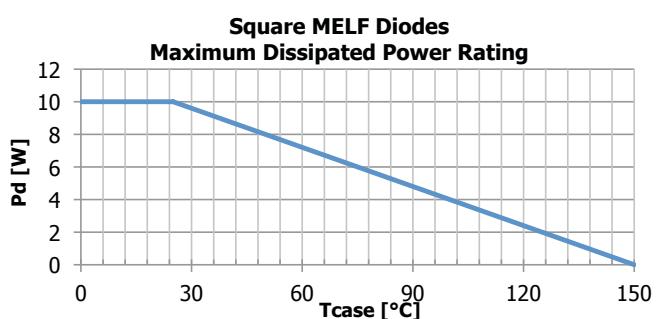
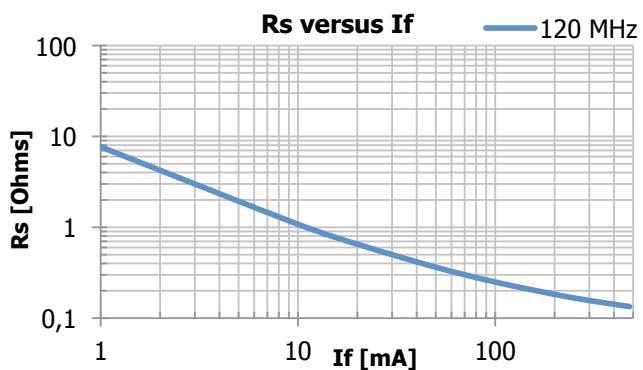
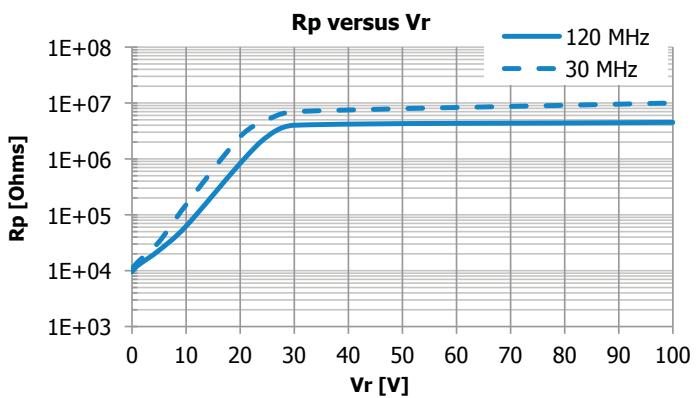
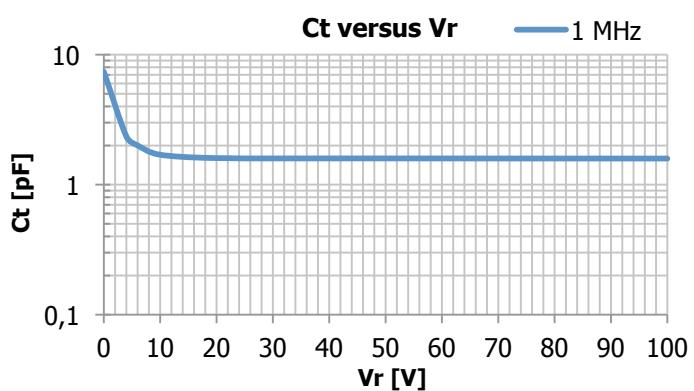
*Note: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink*

ORDERING INFORMATION

Part number	Package
SQM1450N	In bulk
SQM1450N-44N	In bulk
SQM1450NT1	Tape & reel, 1000 p
SQM1450-44NT1	Tape & reel, 1000 p
SQM1450NT3	Tape & reel, 3000 p
SQM1450-44NT3	Tape & reel, 3000 p



TYPICAL PERFORMANCES @ 25°C



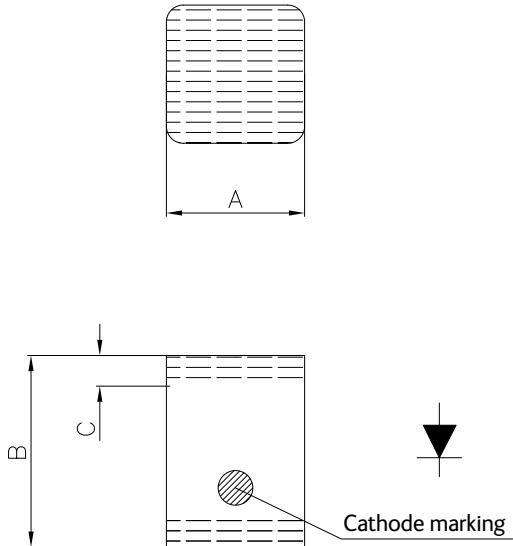
OUTLINE DRAWING

Case style: SQM1450x

C_b = 0.4 pF

- N : SMD8
- -44N : SMD8AM

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	3.5	3.8	0.138	0.15
B	4.7	5.2	0.185	0.205
C	0.2	0.6	0.008	0.024



Switching Silicon PIN Diodes, DFN-2L1 package

FEATURES

- Medium power diode up to 50W
- Low series resistance
- Low capacitance parasitic
- Surface mount package
- ROHS compliant
- MSL1 @ 260°C reflow temperature

DESCRIPTION

This serie is designed for switches where low losses are required for cost effective solution. Diodes use mesa design and oxide or glass passivation.

APPLICATIONS

Its excellent characteristics allow predictable superior performances in medium power applications such as switches for antennas or filter banks.

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Max Reverse Voltage Vr (V)	Total Capacitance Ct @ Vr, 1MHz (pF)		Series Resistance Rs @ If=10mA, 120MHz (Ω)	Carrier Lifetime Tl @ If=10 mA, Ir=6 mA (μs)	Thermal Resistance Rth @ Pd=1W (°C/W)
		max	typ			
		max				
DH50057-90N	50	0.5	0.7	0.75	0.06	40
		Ct @ Vr=6V				
DH50101-90N	100	0.14	0.18	2.0	0.15	60
DH50103-90N	100	0.2	0.25	1.5	0.5	45
DH50109-90N	100	1.0	1.1	0.6	1.3	28
DH50203-90N**	200	0.2	0.25	1.5	0.5	45
DH50209-90N	200	1.0	1.1	0.6	1.3	28
DH80041-90N	450	0.14	0.16	2.0*	1.5	50
DH80050-90N	500	0.25	0.3	0.8*	2.0	40

* Rs @ 100mA - ** DH50203-97N, same performances in package DFN-2L0503, see drawing p. 191

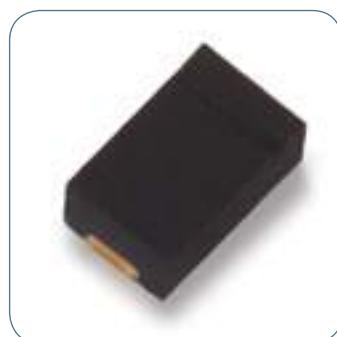
MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Dissipated power @ Tcase	(Tj-Tcase)/Rth*

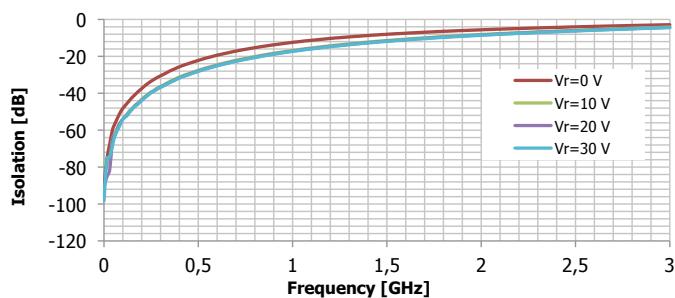
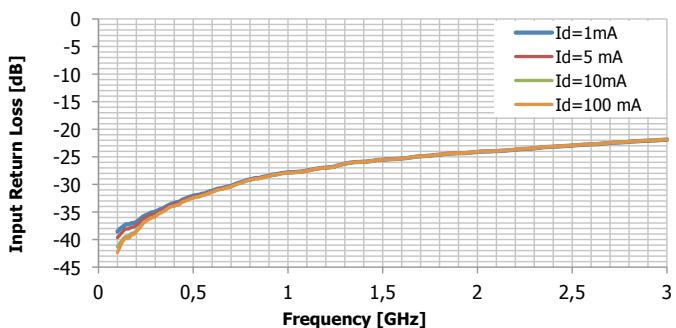
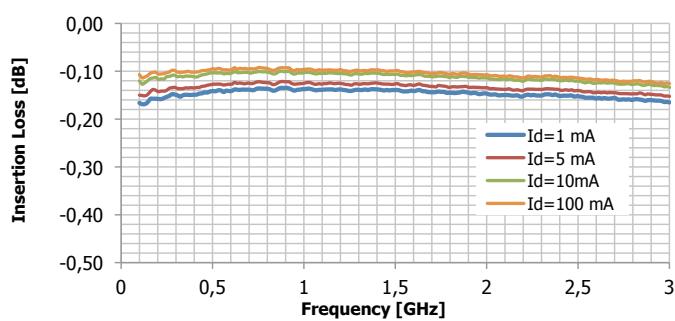
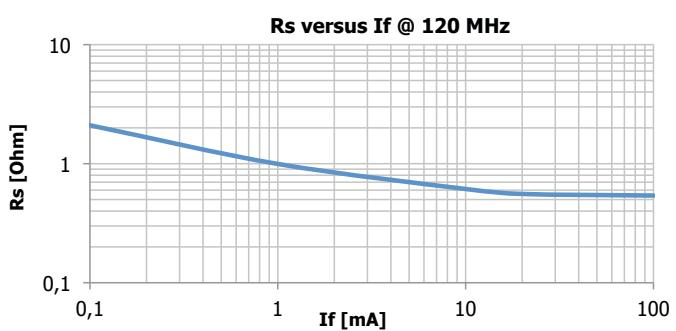
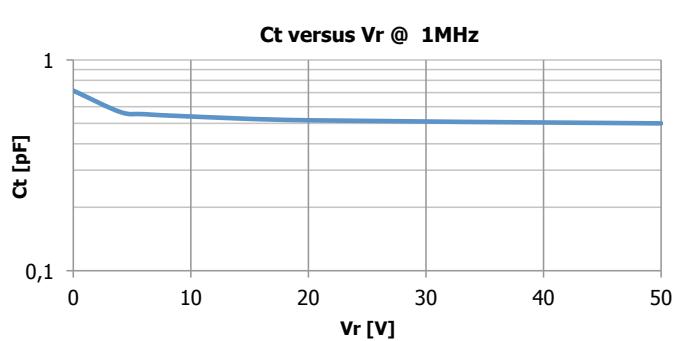
Nota: any operation above these parameters may cause permanent damages. * Contact on infinite copper heatsink

ORDERING INFORMATION

Part number	Package
DH50057-90N	In bulk
DH50101-90N	In bulk
DH50103-90N	In bulk
DH50109-90N	In bulk
DH50203-90N	In bulk
DH50203-97N	In bulk
DH50209-90N	In bulk
DH80041-90N	In bulk
DH80050-90N	In bulk
DH50057-90N T1	Tape & reel, 1000 p
DH50101-90N T1	Tape & reel, 1000 p
DH50103-90N T1	Tape & reel, 1000 p
DH50109-90N T1	Tape & reel, 1000 p
DH50203-90N T1	Tape & reel, 1000 p
DH50203-97N T1	Tape & reel, 1000 p
DH50209-90N T1	Tape & reel, 1000 p
DH80041-90N T1	Tape & reel, 1000 p
DH80050-90N T1	Tape & reel, 1000 p

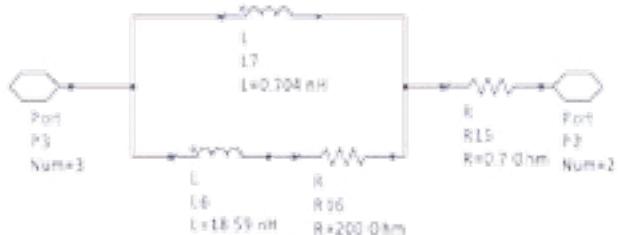


TYPICAL PERFORMANCES @ 25°C: DH50057-90N

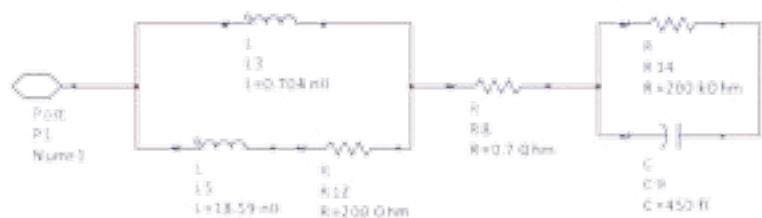


EQUIVALENT MODEL

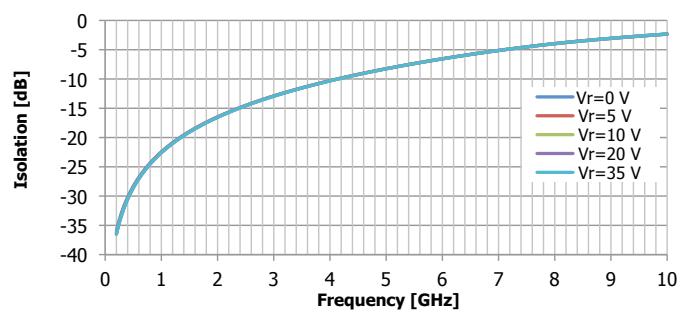
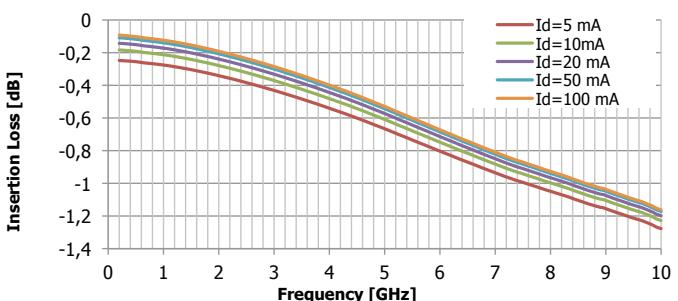
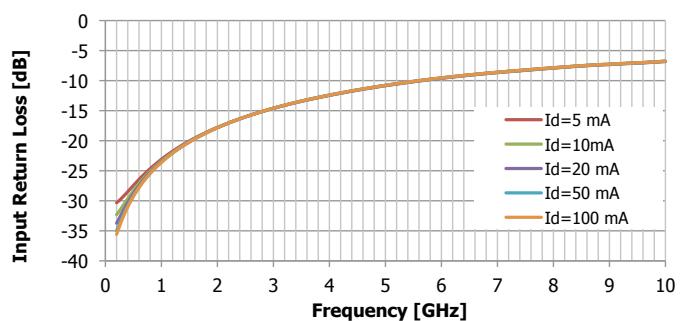
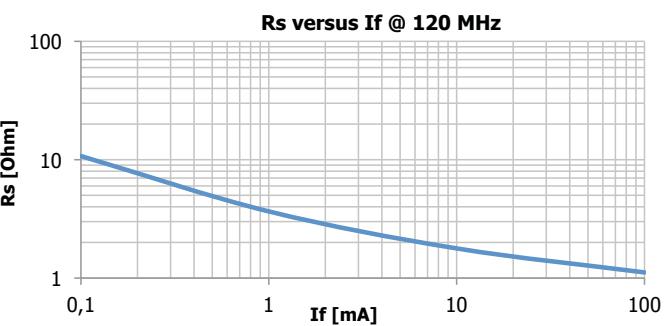
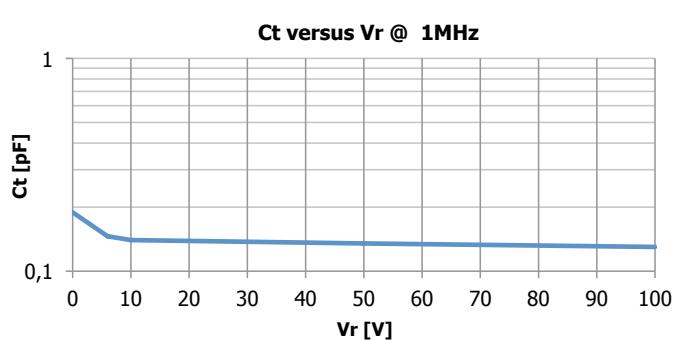
Forward Bias



Reverse Bias

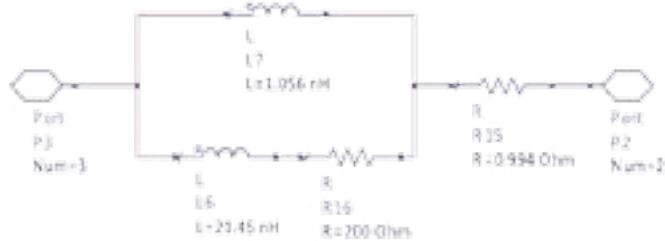


TYPICAL PERFORMANCES @ 25°C: DH50101-90N

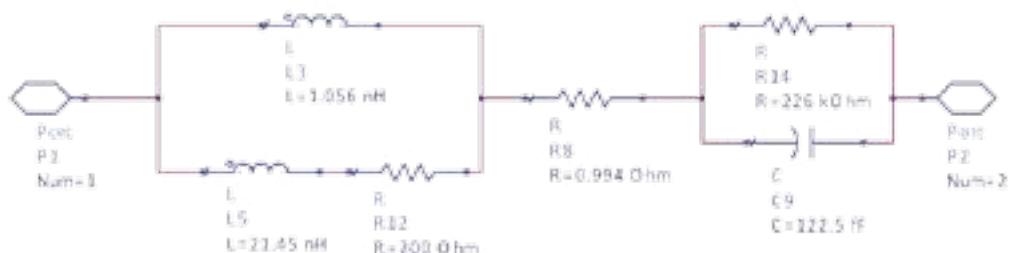


EQUIVALENT MODEL

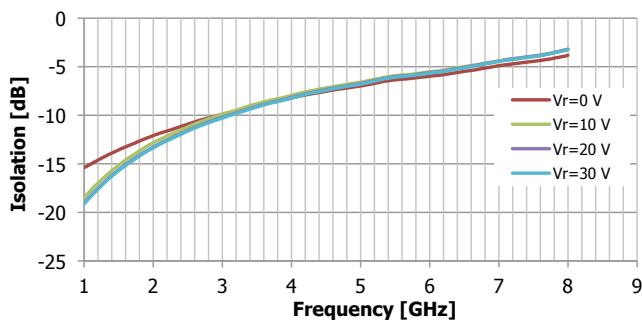
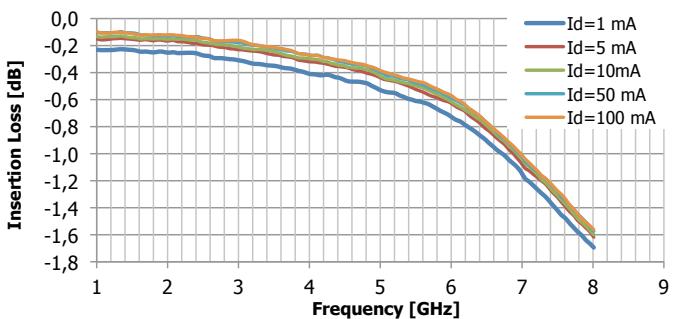
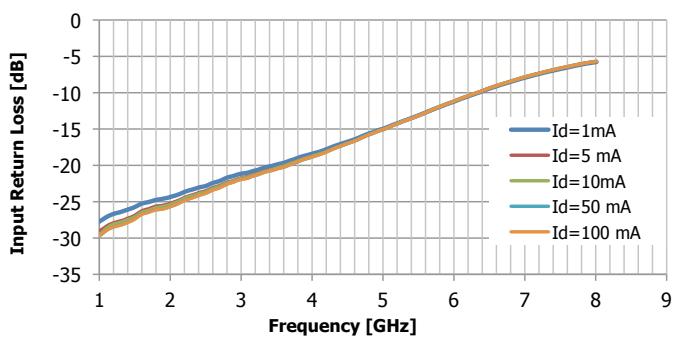
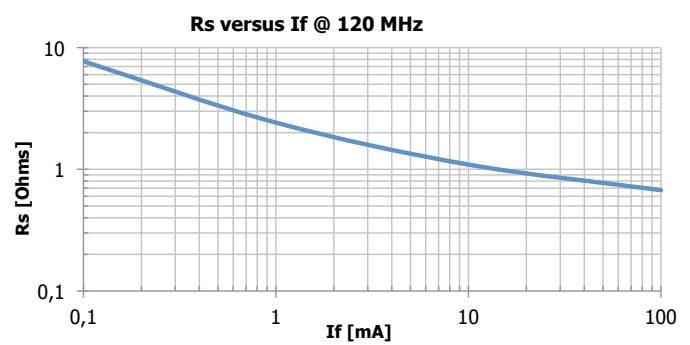
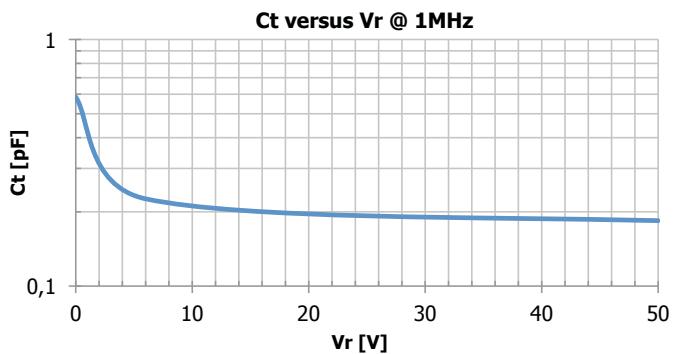
Forward Bias



Reverse Bias

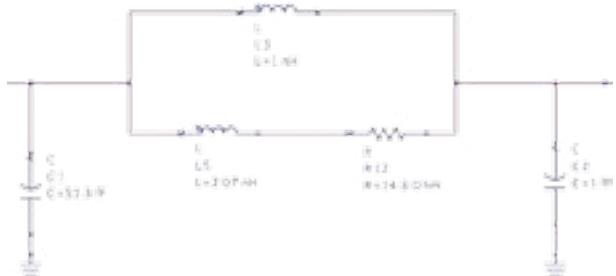


TYPICAL PERFORMANCES @ 25°C: DH50203-90N & DH50103-90N

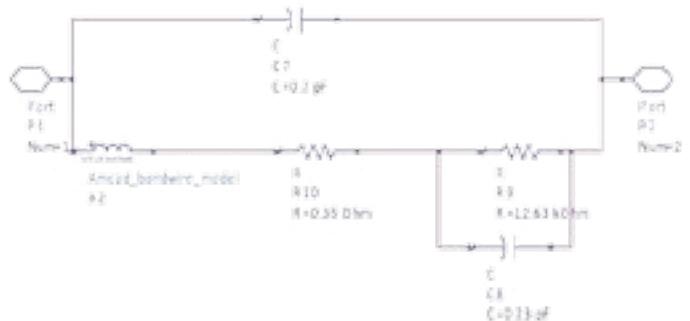


EQUIVALENT MODEL

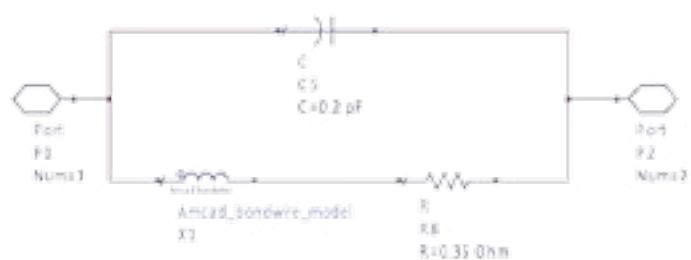
Bondwire Model



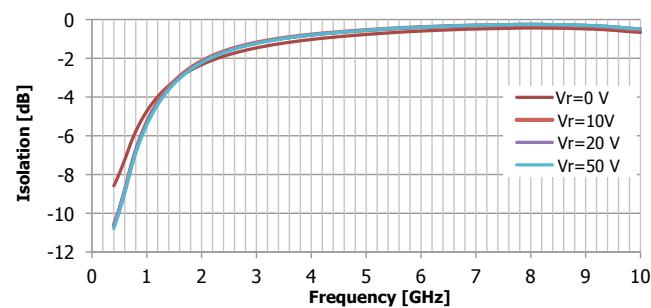
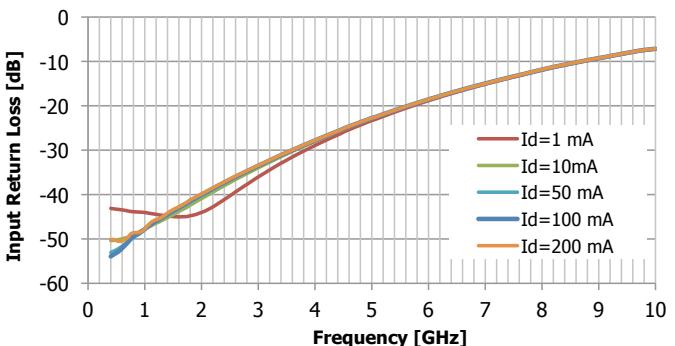
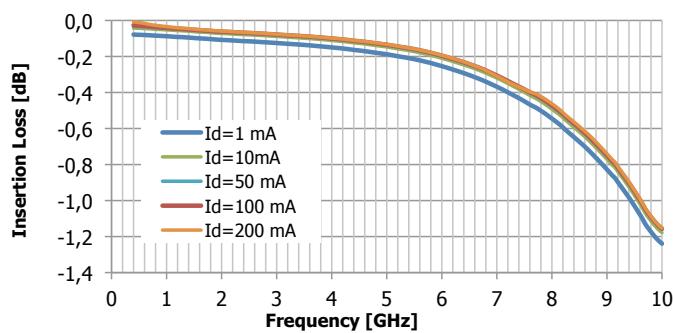
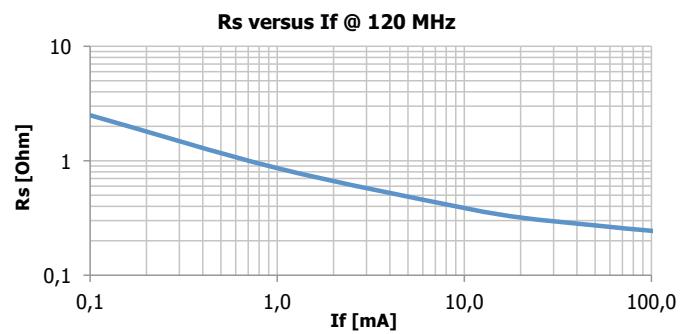
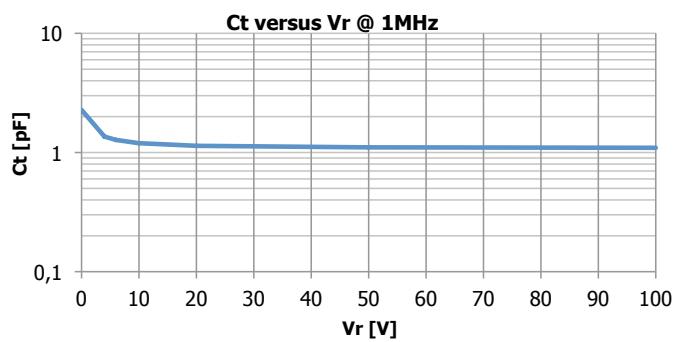
Reverse Bias



Forward Bias

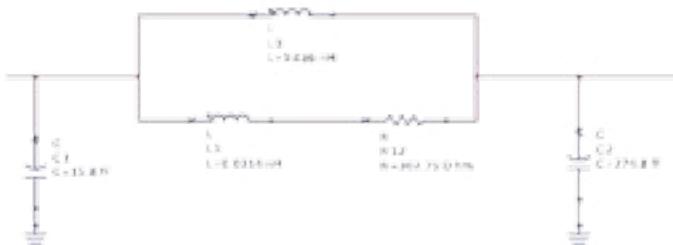


TYPICAL PERFORMANCES @ 25°C: DH50209-90N

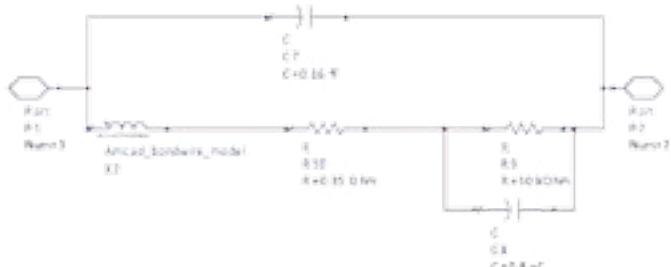


EQUIVALENT MODEL

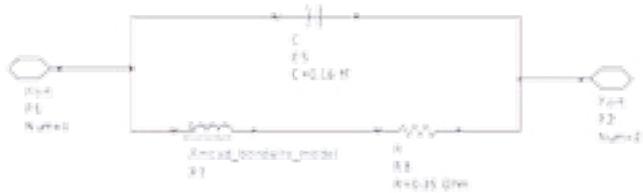
Bondwire Model



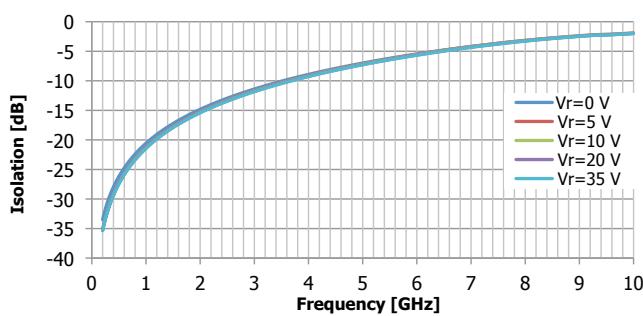
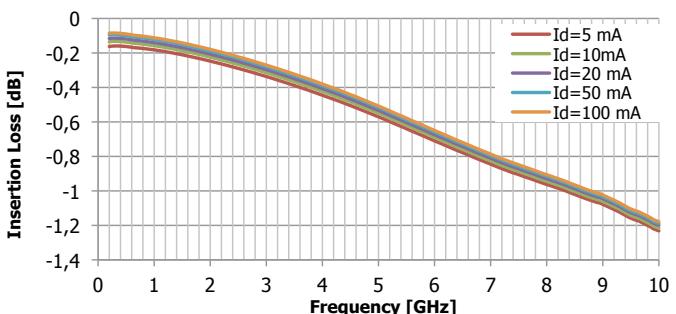
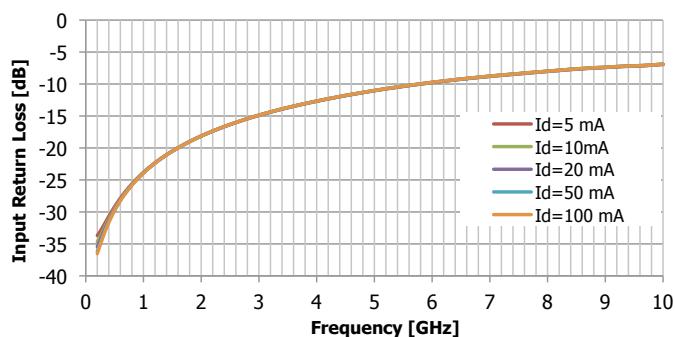
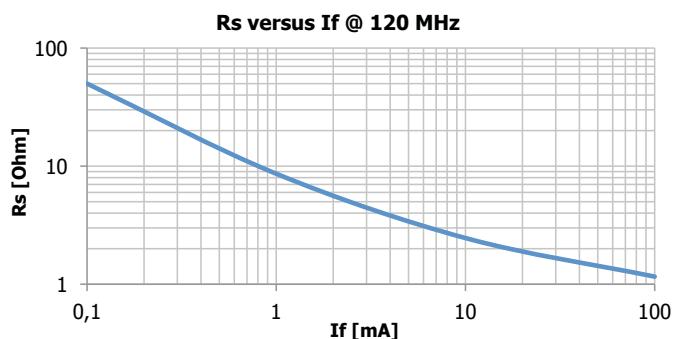
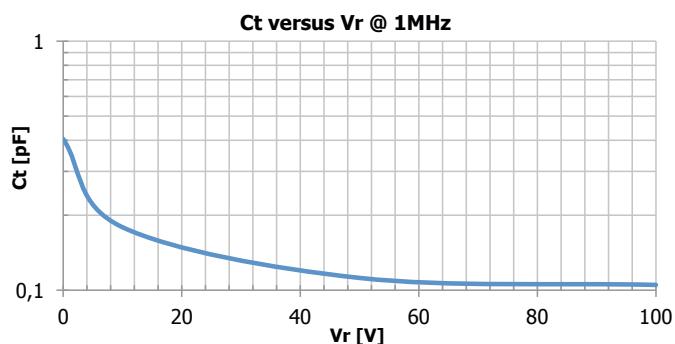
Reverse Bias



Forward Bias

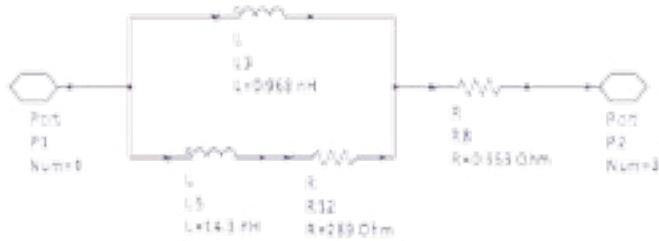


TYPICAL PERFORMANCES @ 25°C: DH80041-90N

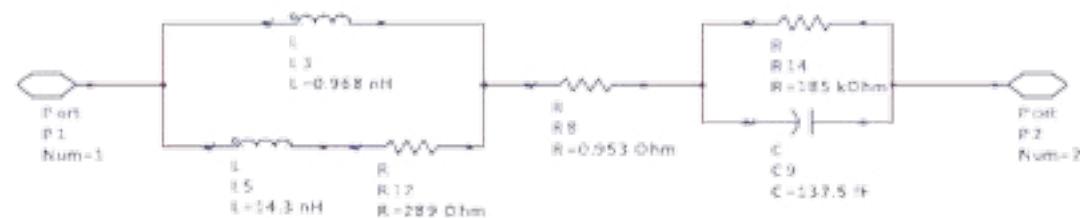


EQUIVALENT MODEL

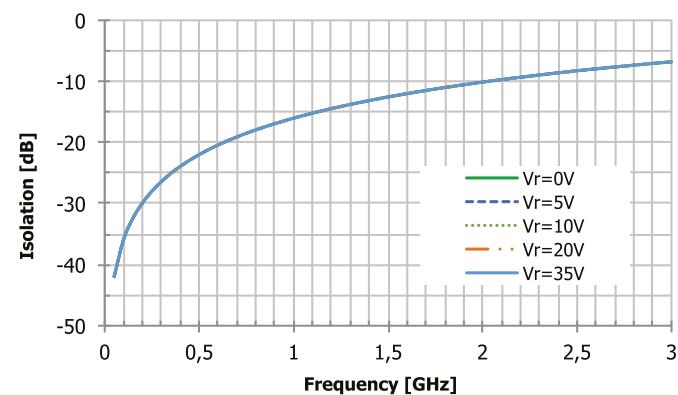
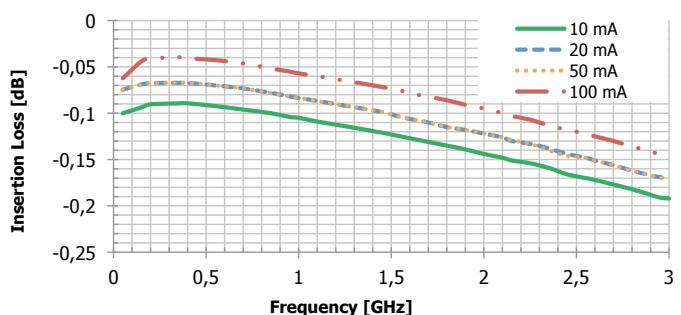
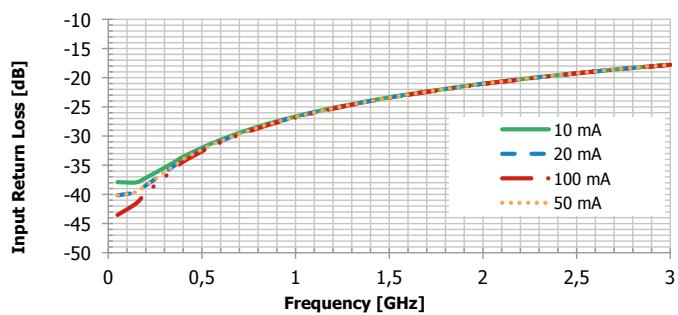
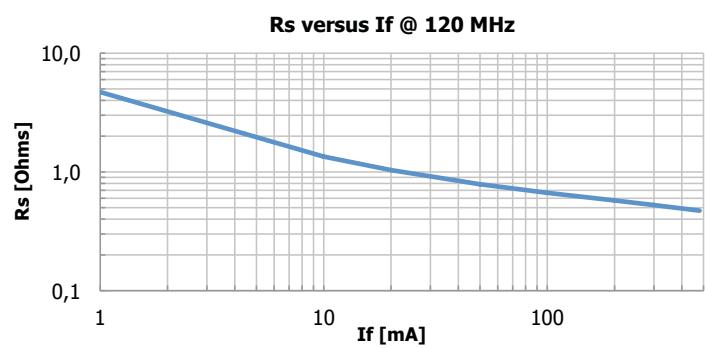
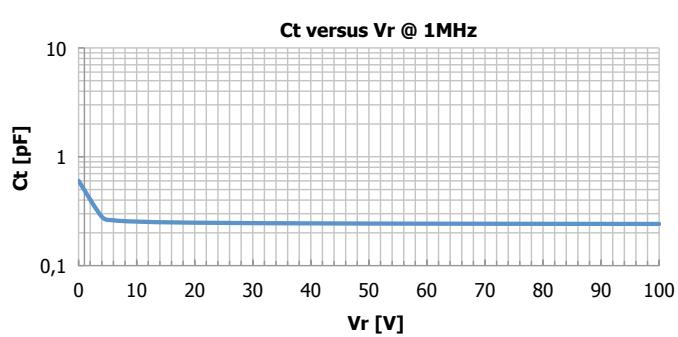
Forward Bias



Reverse Bias

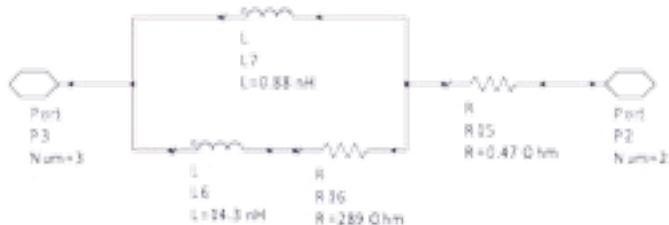


TYPICAL PERFORMANCES @ 25°C: DH80050-90N

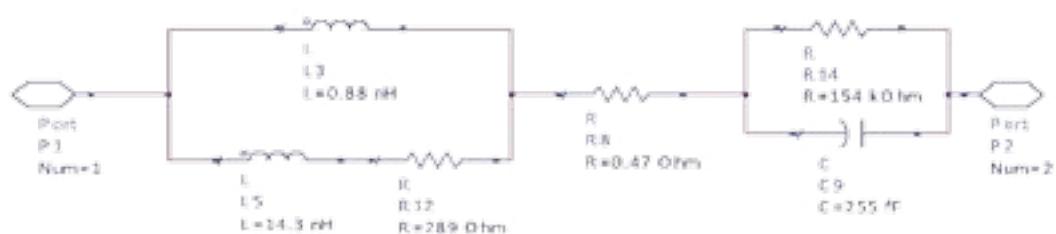


EQUIVALENT MODEL

Forward Bias



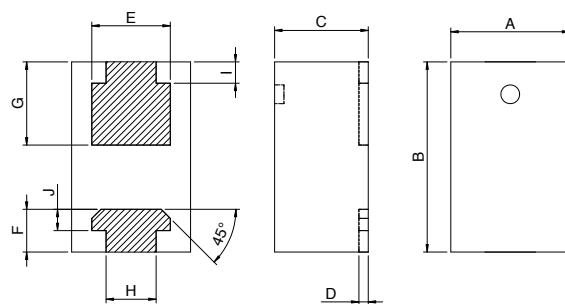
Reverse Bias



OUTLINE DRAWING

Case style: DFN-2L1 Package capacitance $\leq 0.10 \text{ pF}$ Package inductance $\leq 1 \text{ nH}$

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.17	1.37	0.046	0.053
B	1.9	2.1	0.074	0.082
C	0.7	0.9	0.027	0.032
D	Typ. 0.254		Typ. 0.01	
E	Typ. 0.85		Typ. 0.033	
F	Typ. 0.48		Typ. 0.018	
G	Typ. 0.86		Typ. 0.034	
H	Typ. 0.54		Typ. 0.021	
I	Typ. 0.2		Typ. 0.007	
J	Typ. 0.25		Typ. 0.01	



Termination pads: 100% matte Tin

Switching Silicon HV PIN Diodes, DFN 2L2 package

FEATURES

- High voltage diode up to 1000V
- Medium power diode, 100W range
- Low series resistance, Low capacitance parasitic
- Surface mount package, ROHS compliant
- MSL1 @ 260°C reflow temperature
- Non magnetic package

DESCRIPTION

The DFN serie is designed for switches where low losses are required for cost effective solution. Diodes use glass passivation technology and mesa design.

APPLICATIONS

Its excellent characteristics allow predictable superior performances in medium power applications such as switches for antennas or filter banks.

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Max Reverse Voltage Vr (V)	Forward voltage Vf @ If=100mA (V)	Total Capacitance Ct @ Vr=50V, 1MHz (pF)		Series Resistance Rs @ If=200mA, 120MHz (Ω)	Carrier Lifetime Tl @ If=10 mA, Ir=6 mA (μs)	Thermal Resistance Rth @ Pd=1W (°C/W)
	max	max	typ	max	max	typ	max
DH80053-94N	500	1.0	0.9	1.0	0.30	2.5	45.0
DH80080-94N	800	1.0	0.25	0.45	0.75	2.0	45.0
DH80100-94N	1000	1.0	0.35	0.50	0.65	3.0	35.0
DH80102-94N	1000	1.0	0.65	0.85	0.40	4.0	30.0

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Dissipated power @ Tcase	(Tj-Tcase)/Rth *

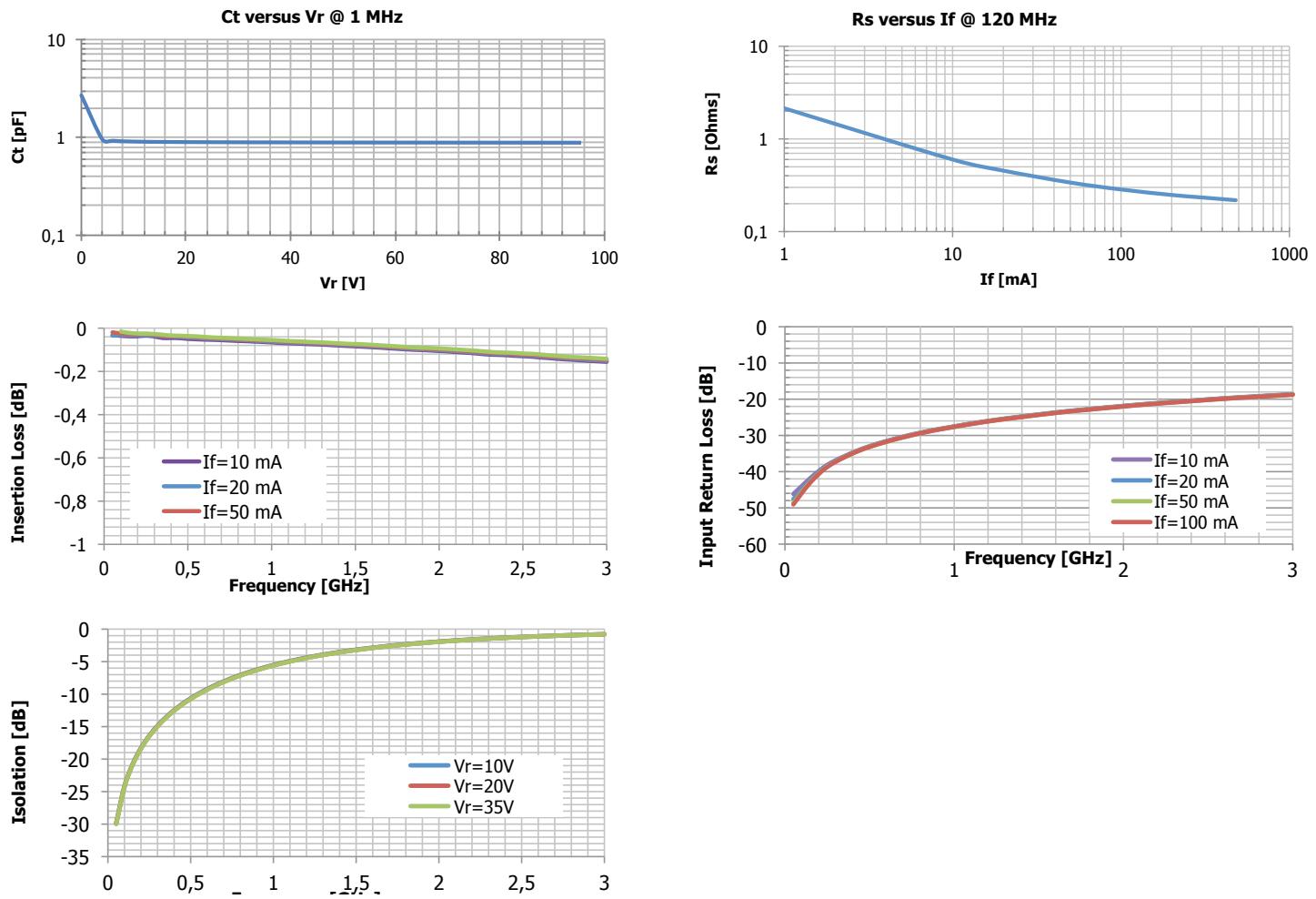
*Nota: any operation above these parameters may cause permanent damages. * Contact on infinite copper heatsink*

ORDERING INFORMATION

Part number	Package
DH80053-94N	In bulk
DH80080-94N	In bulk
DH80100-94N	In bulk
DH80102-94N	In bulk
DH80053-94NT1	Tape & reel, 1000 p
DH80080-94NT1	Tape & reel, 1000 p
DH80100-94NT1	Tape & reel, 1000 p
DH80102-94NT1	Tape & reel, 1000 p

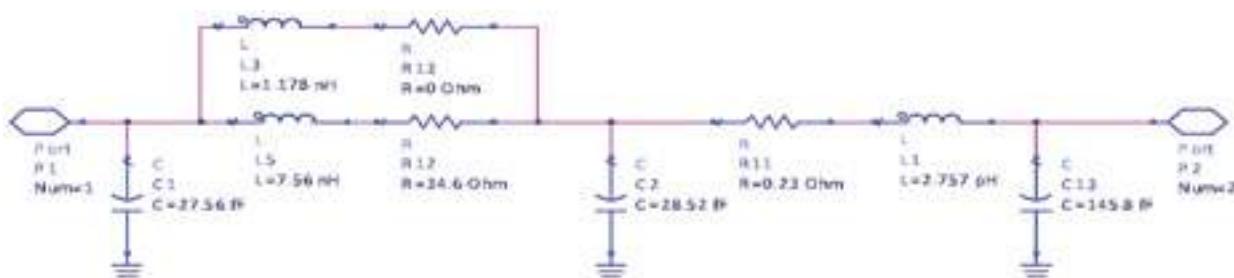


TYPICAL PERFORMANCES @ 25°C: DH80053-94N

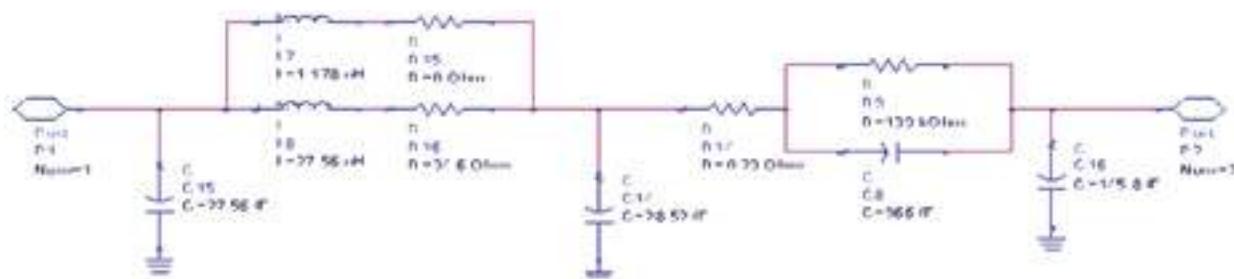


EQUIVALENT MODEL

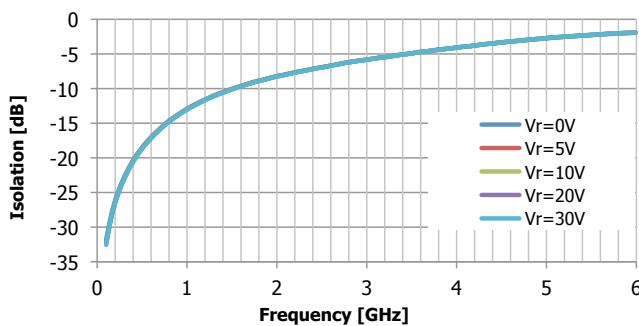
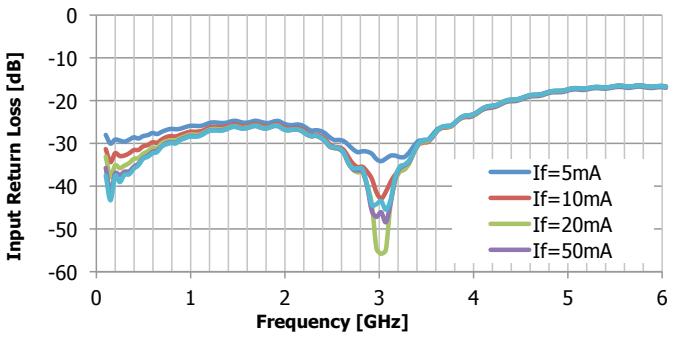
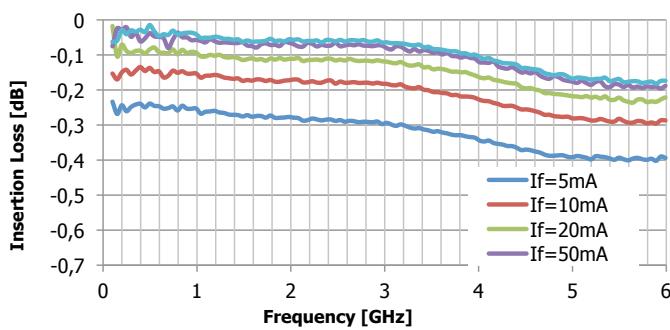
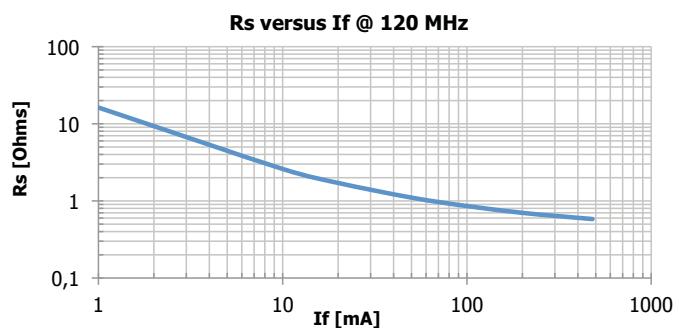
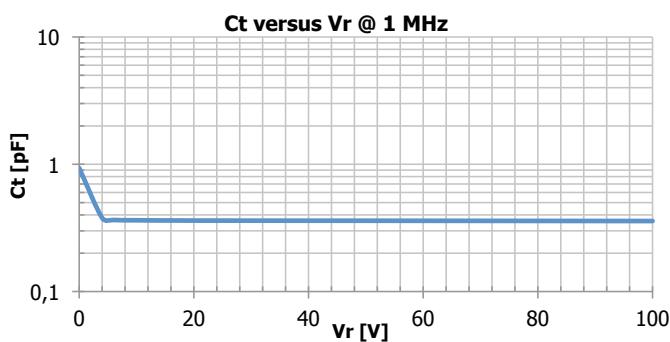
Forward Bias



Reverse Bias

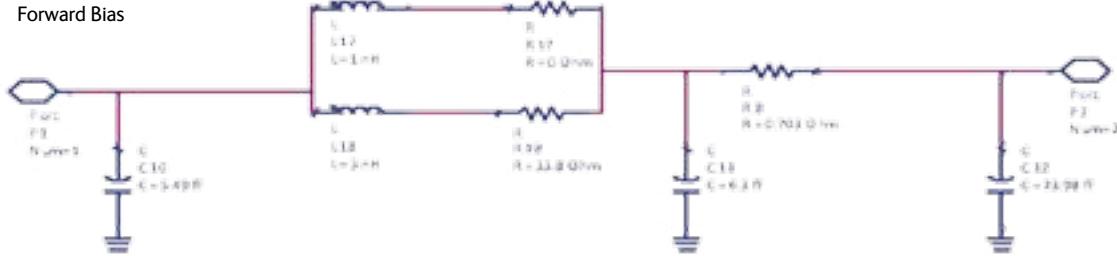


TYPICAL PERFORMANCES @ 25°C: DH80080-94N

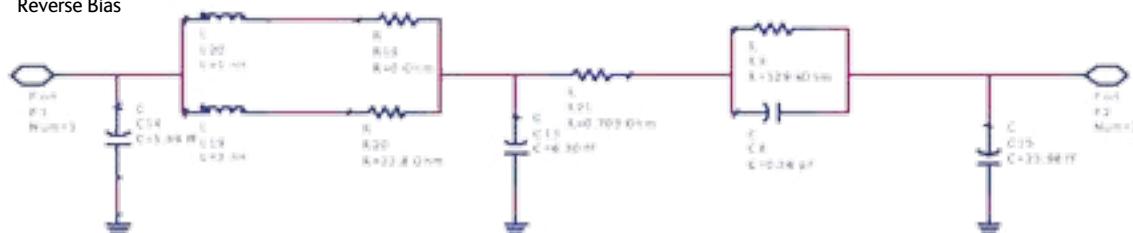


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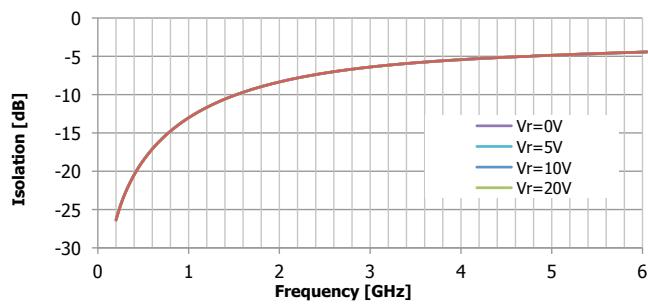
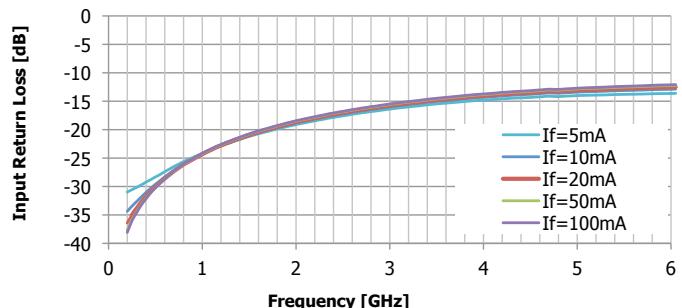
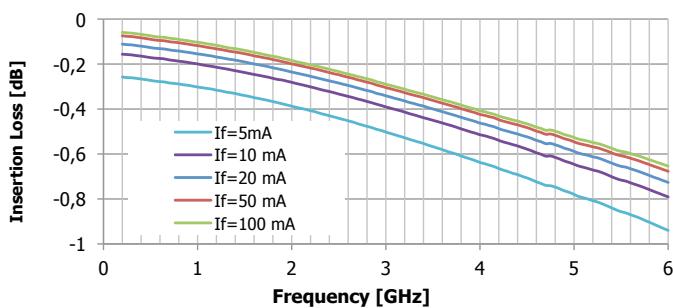
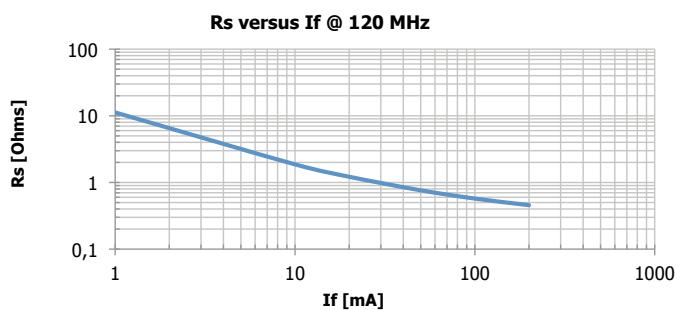
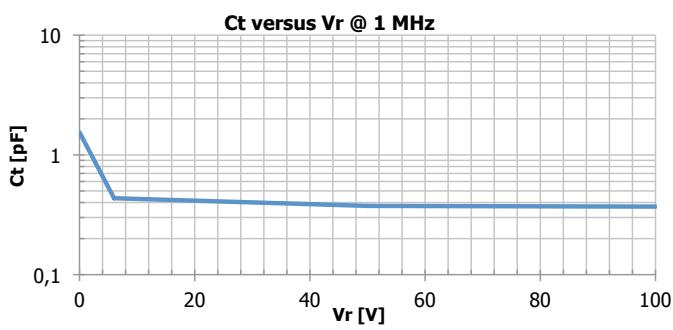
Forward Bias



Reverse Bias

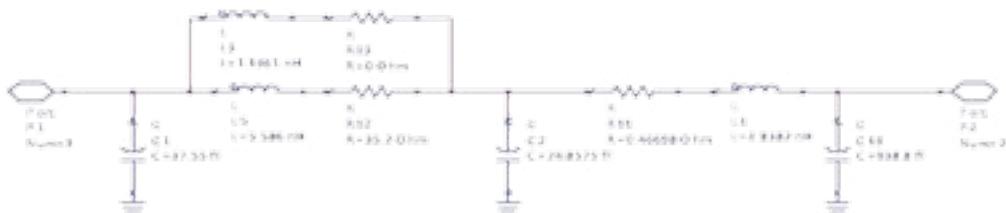


TYPICAL PERFORMANCES @ 25°C: DH80100-94N

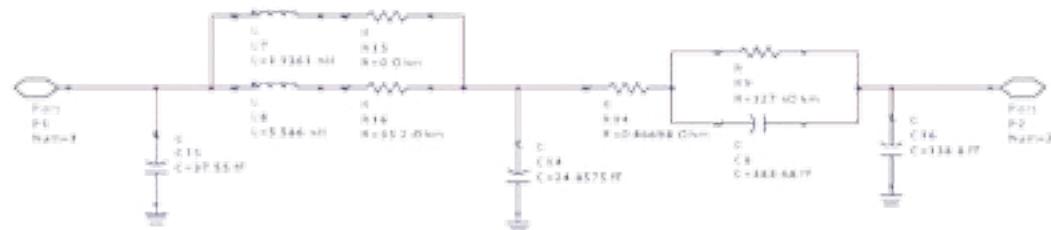


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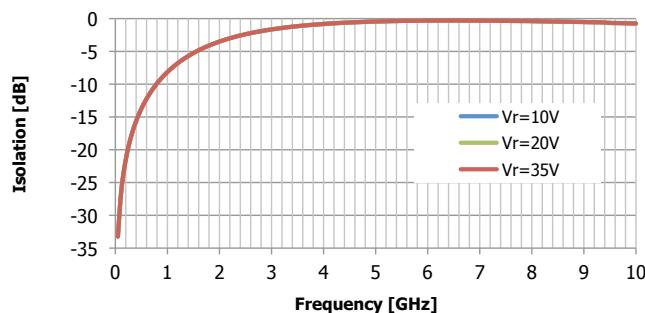
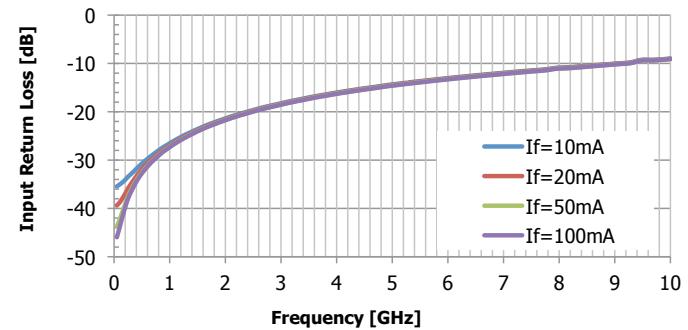
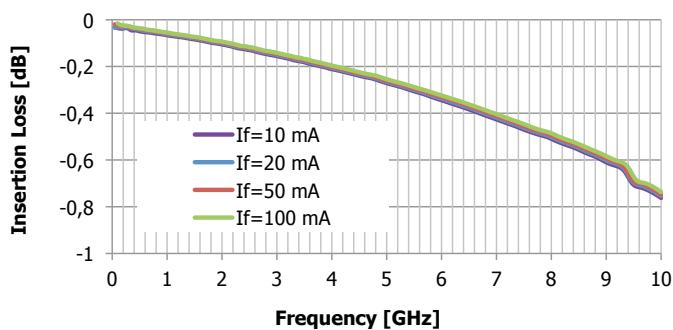
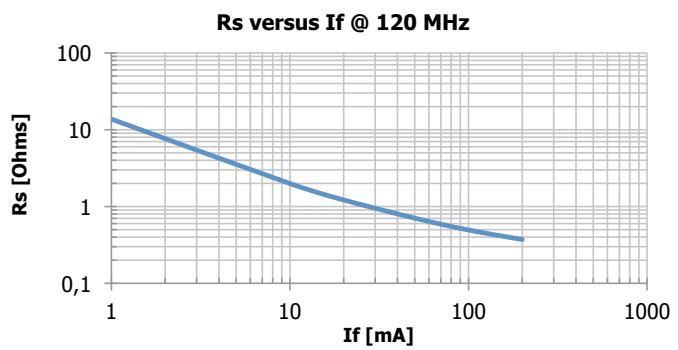
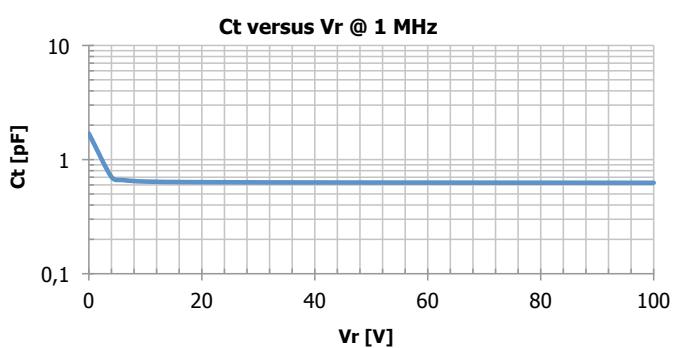
Forward Bias



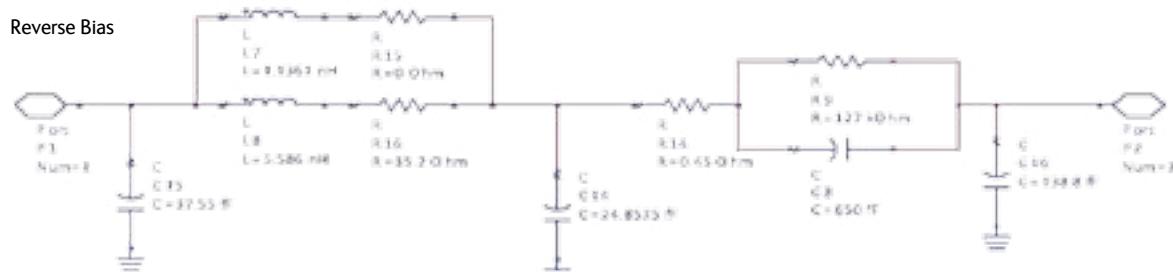
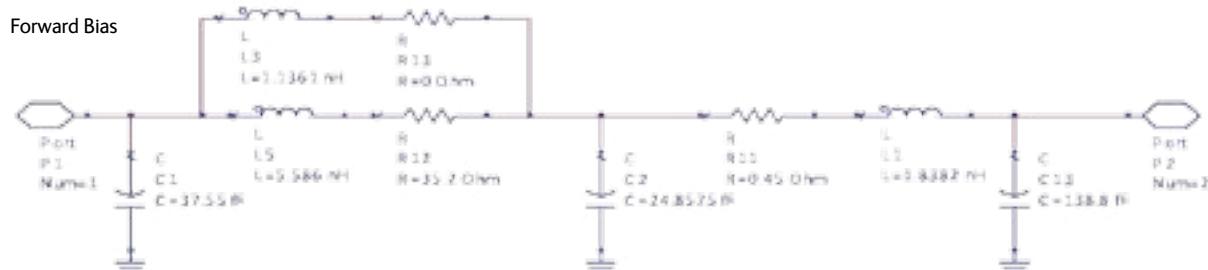
Reverse Bias



TYPICAL PERFORMANCES @ 25°C: DH80102-94N



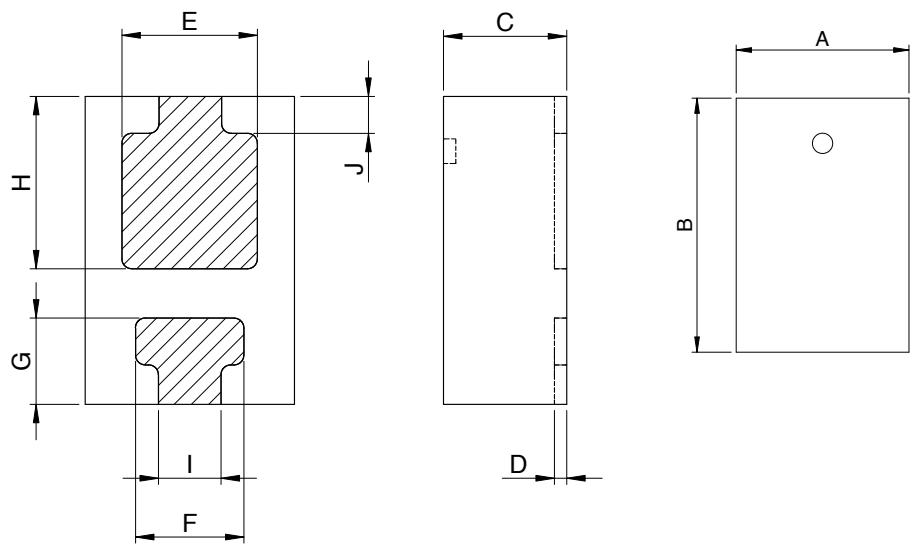
EQUIVALENT MODEL



OUTLINE DRAWING

Case style: DFN-2L2 Package capacitance $\leq 0.10 \text{ pF}$ Package inductance $\leq 1 \text{ nH}$

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.6	1.8	0.063	0.071
B	2.4	2.6	0.094	0.102
C	0.7	1.0	0.027	0.040
D	Typ. 0.254		Typ. 0.01	
E	Typ. 1.1		Typ. 0.043	
F	Typ. 0.9		Typ. 0.035	
G	Typ. 0.7		Typ. 0.027	
H	Typ. 1.2		Typ. 0.047	
I	Typ. 0.5		Typ. 0.019	
J	Typ. 0.3		Typ. 0.011	



Switching Silicon PIN Diodes DH50156-96N

FEATURES

- Low series resistance, low parasitic capacitance
- Surface mount package, 0603 size
- ROHS compliant
- MSL1 @ 260°C reflow temperature

DESCRIPTION

The DH50156 serie is designed for medium power range switches where efficient compromise between power handling, fast switching, low losses and low distortion are required. Diodes use silicon epitaxial layers, glass passivation technology and mesa design for high reliability purposes.

APPLICATIONS

Its excellent characteristics allow predictable superior performances in low and medium power applications such as switches for antennas or filter banks.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr = 150 V		0.1	10	µA
Forward voltage	Vf	If = 10 mA		0.83	1.0	V
Total capacitance	Ct	Vr= 50V, F = 1 MHz		0.4	0.5	pF
Forward series resistance	Rsf	If = 10 mA, F=120 MHz		0.6	0.85	Ω
Minority carrier lifetime	Tl	If=10mA Ir=6mA		0.8		µs
I region thickness	-			20		µm
Thermal resistance	Rth	Pd=1W			55	°C/W

MAXIMUM RATINGS

	Value
Junction temperature	+175°C
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage	150 V
Forward DC current	500 mA
Dissipated power @ Tcase	(Tj-Tcase)/Rth*
C.W. Incident Power @ 25°C	45dBm

Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink.

ORDERING INFORMATION

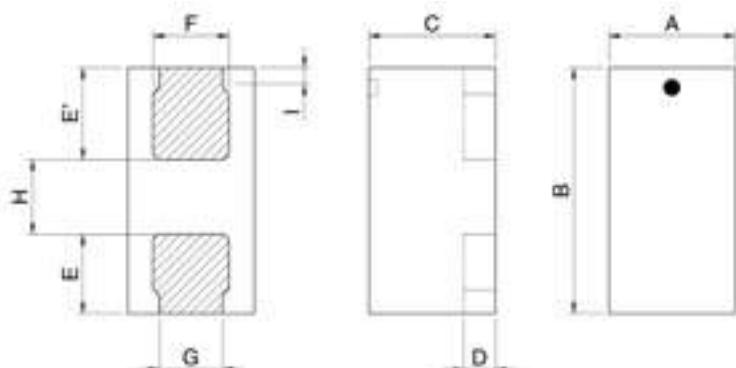
Part number	Package
DH50156-96N	DFN2L0603, in bulk
DH50156-96NT1	DFN2L0603, Tape & reel, 1000 p
DH50156-91N	DFN3L1, in bulk
DH50156-91NT1	DFN3L1,Tape & reel, 1000 p
DH50156-97N	DFN2L0503, in bulk
DH50156-97NT1	DFN2L0503, Tape & reel, 1000 p



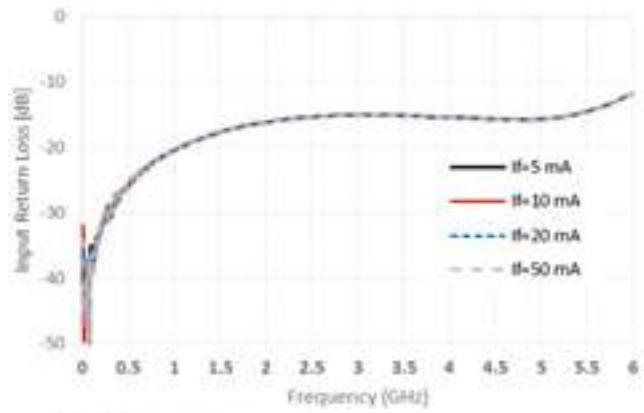
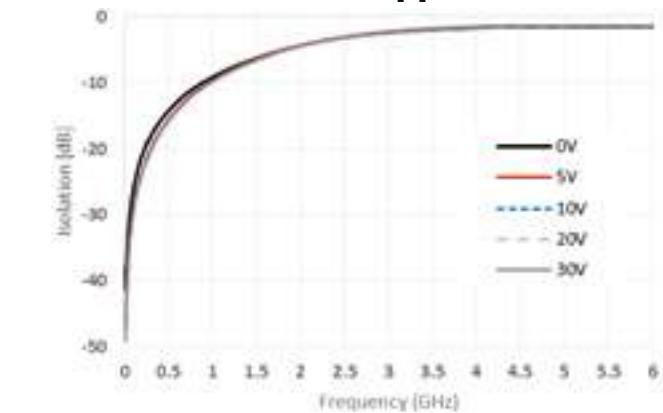
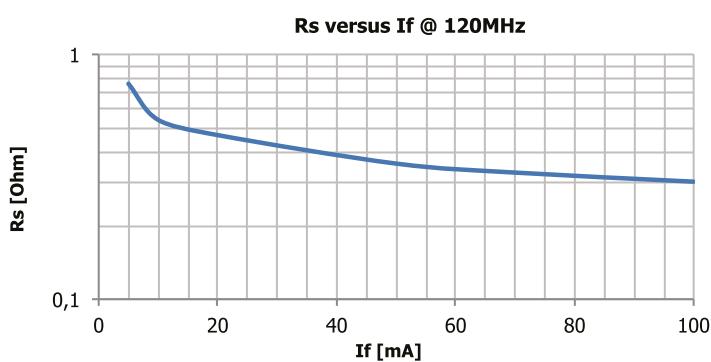
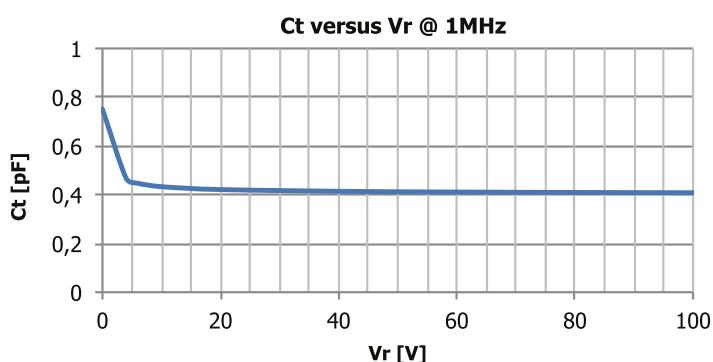
OUTLINE DRAWING

Case style: DFN-2L0603 : Package capacitance $\leq 0.10 \text{ pF}$ Package inductance $\leq 1 \text{ nH}$

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	0.70	0.90	0.027	0.035
B	1.45	1.65	0.057	0.065
C	0.70	0.90	0.027	0.035
D	Typ. 0.254		Typ. 0.01	
E	Typ. 0.50		Typ. 0.020	
E'	Typ. 0.58		Typ. 0.023	
F	Typ. 0.48		Typ. 0.019	
G	Typ. 0.40		Typ. 0.016	
H	Typ. 0.47		Typ. 0.019	
I	Typ. 0.10		Typ. 0.004	



TYPICAL PERFORMANCES @ 25°C: DH50156-96N

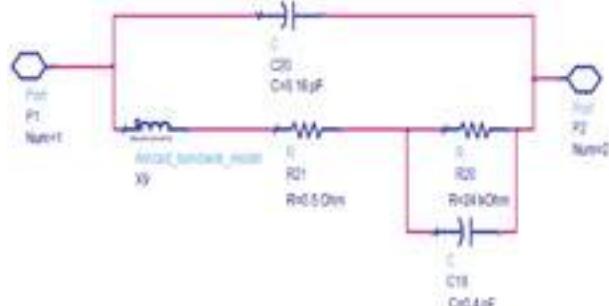


EQUIVALENT MODEL

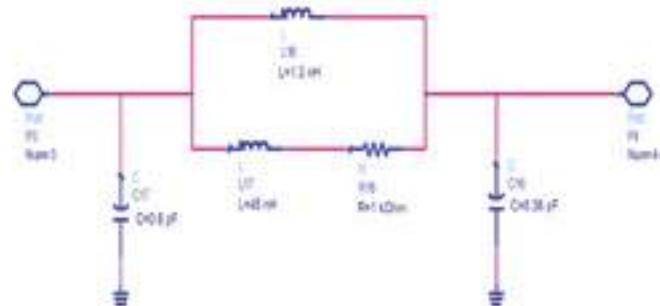
Forward Bias



Reverse Bias



Bondwire model



Shunt and Serie-Shunt Silicon PIN Diodes, DFN 3L2 package

FEATURES

- Switching diodes
- Shunt or Serie-shunt design
- Medium power diode up to 40W
- High isolation, low Insertion loss
- Low capacitance parasitic
- Surface mount package
- ROHS compliant
- MSL1 @ 260°C reflow temperature

DESCRIPTION

These DFN packaged series are designed for switches where low losses and high isolation are required for cost effective solution. Diodes use glass passivation technology and mesa design.

APPLICATIONS

Its excellent characteristics allow predictable superior performances in medium power applications such as switches for antennas or filter banks.

ELECTRICAL SPECIFICATIONS @ 25°C

Reverse Voltage Vr @ Ir= 10µA (V)	Forward voltage Vf @ If = 100mA (V)	Junction Capacitance Cj @ Vr=50V, 1MHz (pF)		Series Resistance Rs @100mA, 120MHz (Ω)	Carrier Lifetime Tl @ If=10 mA, Ir=6 mA (µs)	Thermal Resistance Rth @ Pd=1W (°C/W)	
max	max	typ	max	max	typ	Typ	max
500	1.0	0.15	0.2	0.8	2.5	30.0	40.0

MICROWAVE SPECIFICATIONS @ 25°C: DH80050-62N

Insertion loss F=2GHz, Vr=20V		Insertion loss F=10GHz, Vr=20V		Input Return Loss F=2GHz, Vr=20V		Input Return Loss F=10GHz, Vr=20V		Isolation F=2GHz If=50mA		Isolation F=10GHz If=50mA	
typ	max	typ	max	min	typ	min	typ	min	typ	min	typ
0.1	0.2	0.35	0.45	26	30	16	20	25	30	15	17

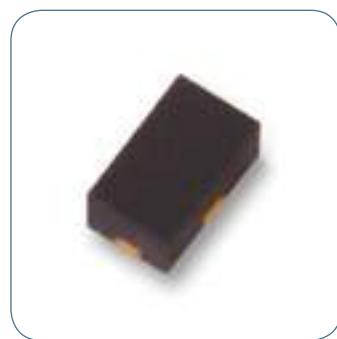
MAXIMUM RATINGS

		Value
Operating temperature (Tj)		- 55°C, +150°C
Storage temperature		- 65°C, +150°C
Dissipated power @ Tcase		(Tj-Tcase)/Rth*

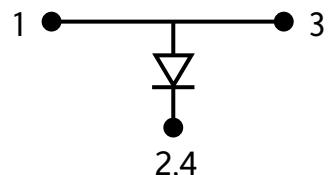
Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink.

ORDERING INFORMATION

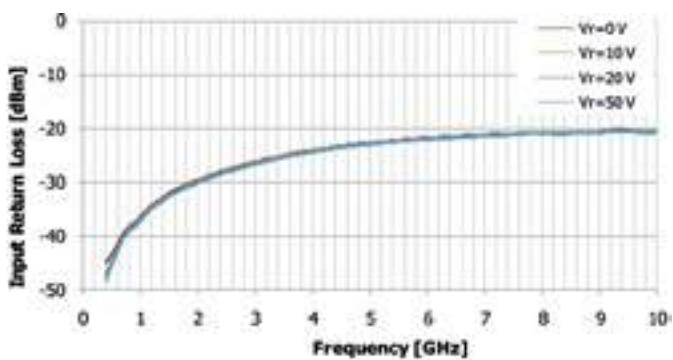
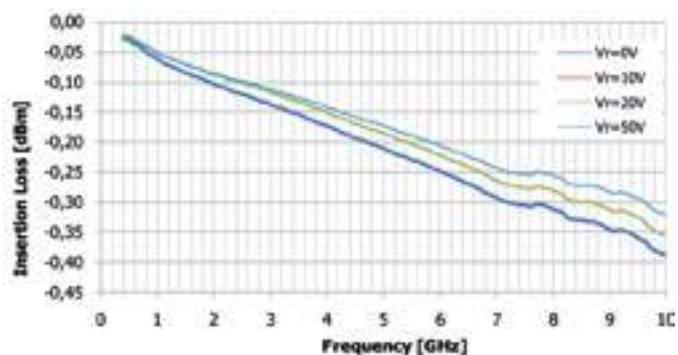
Part number	Package
DH80050-62N	In bulk
DH85050-63N	In bulk
DH80050-62NT1	Tape & reel, 1000 p
DH85050-63NT1	Tape & reel, 1000 p



PAD CONFIGURATION - DH80050-62N

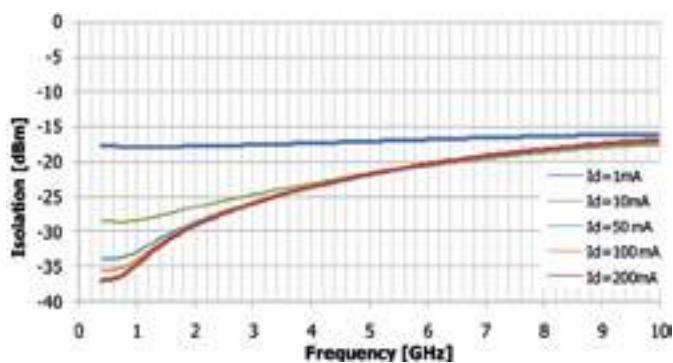
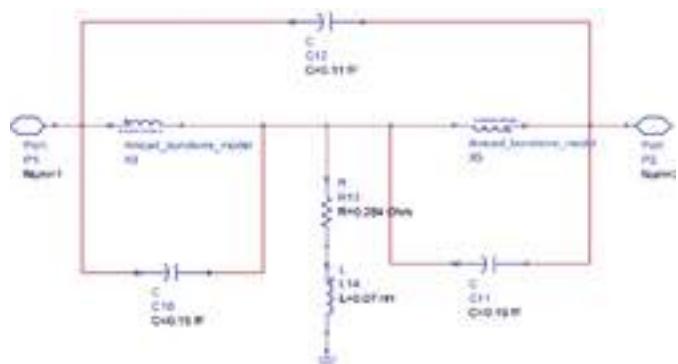


TYPICAL PERFORMANCES @ 25°C - DH80050-62N

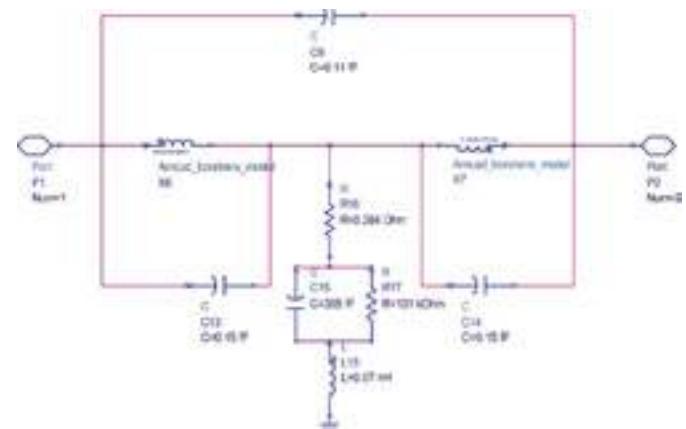


EQUIVALENT MODEL

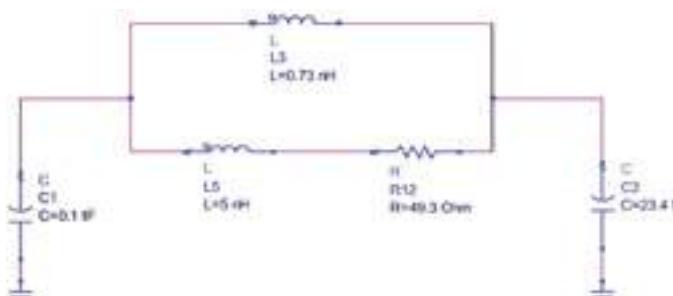
Forward Bias



Reverse Bias



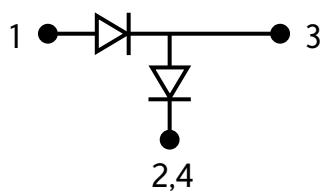
Bondwire model



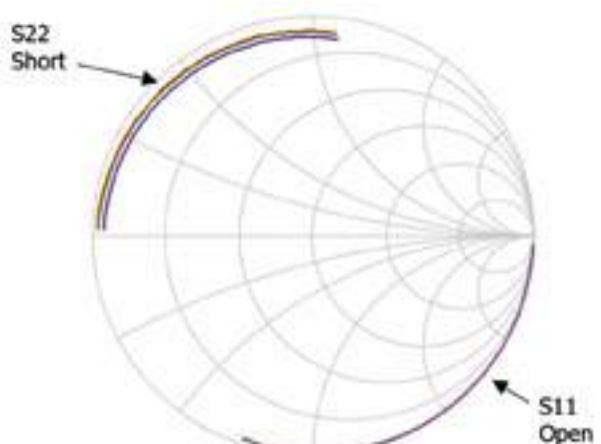
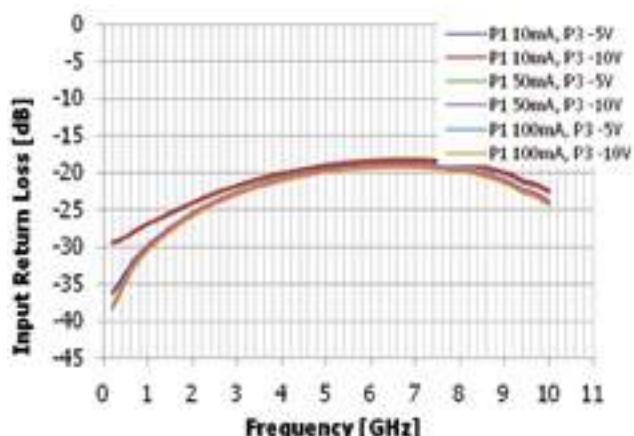
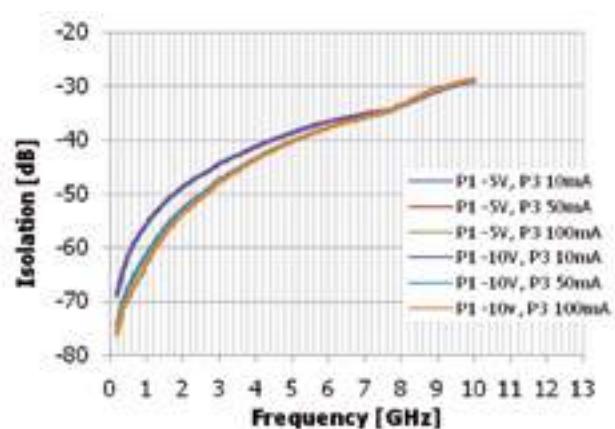
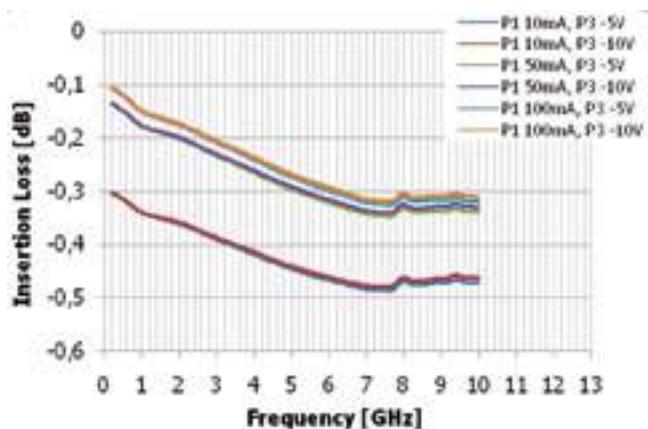
MICROWAVE PERFORMANCES: @ 25°C: DH85050-63N

Insertion loss F=2GHz If1=50mA Vr2=5V		Insertion loss F=10GHz If=50mA Vr=5V		Input Return Loss F=2GHz If=50mA Vr=5V		Input Return Loss F=10GHz If=50mA Vr=5V		Isolation F=2GHz Vr1=5V If2=50mA		Isolation F=10GHz Vr1=5V If2=50mA	
typ	max	typ	max	min	typ	min	typ	min	typ	min	typ
0.2	0.3	0.33	0.4	23	26	20	23	45	55	25	30

PAD CONFIGURATION - DH85050-63N



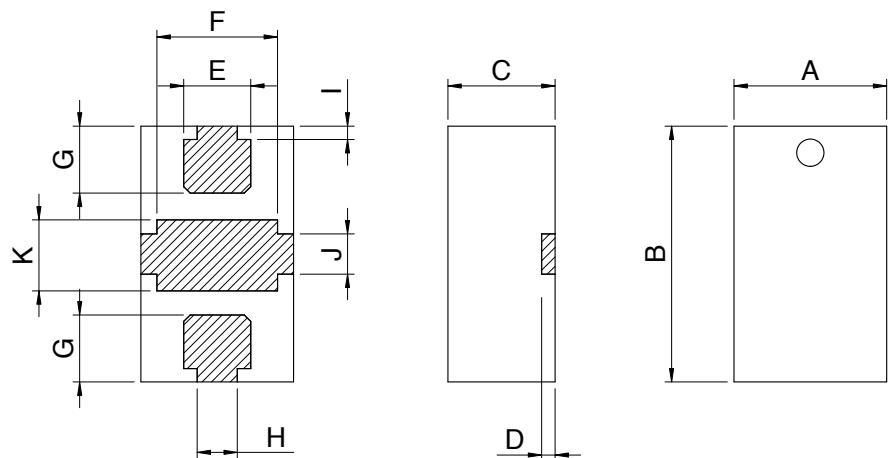
TYPICAL PERFORMANCES @ 25°C - DH85050-63N



OUTLINE DRAWING

Case style: DFN-3L2 Package capacitance $\leq 0.10 \text{ pF}$ Package inductance $\leq 1 \text{ nH}$

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.0	1.25	0.040	0.049
B	1.8	2.0	0.071	0.079
C	0.7	0.9	0.027	0.035
D	Typ. 0.254		Typ. 0.01	
E	Typ. 0.4		Typ. 0.016	
F	Typ. 0.85		Typ. 0.033	
G	Typ. 0.3		Typ. 0.011	
H	Typ. 0.3		Typ. 0.011	
I	Typ. 0.1		Typ. 0.004	
J	Typ. 0.3		Typ. 0.011	
K	Typ. 0.55		Typ. 0.021	



Low capacitance switching diodes DFN3L1 package

FEATURES

- Low capacitance diode until 50 fF
- High voltage, very low leakage current
- Surface mount package
- ROHS compliant
- MSL1 @ 260°C reflow temperature

DESCRIPTION

These series are designed as cost effective solution for switching application where high isolation is required. Diodes use glass passivation technology and mesa design.

APPLICATIONS

Its excellent characteristics allow predictable superior performances in low and medium power applications such as switches for antennas.

MAXIMUM RATINGS

	Value
Operating temperature (T _j)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Dissipated power @ T _{case}	(T _j -T _{case})/R _{th} *

Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink.

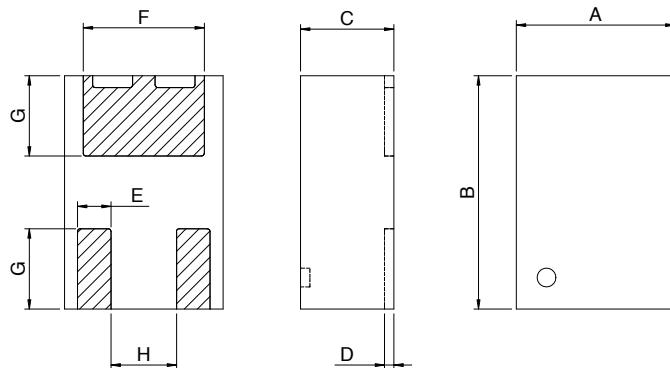
ORDERING INFORMATION

Part number	Package
DH80041-93L	In bulk
DH85100-91L	In bulk
DH80041-93LT1	Tape & reel, 1000 p
DH85100-91LT1	Tape & reel, 1000 p

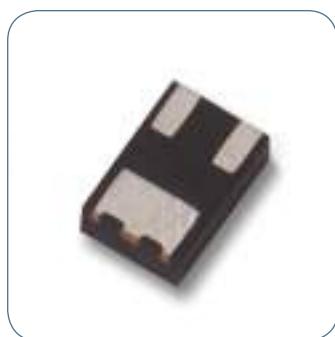
OUTLINE DRAWING

Case style: DFN-3L1 Package capacitance $\leq 0.10 \text{ pF}$

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.6	1.8	0.063	0.071
B	2.4	2.6	0.094	0.102
C	0.7	0.9	0.027	0.035
D	Typ. 0.254		Typ. 0.01	
E	Typ. 0.36		Typ. 0.014	
F	Typ. 1.3		Typ. 0.05	
G	Typ. 0.86		Typ. 0.034	
H	Typ. 0.7		Typ. 0.027	

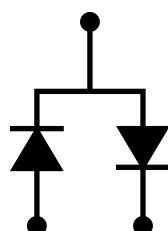


Nota: Finish SMD pads: 100% Sn mat

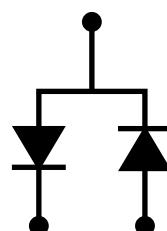


FUNCTIONAL SCHEMATIC

DH80041-93L



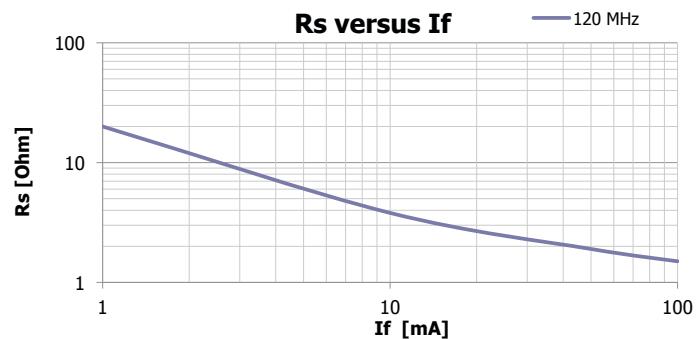
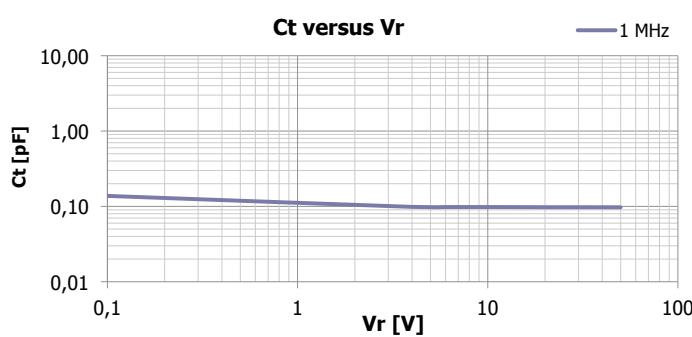
DH85100-91L



ELECTRICAL SPECIFICATIONS @ 25°C: DH80041-93L

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr = 450 V			10	µA
Forward voltage	Vf	If=10 mA			1.0	V
Total capacitance	Ct	Vr= 50V, F = 1 MHz		0.1	0.16	pF
Forward series resistance	Rsf	If = 100 mA, F=120 MHz		2.0	2.5	Ω
Minority carrier lifetime	Tl	If=10mA Ir=6mA		1		µs

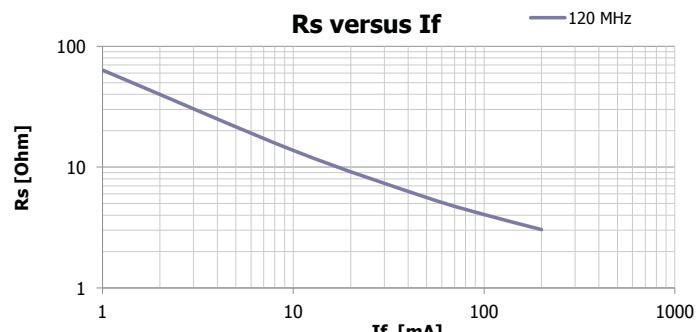
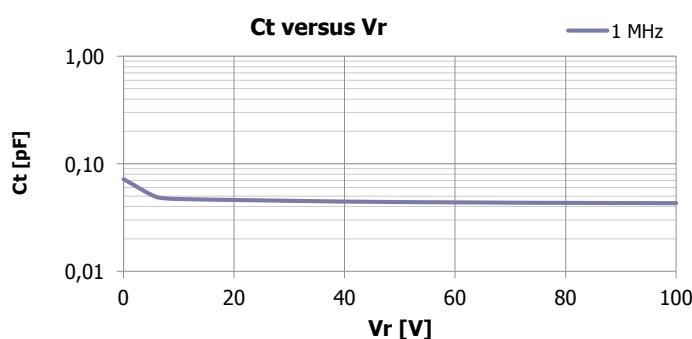
TYPICAL PERFORMANCES @ 25°C: DH80041-93L



ELECTRICAL SPECIFICATIONS @ 25°C: DH85100-91L

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C	Ir	Vr = 1000 V			10	µA
Forward voltage	Vf	If = 10 mA		1.7	2	V
Total capacitance	Ct	Vr= 50V, F = 1 MHz		0.05	0.06	pF
Forward series resistance	Rsf	If = 100 mA, F=120 MHz		4	5	Ω
Minority carrier lifetime	Tl	If=10mA Ir=6mA			1.0	µs

TYPICAL PERFORMANCES @ 25°C: DH85100-91L



SOT & SOD packaged Silicon PIN Diodes

FEATURES

- Low Power Handling
- Fast or Ultra Fast Switching
- Low loss, Low distortion design
- High Isolation diodes
- Surface Mount package
- RoHS compliant
- MSL1 @ 260°C reflow temperature

DESCRIPTION

The SOT & SOD packaged series are designed for low power range switches where efficient compromise between power handling, fast switching, low losses and low distortion are required. Diodes use silicon epitaxial layers, oxide or glass passivation technology and mesa design for high reliability purposes. Choice of plastic packages is proposed to allow various configurations as single diode, series tees, series tees reverse, common cathode and common anode pairs.

APPLICATIONS

These diodes are used for fast switching applications where low distortion, high isolation and high reliability are required.

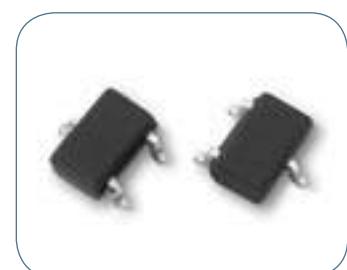
ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Reverse voltage V _{br} (V)	Total Capacitance C _t @ V _r , 1MHz (pF)		Series Resistance R _s @ I _f =10mA, 120MHz (Ω)	Carrier Lifetime T _l @ I _f =10mA, I _r =6mA (μs)	I layer thickness (μm)
	min	typ	max	max	typ	typ
	C _t @ V _r =0V					
DH50037	30	-	0.8	1.0	40	2
DH50058	35	-	1.0	0.5	200	9
		C _t @ V _r =6V				
DH50051	35	0.25	0.3	2.0	150	9
DH50053	50	0.30	0.35	1.5	200	9
		C _t @ V _r =50V				
DH50103	100	0.25	0.35	3.0	500	20
DH50109	100	1.0	1.2	0.6	1000	20
DH50203	200	0.25	0.35	3.0	500	20
DH50209	200	1.0	1.2	0.6	1500	20
DH80051	400	0.45	0.6	2.0	2000	50

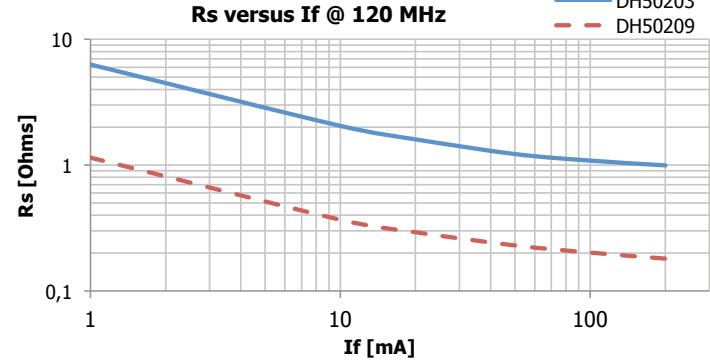
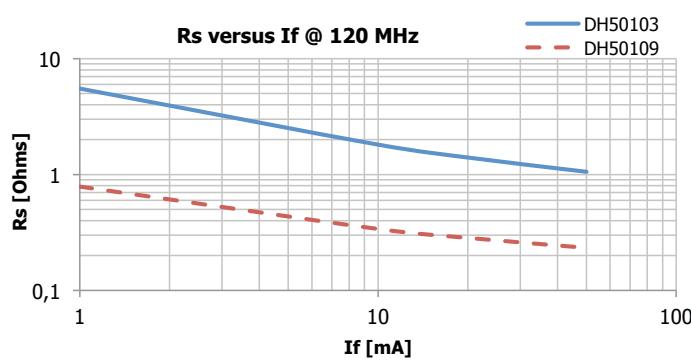
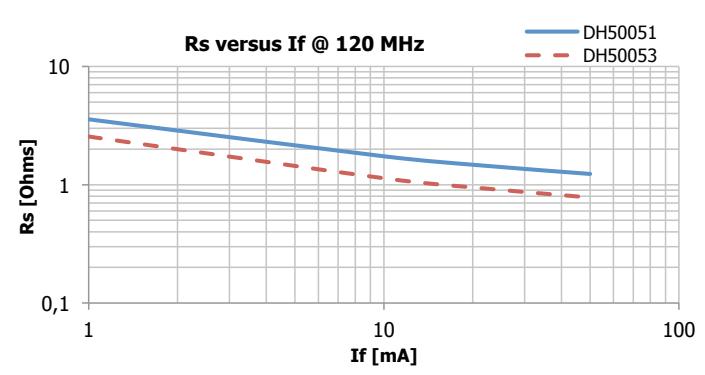
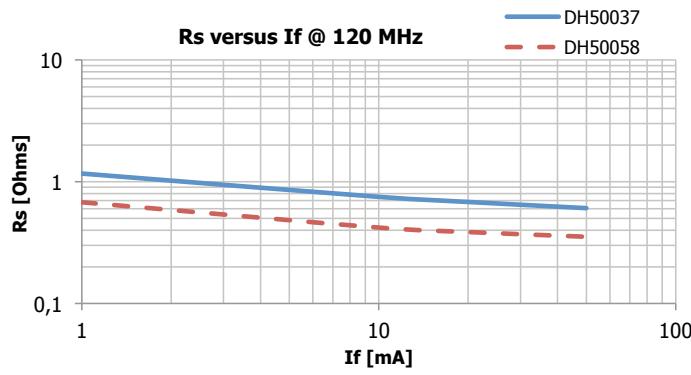
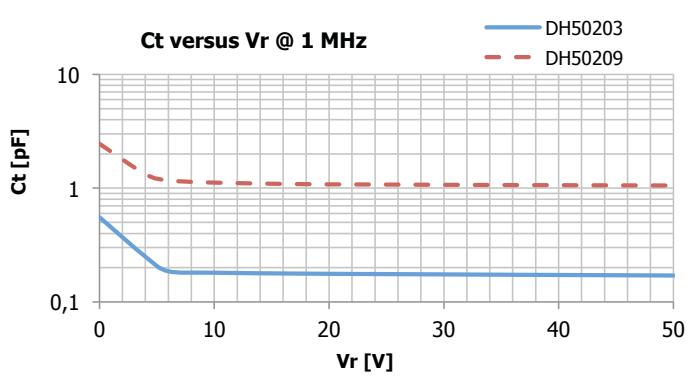
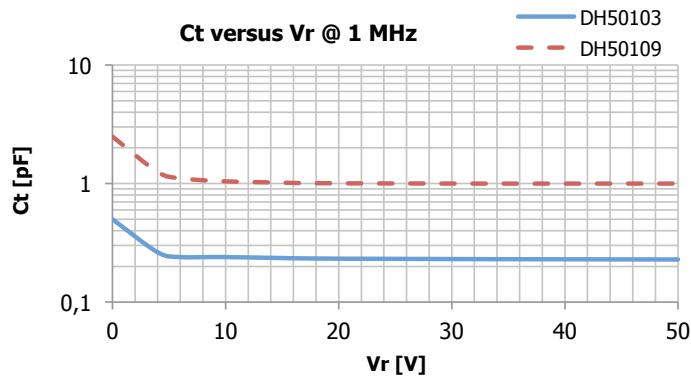
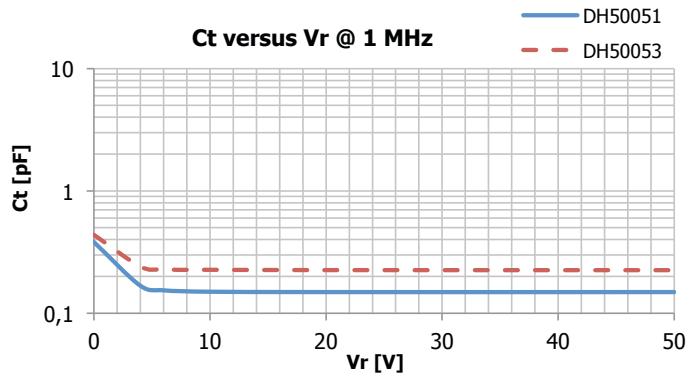
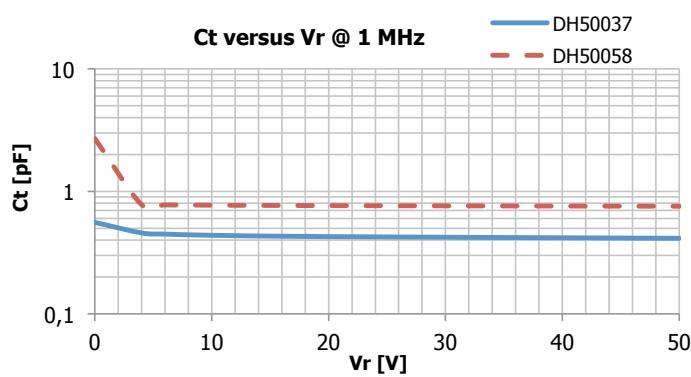
MAXIMUM RATINGS

	Value
Operating temperature (T _j)	- 55°C, +125°C
Storage temperature	- 65°C, +150°C
Dissipated power @ T _{case}	(T _j -T _{case})/R _{th} *

Nota: any operation above these parameters may cause permanent damages. * Contact on infinite copper heatsink

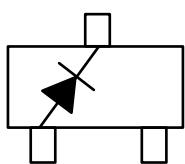


TYPICAL PERFORMANCES @ 25°C

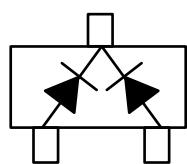


OUTLINE DRAWING

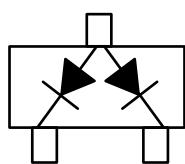
SOT23-51N



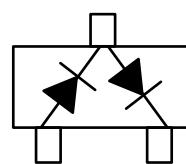
SOT23-53N



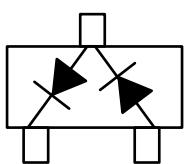
SOT23-54N



SOT23-55N

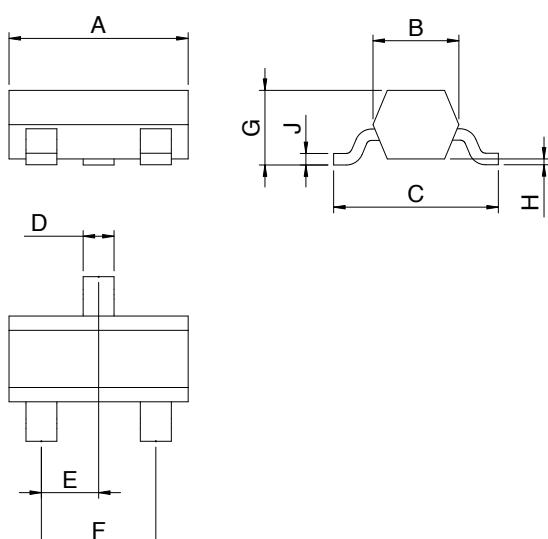


SOT23-56N



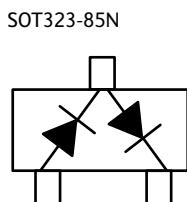
Case style: SOT 23, Cb=0.25pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	2.80	3.04	0.110	0.120
B	1.20	1.40	0.047	0.055
C	2.10	2.64	0.083	0.104
D	0.36	0.50	0.014	0.020
E	0.89	1.02	0.035	0.040
F	1.78	2.03	0.070	0.080
G	0.90	1.17	0.035	0.046
H	0.01	0.15	0.0004	0.006
J	0.08	0.20	0.003	0.008



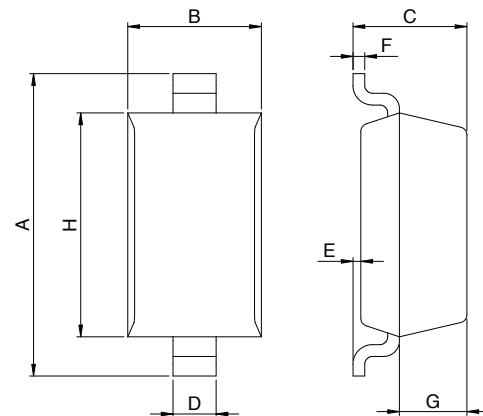
Case style: SOT 323, Cb=0.25pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.80	2.00	0.071	0.079
B	1.15	1.35	0.045	0.053
C	1.90	2.30	0.075	0.091
D	0.25	0.35	0.010	0.014
E	0.60	0.70	0.024	0.028
F	1.25	1.35	0.049	0.053
G	0.80	1.00	0.031	0.039
H	0.01	1.00	0.0004	0.039
J	0.10	0.15	0.004	0.006



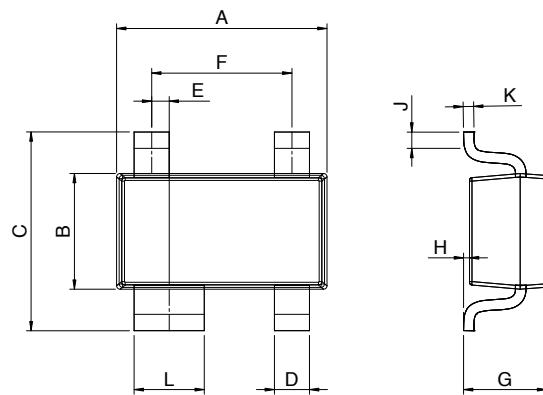
Case style: SOD 323, Cb=0.25pF

Symbol	Millimeters		Inches	
	Typical	Typical	Typical	Typical
A	2.50		0.098	
B	1.25		0.049	
C	1.10		0.043	
D	0.30		0.012	
E	0.05		0.002	
F	0.15		0.006	
G	0.20		0.008	
H	1.70		0.067	



Case style: SOT 143, Cb=0.25pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	2.80	3.02	0.110	0.119
B	1.20	1.40	0.047	0.055
C	2.10	2.54	0.083	0.098
D	0.38	0.51	0.015	0.020
E	0.10	0.30	0.004	0.012
F	1.87	1.97	0.073	0.077
G	0.90	1.10	0.035	0.043
H	0.01	0.10	0.0004	0.004
J	0.15	0.45	0.006	0.018
H	0.90	0.15	0.035	0.006
J	0.76	0.89	0.030	0.035



ORDERING INFORMATION

Parts are delivered in bulk packaging for quantities below 1000 pieces or in tape & reel, indicated by the suffix T1, 1000 pieces per reel or T3, 3000 pieces per reel.

Part number	SOT23-51N	SOT23-53N	SOT23-54N	SOT23-55N	SOT23-56N	SOD323-60N	SOT323-85N	SOT143-70N
DH50037	--	--	--	--	--	--	-85N	--
DH50051	-51N	-53N	--	--	--	--	--	--
DH50058	-51N	-53N	--	--	--	--	--	--
DH50053	-51N	-53N	-54N	-55N	--	--	--	--
DH50103	-51N	-53N	--	--	--	--	--	--
DH50109	-51N	-53N	-54N	-55N	-56N	--	--	--
DH50203	-51N	-53N	--	--	--	--	--	--
DH50209	--	--	--	-55N	-56N	--	--	--
DH80051	-51N	--	--	--	--	--	--	--

Silicon PIN SP2T SP3T RF Switch Diodes

FEATURES

- High power RF switches up to 1kW
- High voltage PIN diodes
- Common cathode or common anode design
- Very low loss and low distortion

DESCRIPTION

The SH series PIN diode switches have been designed for better performances on power, switching speed and VSWR. Switches are designed by selecting silicon diodes and optimizing the assembly for high performance purposes.

APPLICATIONS

Cobham's microelectronics design and manufacturing expertise allow us to propose switches with excellent isolation and low losses. They are ideally suited for signal control in commercial and military applications such as ECM, EW...

ELECTRICAL SPECIFICATIONS @ 25°C: HIGH POWER SP2T

Part number ⁽¹⁾	Package style	Frequency range (MHz)	Insertion Loss (dB)	Isolation (dB)	Input power Pin (W)	suggested Bias conditions		Thermal Resistance (°C/W)
						Forward (mA)	Reverse (V)	
SH90103	BH203 common anode	20-1000	400MHz,100mA 0.35	400MHz, 50V 25	100	200	150	6
SH91103	BH203 common cathode	20-1000	400MHz,100mA 0.35	400MHz, 50V 25	100	200	150	6
SH90107	BH403 common anode	20-500	100MHz,200mA 0.2	100MHz, 100V 33	500	400	600	5
SH91107	BH403 common cathode	20-500	100MHz, 200mA 0.2	100MHz, 100V 33	500	400	600	5
SH90109	BH403 common anode	1.5-50	10MHz, 200mA 0.2	100MHz, 200V 33	1000	500	700	4
SH91109	BH403 common cathode	1.5-50	10MHz, 200mA 0.2	100MHz, 200V 33	1000	500	700	4

(1) Series SH90: common anode; Series SH91: common cathode

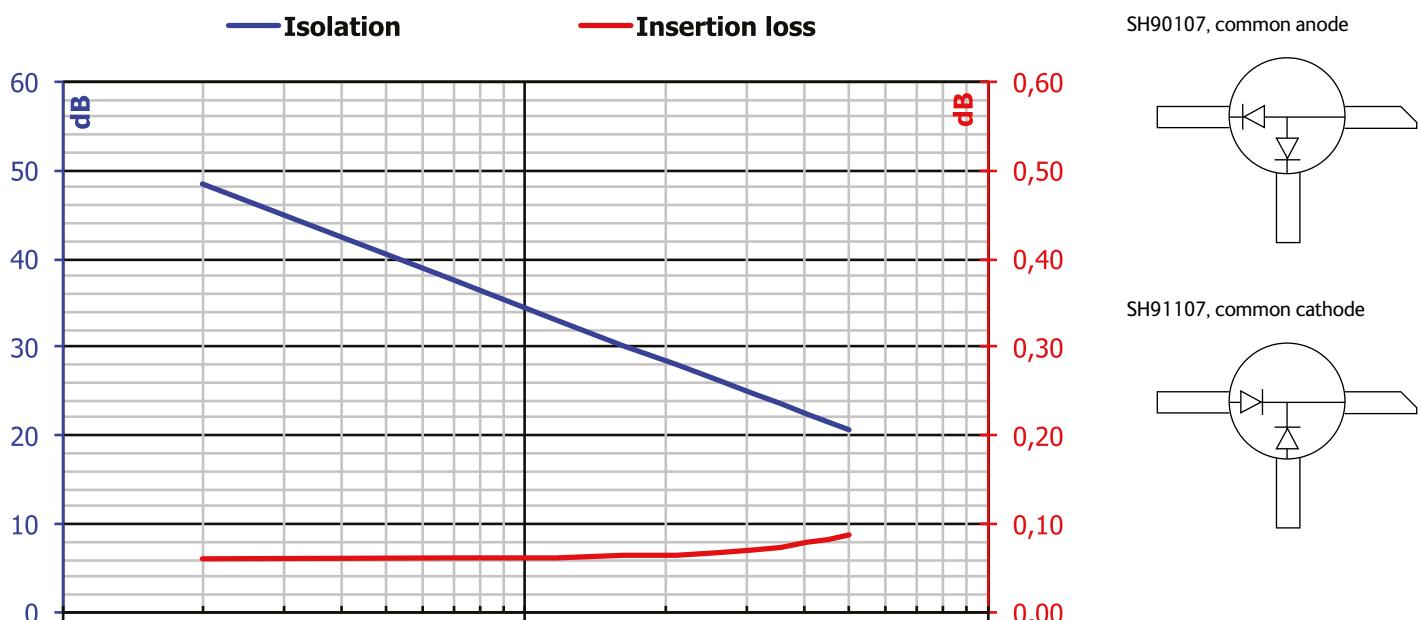
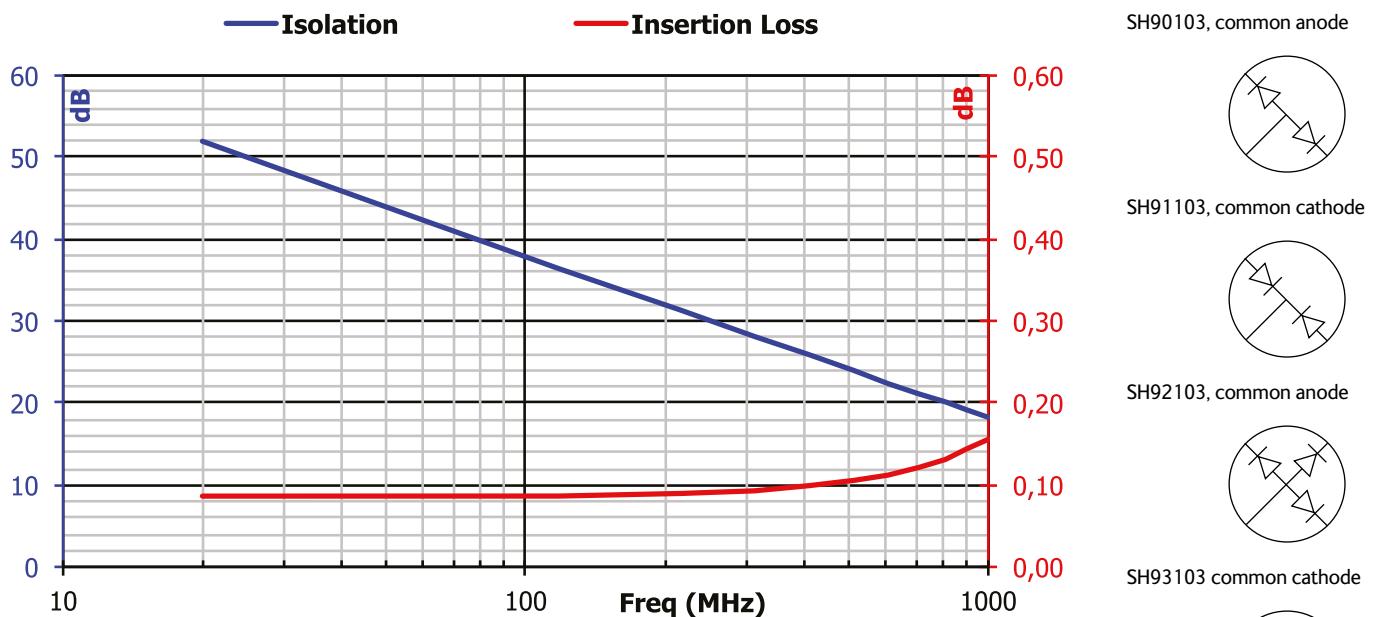
ELECTRICAL SPECIFICATIONS @ 25°C: HIGH POWER SP3T

Part number ⁽¹⁾	Package style	Frequency range (MHz)	Insertion Loss (dB)	Isolation (dB)	Input power Pin (W)	suggested Bias conditions		Thermal Resistance (°C/W)
						Forward (mA)	Reverse (V)	
SH92103	BH204 common anode	20-1000	400MHz,100mA 0.35	400MHz, 0V 25	100	200	150	6
SH93103	BH204 common cathode	20-1000	400MHz,100mA 0.35	400MHz, 0V 25	100	200	150	6

(1) Series SH92: common anode; Series SH93: common cathode



TYPICAL PERFORMANCES @ 25°C



TYPICAL PERFORMANCES @ 25°C



MAXIMUM RATINGS

	Value
Operating temperature (T _j)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Junction temperature	175°C
Dissipated power @ T _{case}	(T _j -T _c)/R _{th}

Note: any operation above these parameters may cause permanent damages.

ORDERING INFORMATION

Part number	BH203	BH204	BH403
SH90103	-06		
SH91103	-07		
SH90107			-01
SH91107			-01
SH92103		-03	
SH93103		-10	
SH90109			-01
SH91109			-01

OUTLINE DRAWING

BH203

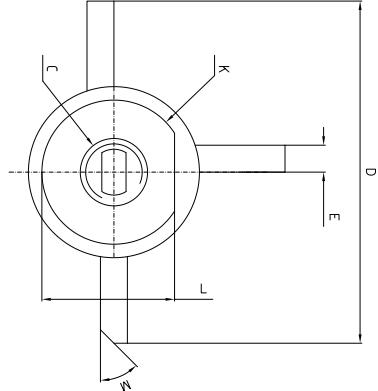
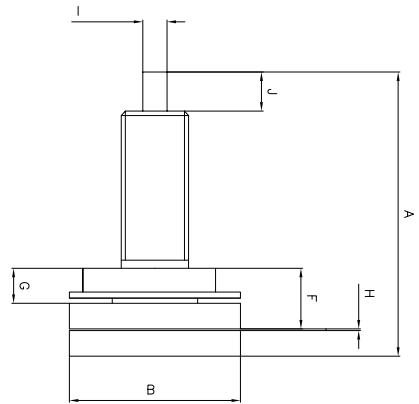
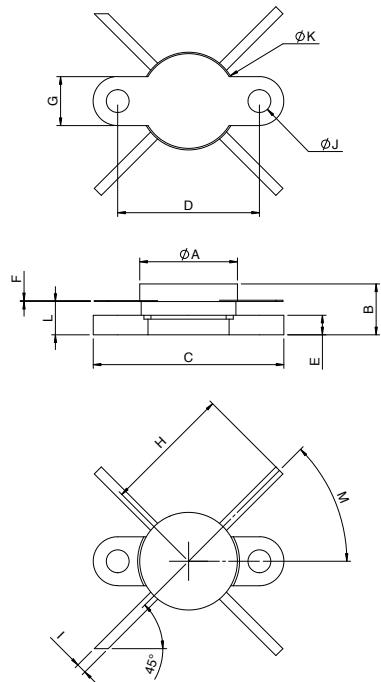
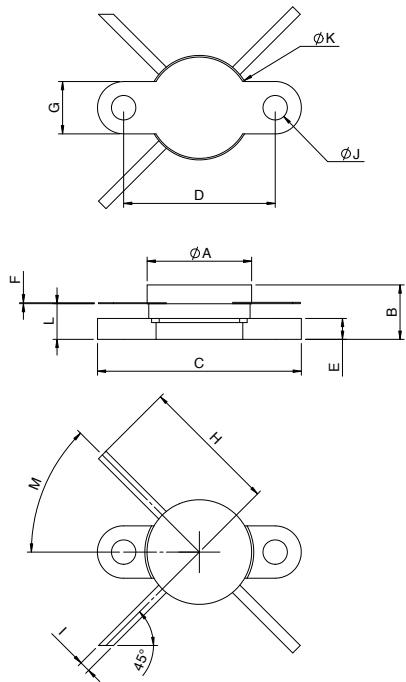
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	12.63	12.83	0.497	0.505
B	6.78	7.19	0.267	0.283
C	24.65	24.9	0.970	0.980
D	18.26	16.67	0.719	0.735
E	2.5	2.67	0.098	0.105
F	0.23	0.27	0.009	0.011
G	6.3	6.4	0.248	0.252
H	16.3	16.7	0.642	0.658
I	1.25	1.29	0.049	0.051
ΦJ	3.1	3.25	0.122	0.128
L	4.12	4.52	0.162	0.178
M°	43	47	-	-

BH204

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	12.63	12.83	0.497	0.505
B	6.78	7.19	0.267	0.283
C	24.65	24.9	0.970	0.980
D	18.26	16.67	0.719	0.735
E	2.5	2.67	0.098	0.105
F	0.23	0.27	0.009	0.011
G	6.3	6.4	0.248	0.252
H	16.3	16.7	0.642	0.658
I	1.25	1.29	0.049	0.051
ΦJ	3.1	3.25	0.122	0.128
L	4.12	4.52	0.162	0.178
M°	43	47	-	-

BH403

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	21.0	21.3	0.826	0.838
ΦB	12.5	12.9	0.492	0.508
ΦC			10-32 UNF 2A	
D	25.3	25.5	0.995	1.004
E	1.90	2.1	0.074	0.026
F	4.4	4.6	0.173	0.181
G	2.5	2.8	0.098	0.110
H	0.1	0.15	0.004	0.005
I	1.57	1.98	0.062	0.078
J	2.7	3.0	0.106	0.118
ΦK	10.46	10.87	0.412	0.428
L	9.68	10.08	0.381	0.397
M	44°	46°	44°	46°



Attenuator PIN Diodes DH40xxx

FEATURES

- Low distortion design
- Plastic or ceramic hermetic package
- RoHS compliant

DESCRIPTION

The DH40xxx series is designed for attenuator using the variation of the Forward series resistance versus the DC forward bias current.

APPLICATIONS

Typical applications include variable RF attenuators and Automated Gain Control (AGC).

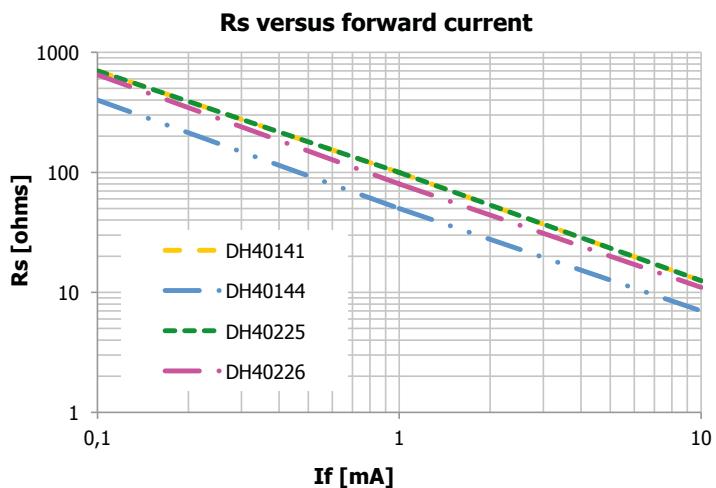
ELECTRICAL SPECIFICATIONS @ 25°C

Part number	I Zone Thickness (µm)	Junction Capacitance C _j @ 1MHz, V _r =50V (pF)		Total Capacitance C _t * plastic package @ 1MHz, V _r =50V (pF)		Total Capacitance C _t * M208 package @ 1MHz, V _r =50V (pF)		Minority carrier Lifetime @ If=10mA, Ir=6mA (µs)
	typ	typ	max	typ	max	typ	max	
DH40141	140	0.05	0.10	0.25	0.35	0.15	0.22	2.5
DH40144	140	0.10	0.30	0.30	0.55	0.20	0.42	5.0
DH40225	220	0.10	0.30	0.30	0.55	0.20	0.42	7.0
DH40226	220	0.10	0.25	0.30	0.5	0.20	0.37	7.0

* Total capacitance $C_t = C_j + C_b$

RS PERFORMANCES @ 25°C

Part number	Series resistance R _s @ 120 MHz (Ω)					
	If=0.1 mA		If=1 mA		If=10 mA	
	min	max	min	max	min	max
DH40141	300	700	50	100	6.0	12.5
DH40144	150	400	25	50	3.0	7.0
DH40225	300	700	50	100	6.0	12.5
DH40226	300	650	50	80	6.0	11



MAXIMUM RATINGS

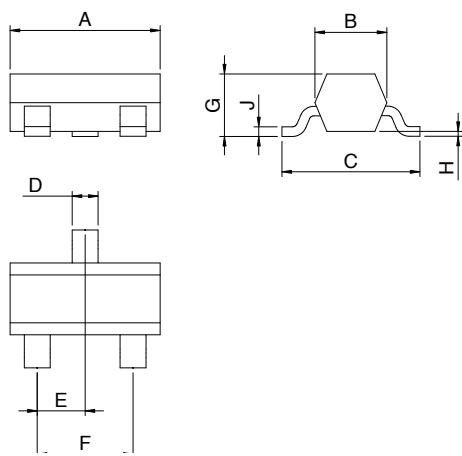
	Value
Operating temperature (T _j)	- 55°C, +125°C*
Storage temperature	- 65°C, +150°C*
Maximum reverse voltage	100 V
Reverse current I _r @ V _r =100V	10 µA

* Values given for plastic packages.

OUTLINE DRAWING

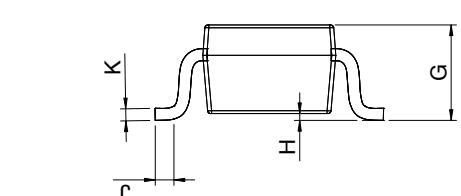
Case style: SOT 23, Cb=0.25pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	2.80	3.04	0.110	0.120
B	1.20	1.40	0.047	0.055
C	2.10	2.64	0.083	0.104
D	0.36	0.50	0.014	0.020
E	0.89	1.02	0.035	0.040
F	1.78	2.03	0.070	0.080
G	0.90	1.17	0.035	0.046
H	0.01	0.15	0.0004	0.006
J	0.08	0.20	0.003	0.008



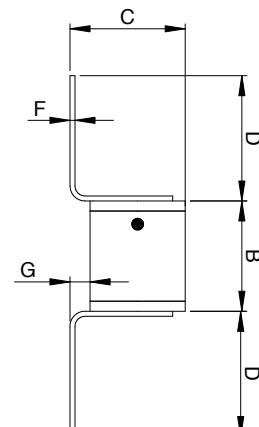
Case style: SOT 143, Cb=0.25pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	2.80	3.02	0.110	0.119
B	1.20	1.40	0.047	0.055
C	2.10	2.54	0.083	0.098
D	0.38	0.51	0.015	0.020
E	0.10	0.30	0.004	0.012
F	1.87	1.97	0.073	0.077
G	0.90	1.10	0.035	0.043
H	0.01	0.10	0.0004	0.004
J	0.15	0.45	0.006	0.018
K	0.90	0.15	0.035	0.006
L	0.76	0.89	0.030	0.035



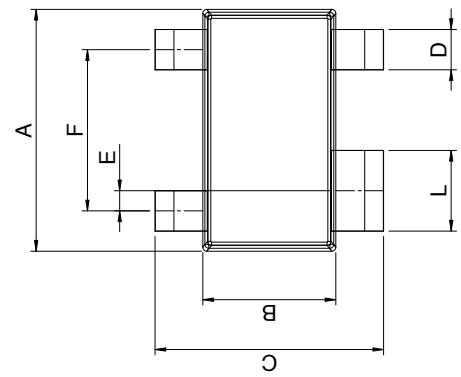
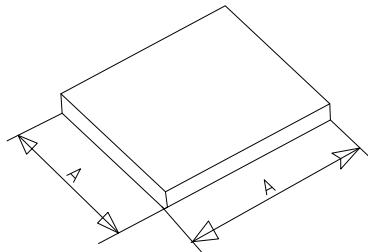
Case style: M208a Cb=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053
C	1.3	1.9	0.052	0.076
D	2.5		0.100	
E	0.55	0.65	0.022	0.026
F	0.06	0.1	0.0024	0.004
G	0.1	0.5	0.004	0.020

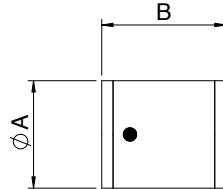


Case style: Die C4

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C4B	0.3	0.4	0.012	0.016
C4C	0.4	0.5	0.016	0.020
C4D	0.5	0.7	0.020	0.028



Case style: M208b



ORDERING INFORMATION

Parts are delivered in bulk packaging for quantities below 1000 pieces or in tape & reel, indicated by the suffix T1 for 1000 pieces per reel or T3 for 3000 pieces per reel.

Part number	SOT23-51N	SOT23-53N	SOT23-55N	SOT143-72	M208a	M208b	Die Part-Number	Die Size
DH40141*	-51N	-53N	-55N	--	-02	-01	EH40141-00	C4B
DH40144	-51N	-53N	-55N	--	-02	--	EH40144-00	C4C
DH40225	-51N	-53N	-55N	--	--	--	EH40225-00	C4D
DH40226	-51N	--	--	-72N	--	--	EH40226-00	C4D

* Available in package SOT323, see drawing page 197, part number DH40141-87N.

Limiter PIN Diodes DH60xxx

FEATURES

- Large Power Handling range : From Clean-up function to High Power
- Low loss on a wide range of frequencies
- Die or package option
- Rugged, hermetically sealed package
- RoHS compliant

DESCRIPTION

Limiter PIN Diodes offer a unique capability to handle moderate to large CW or pulse power. The limiter diode has low loss performances under the threshold power and a power limiting action above. Diodes use silicon epitaxial layers, oxide passivation technology and mesa design for high reliability purposes. Choice of hermetic ceramic packages is proposed for thermal or microwave performances optimization.

APPLICATIONS

This series of diodes operate as power dependent variable resistances and provide passive receiver protection for low noise amplifiers for example.

ORDERING INFORMATION

Packaged diodes delivered in bulk, single box or tape and reel from 1000 units and M208b package.

Part number	M208a	M208b	F27d	Die Part-Number	Die Size
DH60033	-06	-03	-02	EH60033-00	C2A
DH60034	-06	-05	-02	EH60034-00	C2A
DH60035	-02	--	-01	EH60035-00	C2A
DH60036	--	-03	-01	EH60036-00	C2A
DH60037	-06	-02	--	EH60037-00	C2A
DH60052	-02	-03	--	EH60052-00	C2A
DH60053	--	-03	--	EH60053-00	C2A
DH60054	--	-03	-02	EH60054-00	C2A
DH60055	-02	--	--	EH60055-00	C2A
DH60056	--	-01	--	EH60056-00	C2A
DH60057	--	-03	--	EH60057-00	C2A
DH60072	--	-03	--	EH60072-00	C2A
DH60074	-01	--	--	EH60074-00	C2A
DH60076	-02	--	--	EH60076-00	C2A
DH60102	-02	-03	--	EH60102-00	C2A
DH60104	--	-01	--	EH60104-00	C2A
DH60106	-02	-03	-01	EH60106-00	C2A
DH60154	-02	-03	-01	EH60154-00	C2A
DH60202	--	-03	-01	EH60202-00	C2A
DH60204	--	-03	--	EH60204-00	C2A

MAXIMUM RATINGS

	Value
Operating temperature (T _j)	- 55°C, +175°C
Storage temperature	- 65°C, +200°C
Maximum reverse voltage	V _{br} min
Dissipated power @ T _{case}	(T _j -T _{case})/R _{th} *

*Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink.*



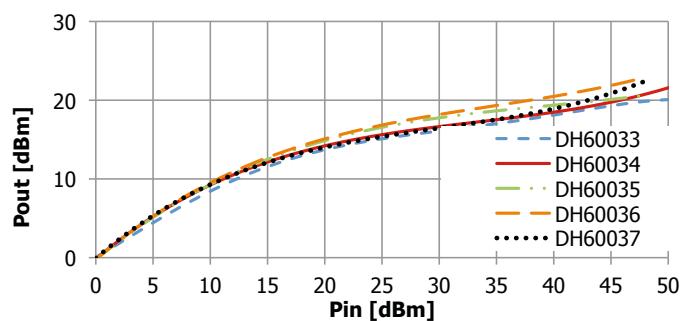
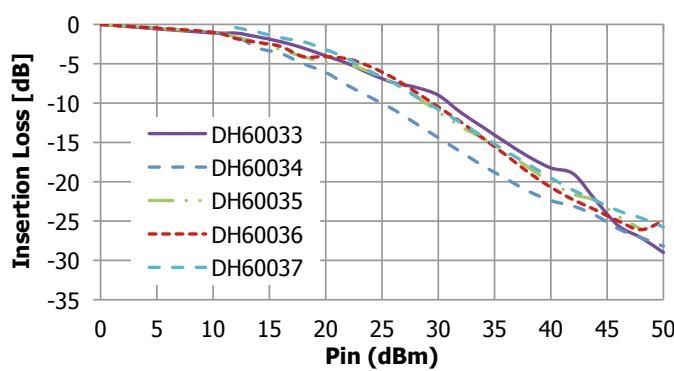
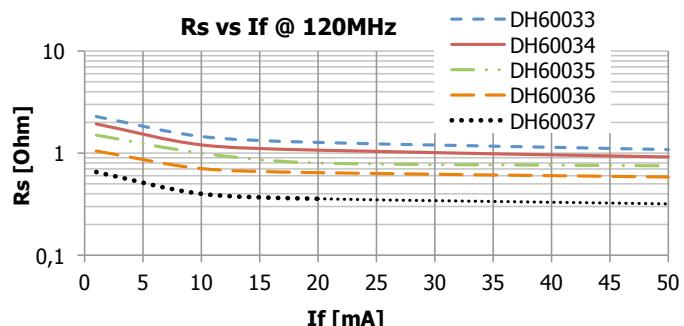
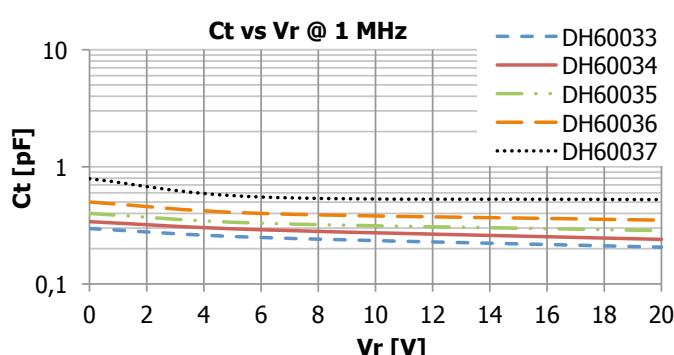
ELECTRICAL SPECIFICATIONS @ 25°C: DH6003X

Part number	Breakdown Voltage Vbr @ Ir=10µA (V)		Junction Capacitance Cj, 1MHz (pF)			Series Resistance Rs @10 mA, 120MHz (Ω)	Carrier Lifetime τl @ If=10 mA, Ir=6mA (ns)	Thermal Resistance Rth @ Pd=1W (°C/W)
			@Vr=0V		@ Vr=6V			
	min	max	typ	typ	max	max	typ	max
DH60033	25	50	0.14	0.10	0.12	1.8	20	80
DH60034	25	50	0.20	0.14	0.17	1.5	20	80
DH60035	25	50	0.28	0.20	0.23	1.0	25	70
DH60036	25	50	0.45	0.30	0.40	0.9	30	60
DH60037	25	50	0.70	0.50	0.60	0.7	40	50

POWER CHARACTERISTICS @ 25°C

Part number	Threshold power Pl @F=2.7 GHz 1dB limiting (dBm)	Leakage Power Pout @F=2.7 GHz (dBm)	Insertion loss II @F=2.7 GHz Pin=-10 dBm (dB)	Peak Power Pin @ pulse=1µs, 1%DC (dBm)	CW power Pin (W)
	typ	typ	typ	max	max
DH60033	10	20	0.1	50	2.0
DH60034	10	20	0.1	50	2.0
DH60035	10	21	0.1	52	2.5
DH60036	10	22	0.2	53	3.0
DH60037	10	23	0.2	56	4.0

TYPICAL PERFORMANCES @25°C



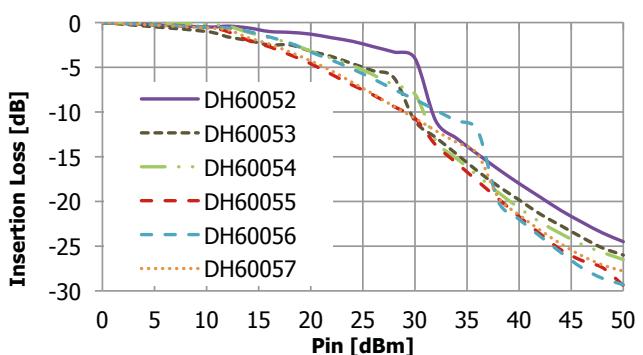
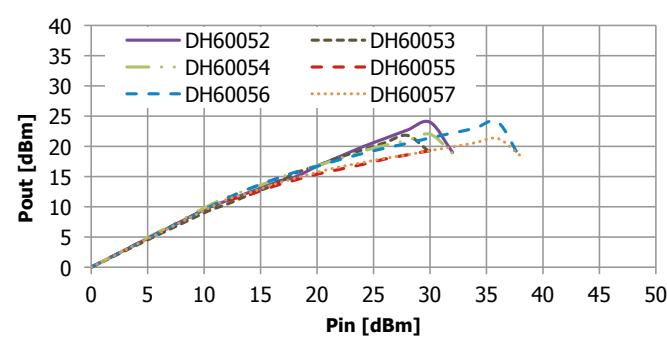
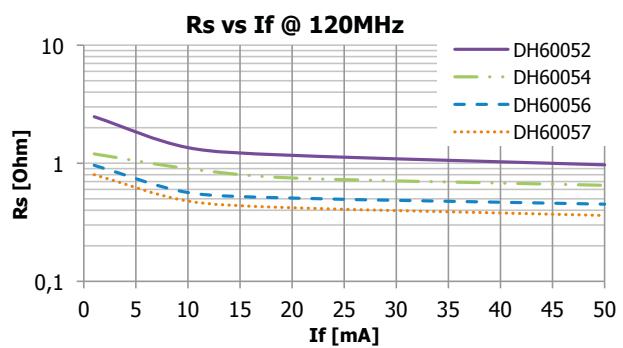
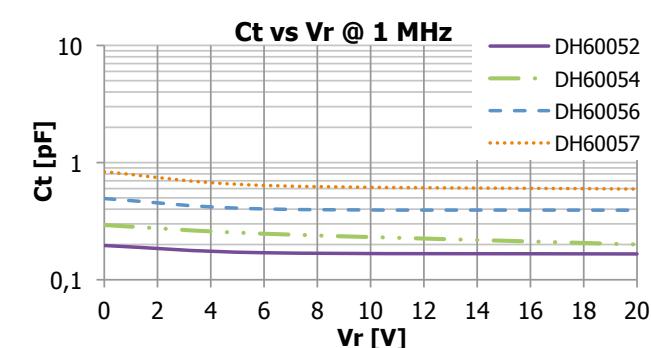
ELECTRICAL SPECIFICATIONS @ 25°C: DH6005X

Part number	Breakdown Voltage Vbr @ Ir=10µA (V)		Junction Capacitance Cj, 1MHz (pF)			Series Resistance Rs @10 mA, 120MHz (Ω)	Carrier Lifetime τl @ If=10 mA, Ir=6mA (ns)	Thermal Resistance Rth @ Pd=1W (°C/W)
			@Vr=0V		@ Vr=6V			
	min	max	typ	typ	max	max	typ	max
DH60052	50	70	0.10	0.07	0.08	1.8	30	80
DH60053	50	70	0.14	0.10	0.12	1.4	30	70
DH60054	50	70	0.20	0.14	0.17	1.1	35	60
DH60055	50	70	0.28	0.20	0.23	1.0	40	50
DH60056	50	70	0.45	0.30	0.40	0.9	50	45
DH60057	50	70	0.70	0.50	0.60	0.8	60	45

POWER CHARACTERISTICS @ 25°C

Part number	Threshold power Pl @F=2.7 GHz 1dB limiting (dBm)	Leakage Power Pout @F=2.7 GHz (dBm)	Insertion loss IL @F=2.7 GHz Pin=-10 dBm (dB)	Peak Power Pin @ pulse=1µs, 1%DC (dBm)	CW power Pin (W)
	typ	typ	typ	max	max
DH60052	15	24	0.1	52	2.5
DH60053	15	24	0.1	52	2.5
DH60054	15	25	0.1	53	3.0
DH60055	15	26	0.1	54	3.5
DH60056	15	27	0.2	57	4.0
DH60057	15	28	0.2	58	5.0

TYPICAL PERFORMANCES @ 25°C



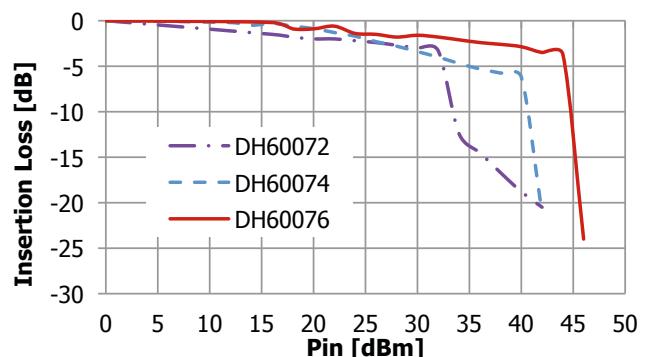
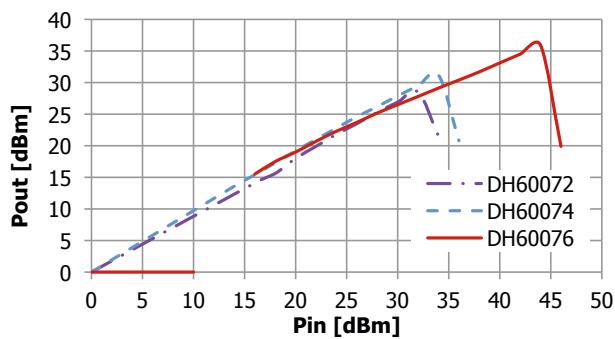
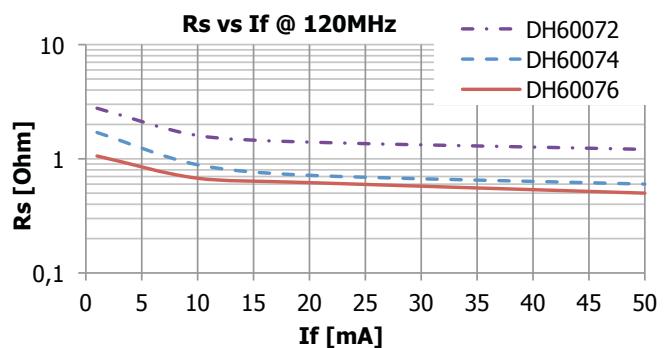
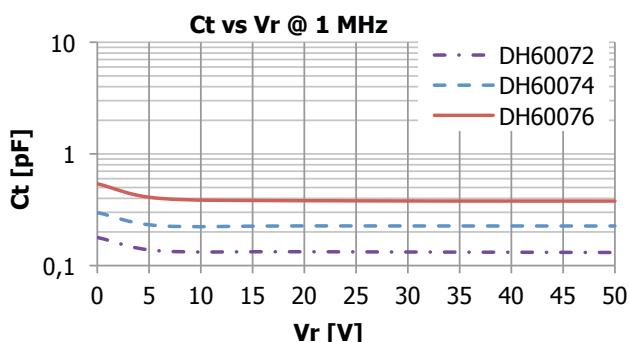
ELECTRICAL SPECIFICATIONS @ 25°C: DH6007X

Part number	Breakdown Voltage Vbr @ Ir=10µA (V)		Junction Capacitance Cj, 1MHz (pF)			Series Resistance Rs @10 mA, 120MHz (Ω)	Carrier Lifetime τl @ If=10 mA, Ir=6mA (ns)	Thermal Resistance Rth @ Pd=1W (°C/W)
			@Vr=0V		@ Vr=6V			
	min	max	typ	typ	max	max	typ	max
DH60072	70	90	0.10	0.07	0.08	1.7	50	70
DH60074	70	90	0.20	0.14	0.17	1.4	60	50
DH60076	70	90	0.45	0.30	0.40	0.9	100	40

POWER CHARACTERISTICS @ 25°C

Part number	Threshold power Pl @F=2.7 GHz 1dB limiting (dBm)	Leakage Power Pout @F=2.7 GHz (dBm)	Insertion loss IL @F=2.7 GHz Pin=-10 dBm (dB)	Peak Power Pin @ pulse=1µs, 1%DC (dBm)	CW power Pin (W)
	typ	typ	typ	max	max
DH60072	18	27	0.1	54	3.0
DH60074	18	30	0.2	55	4.0
DH60076	18	32	0.2	58	5.0

TYPICAL PERFORMANCES @ 25°C



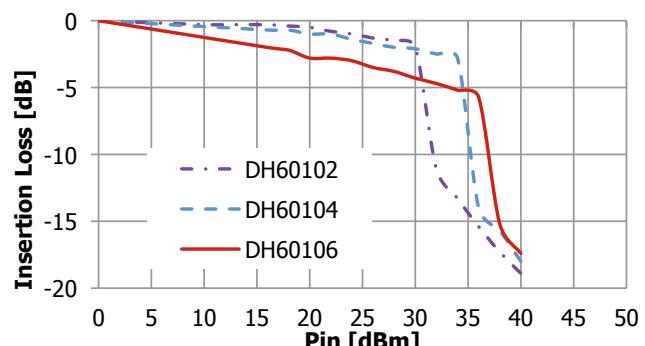
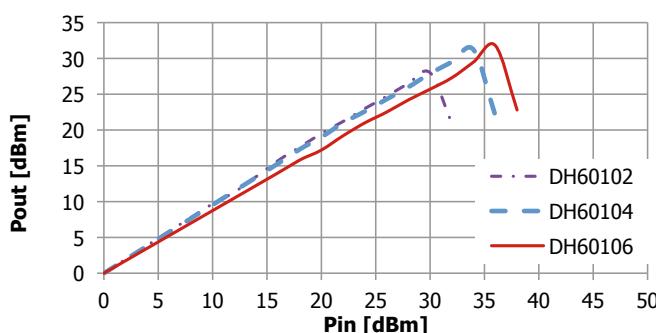
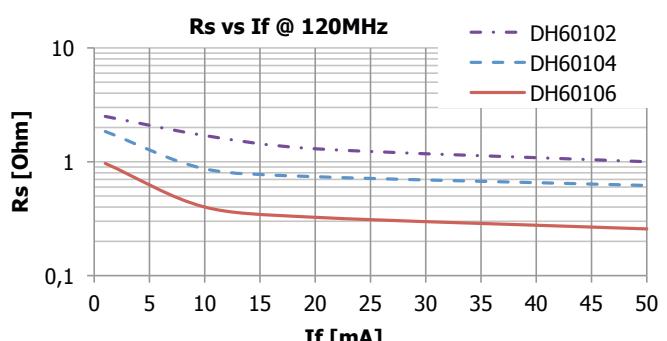
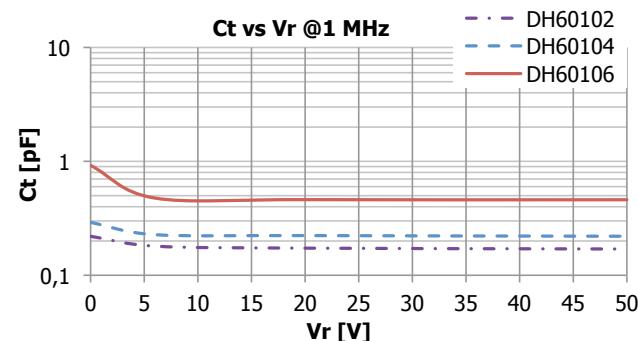
ELECTRICAL SPECIFICATIONS @ 25°C: DH601XX

Part number	Breakdown Voltage Vbr @ Ir=10µA (V)		Junction Capacitance Cj, 1MHz (pF)			Series Resistance Rs @10 mA, 120MHz (Ω)	Carrier Lifetime τl @ If=10 mA, Ir=6mA (ns)	Thermal Resistance Rth @ Pd=1W (°C/W)
			@Vr=0V	@ Vr=6V				
	min	max	typ	typ	max	max	typ	max
DH60102	90	120	0.10	0.07	0.08	1.7	150	60
DH60104	90	120	0.20	0.14	0.17	1.2	250	50
DH60106	90	120	0.45	0.30	0.40	0.8	400	35

POWER CHARACTERISTICS @ 25°C

Part number	Threshold power Pl @F=2.7 GHz 1dB limiting (dBm)	Leakage Power Pout @F=2.7 GHz (dBm)	Insertion loss IL @F=2.7 GHz Pin=-10 dBm (dB)	Peak Power Pin @ pulse=1µs, 1%DC (dBm)	CW power Pin (W)
	typ	typ	typ	max	max
DH60102	20	31	0.2	56	3.5
DH60104	20	33	0.2	59	5.0
DH60106	20	35	0.3	61	7.0

TYPICAL PERFORMANCES @ 25°C



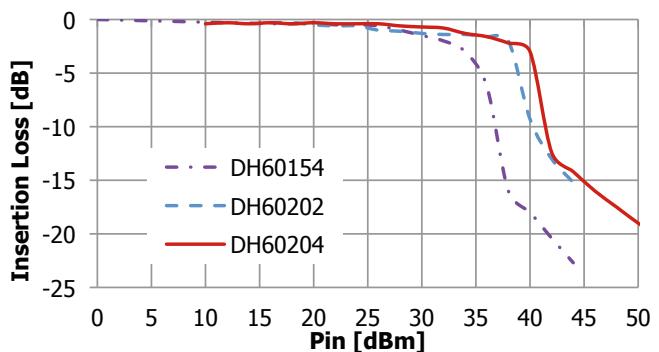
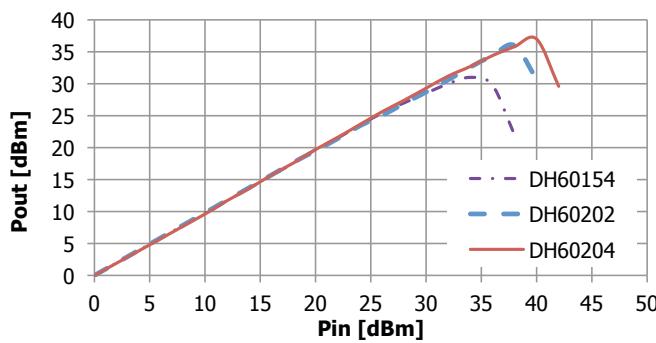
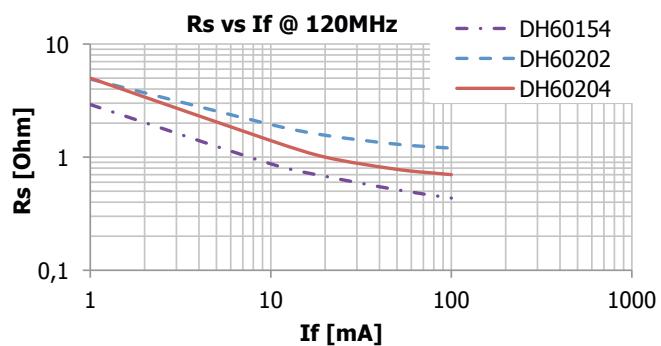
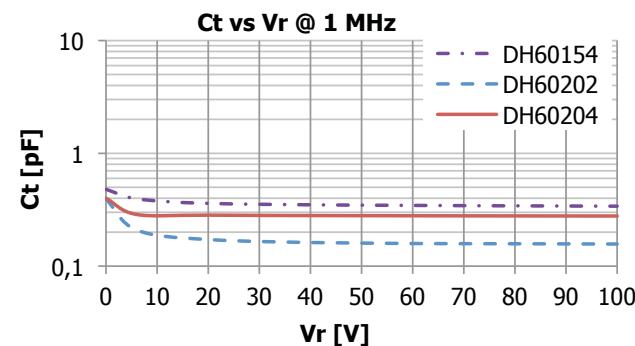
ELECTRICAL SPECIFICATIONS @ 25°C: DH60XXX

Part number	Breakdown Voltage Vbr @ Ir=10µA (V)		Junction Capacitance Cj, 1MHz (pF)			Series Resistance Rs @10 mA, 120MHz (Ω)	Carrier Lifetime τl @ If=10 mA, Ir=6mA (ns)	Thermal Resistance Rth @ Pd=1W (°C/W)
			@Vr=0V		@ Vr=6V			
	min	max	typ	typ	max	max	typ	max
DH60154	140	200	0.40	0.18	0.25	1.2	200	45
DH60202	200	-	0.10	0.07	0.08	2.1	400	60
DH60204	200	-	0.20	0.14	0.17	1.4	900	55

POWER CHARACTERISTICS @ 25°C

Part number	Threshold power Pl @F=2.7 GHz 1dB limiting (dBm)	Leakage Power Pout @F=2.7 GHz (dBm)	Insertion loss IL @F=2.7 GHz Pin=-10 dBm (dB)	Peak Power Pin @ pulse=1µs, 1%DC (dBm)	CW power Pin (W)
	typ	typ	typ	max	max
DH60154	28	30	0.2	60	15
DH60202	26	35	0.2	58	10
DH60204	34	37	0.2	60	15

TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

Case style: M208a C_b=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053
C	1.3	1.9	0.052	0.076
D	2.5	--	0.100	--
E	0.55	0.65	0.022	0.026
F	0.06	0.1	0.0024	0.004
G	0.1	0.5	0.004	0.02

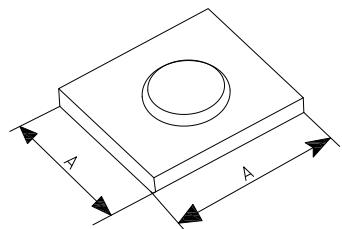
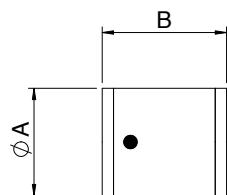
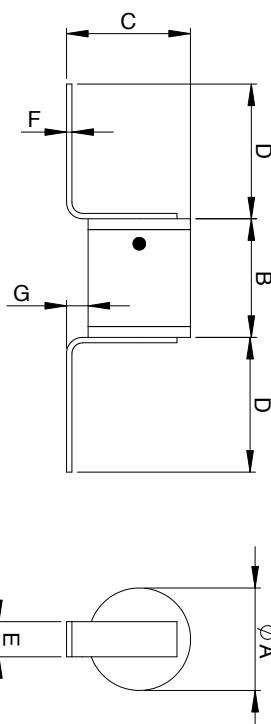
Case style: M208b C_b=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053

Case style: Die C2A

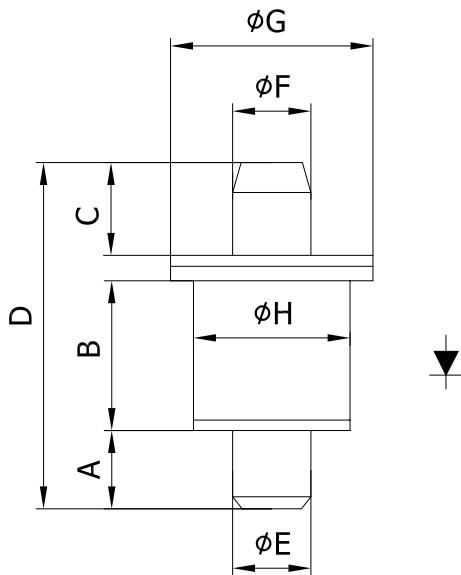
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C2A	0.34	0.4	0.03	0.05

Other connections types on request, see page 195.

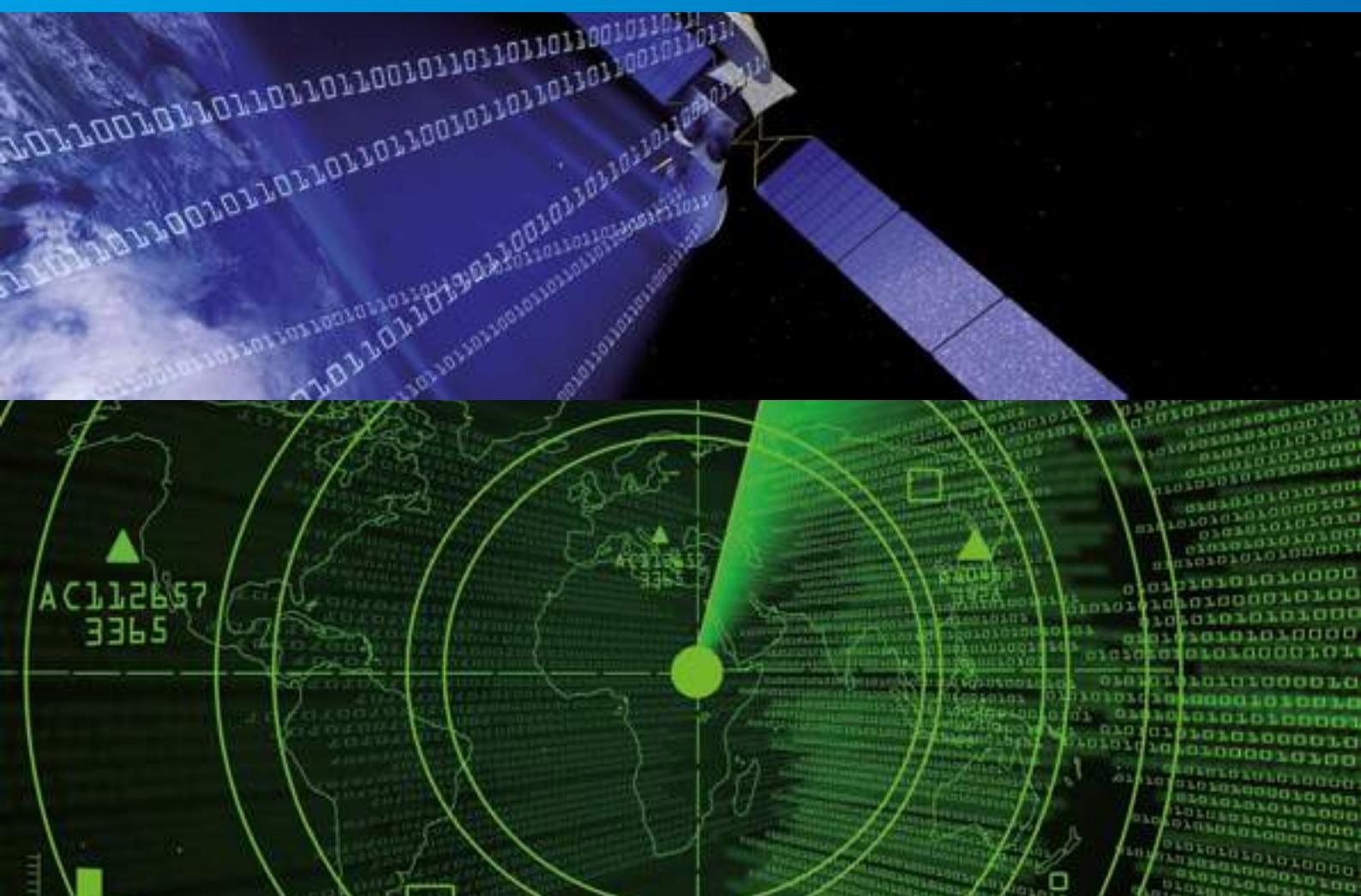


Case style: F27d C_b = 0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.55	1.59	0.061	0.063
B	1.74	1.82	0.069	0.072
C	1.55	1.59	0.061	0.063
D	5.15	5.65	0.202	0.222
ΦE	1.55	1.59	0.061	0.063
ΦF	1.55	1.59	0.061	0.063
ΦG	2.95	3.15	0.116	0.124
ΦH	2.01	2.05	0.079	0.081



Diodes Markets



DFN Limiter Silicon PIN Diodes DH60xxx

FEATURES

- Power Handling: 2.5W CW for DH60035 and 15W CW for DH60154
- Low loss up to 10 GHz
- Low thermal resistance
- Surface mount package
- ROHS compliant
- MSL1 @ 260°C reflow temperature

DESCRIPTION

Limiter PIN Diodes offer a unique capability to handle moderate to large CW or pulse power. The limiter diode has low loss performances under the threshold power and a power limiting action above. Due to their specific mesa design and their main parameters accurately chosen and tightly controlled, these diodes achieve an excellent compromise withstanding high power with low spike and short recovery time as well as low losses under low signal.

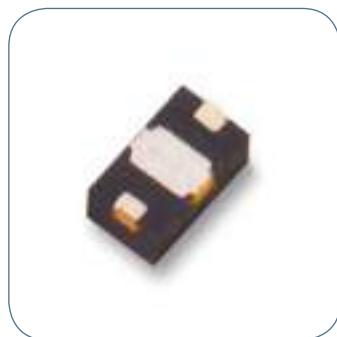
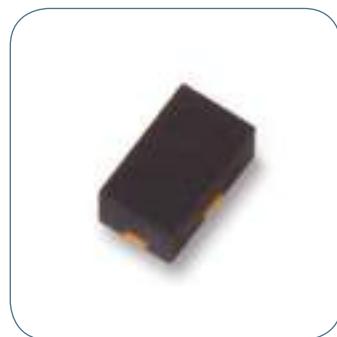
APPLICATIONS

This serie of diodes operates as power dependent variable resistances and provides passive receiver protection (low noise amplifiers, mixers and detectors).

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Breakdown voltage Vbr @ Ir=10µA (V)		Total Capacitance Ct @ Vr=6V, 1MHz (pF)		Series Resistance Rs @ If=10mA, 120MHz (Ω)	Carrier Lifetime τl @ If=10mA, Ir=6 mA (µs)	Thermal Resistance Rth @ Pd=1W (°C/W)
	min	max	typ	max			
DH60035-62N	25	50	0.3	0.35	1.0	25	40
DH60154-62N	140	200	0.3	0.4	1.2	200	40

Part number	Insertion loss IL@ Pin=10dBm F=2GHz		Threshold Power Pin Th @ IL=1dB, F=3.3GHz		Leakage Power Pout @ PIN=50dBm, F=3.3GHz		CW Power Pin CW		Recovery Time Tr	
	typ	typ	typ	typ	typ	max	typ	max	typ	max
DH60035-62N	0.2		10		21		2.5		20	40
DH60154-62N	0.15		25		30		15		40	80

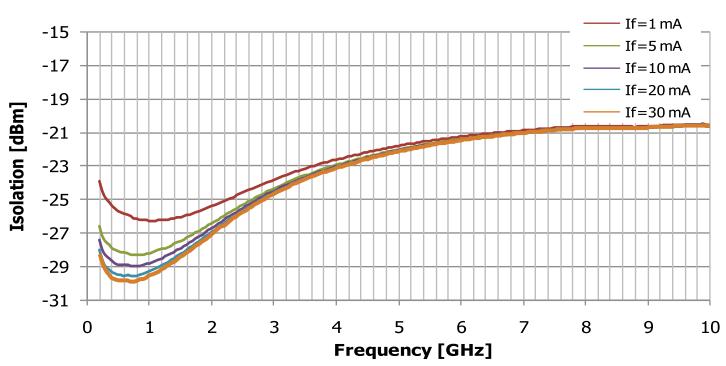
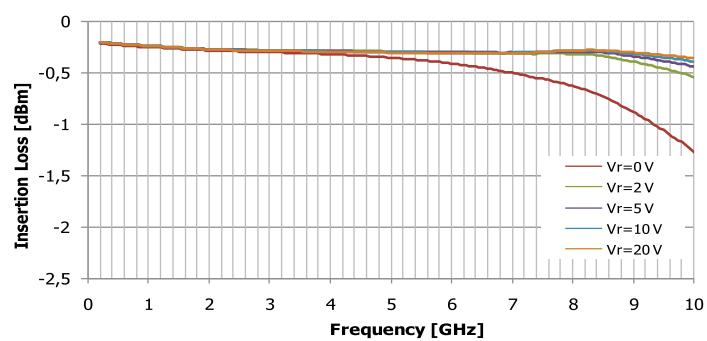
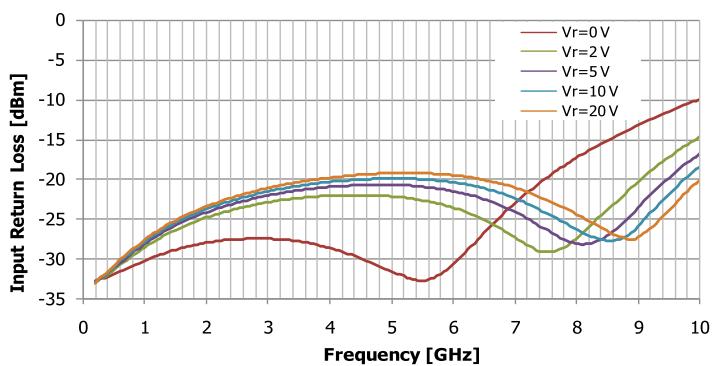
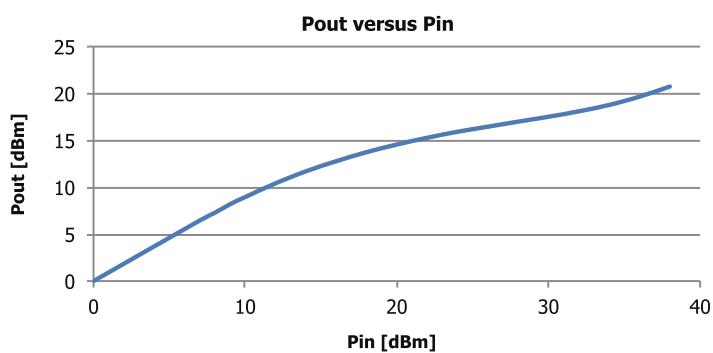


ENVIRONMENTAL SPECIFICATIONS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage DH60035-62N	25 V
DH60154-62N	140 V
Storage temperature	(Tj-Tcase)/Rth*

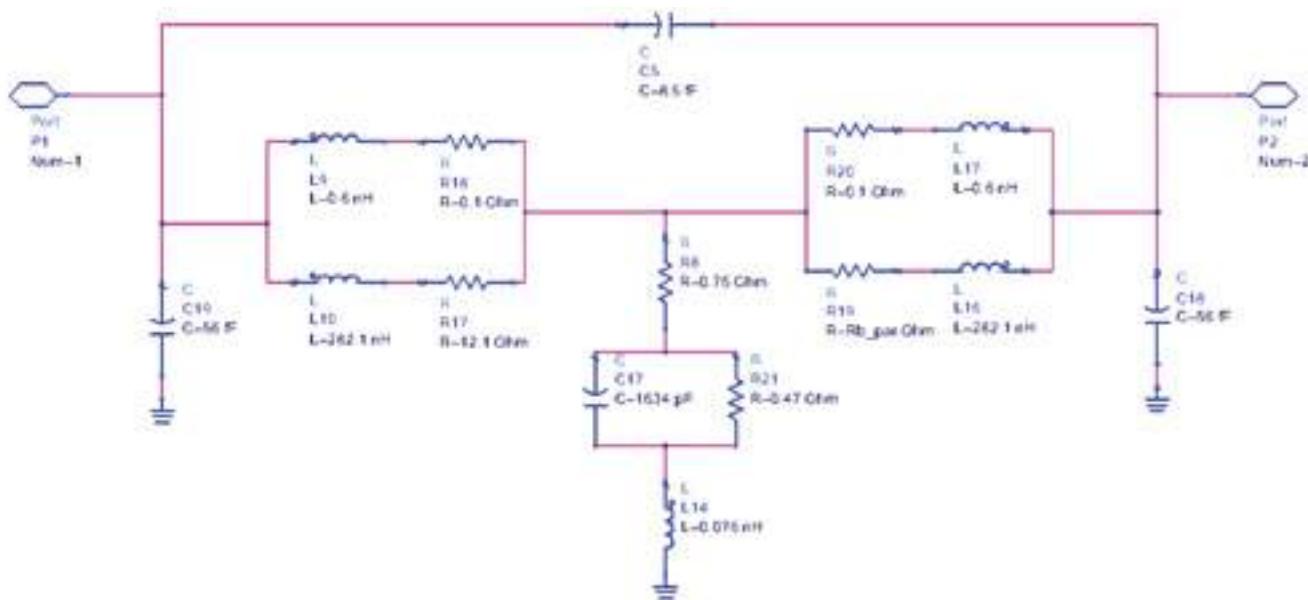
*Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink.*

TYPICAL PERFORMANCES: DH60035-62N

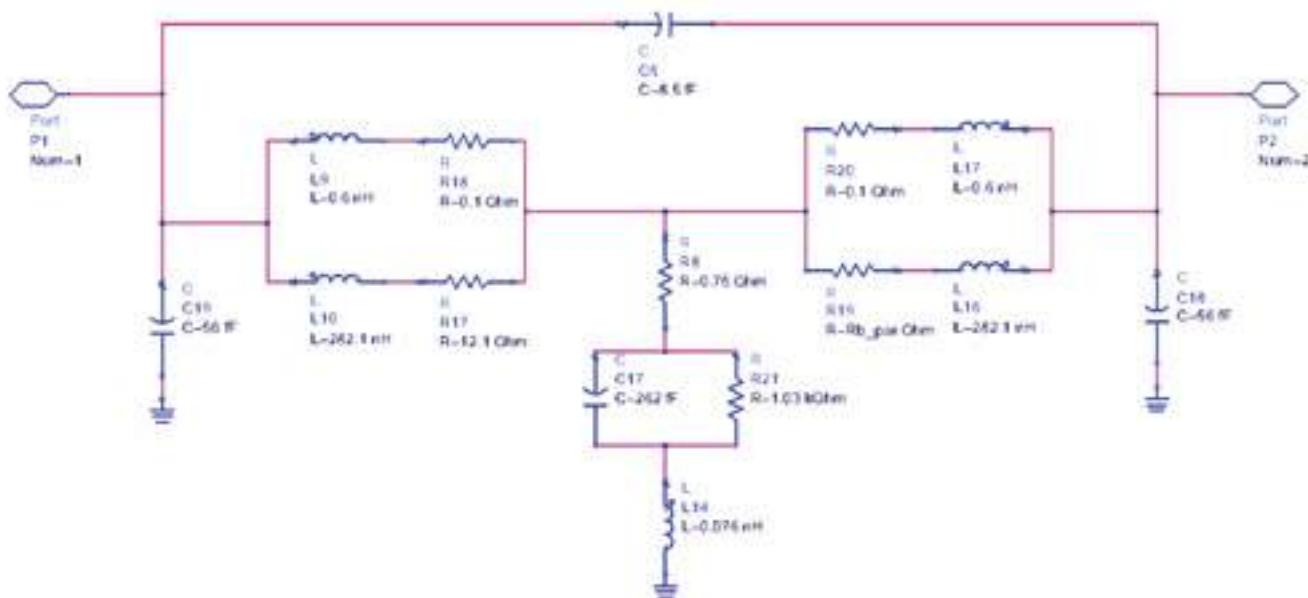


EQUIVALENT MODEL

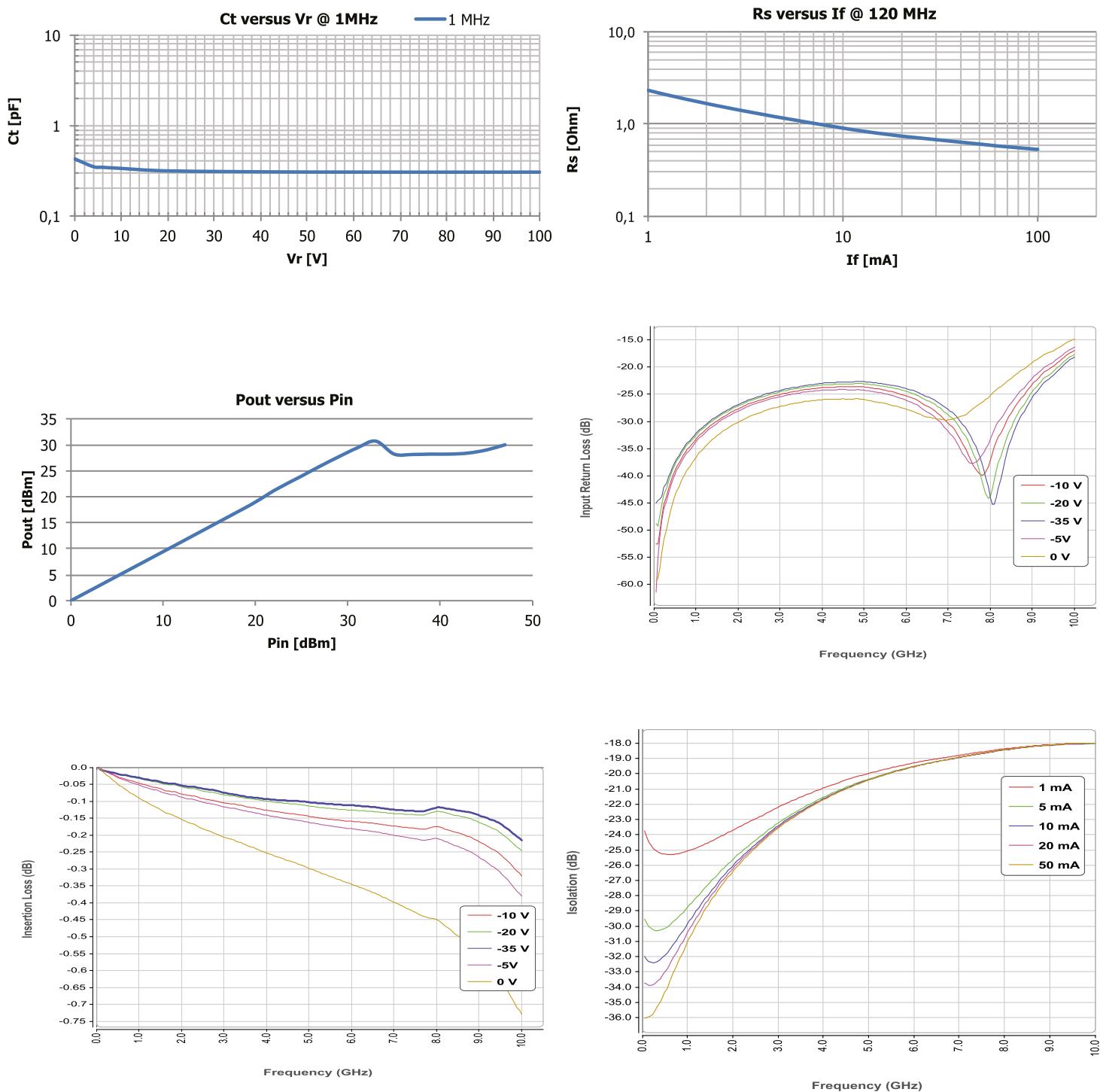
Forward Bias



Reverse Bias

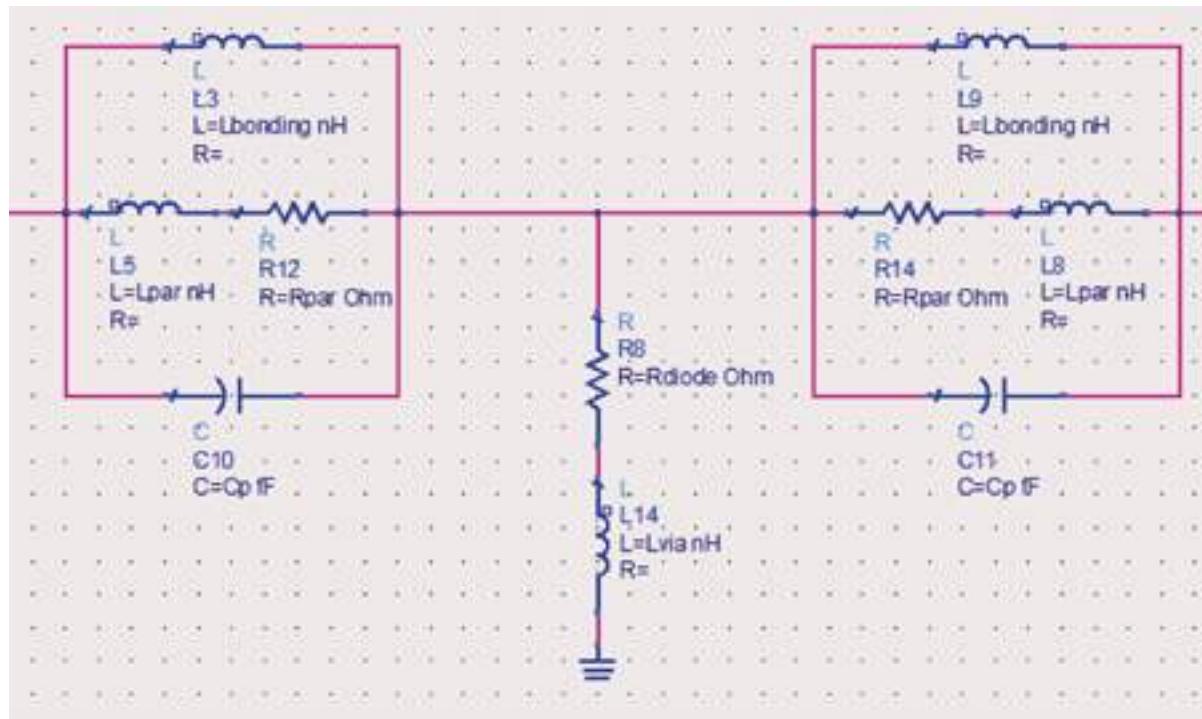


TYPICAL PERFORMANCES: DH60154-62N

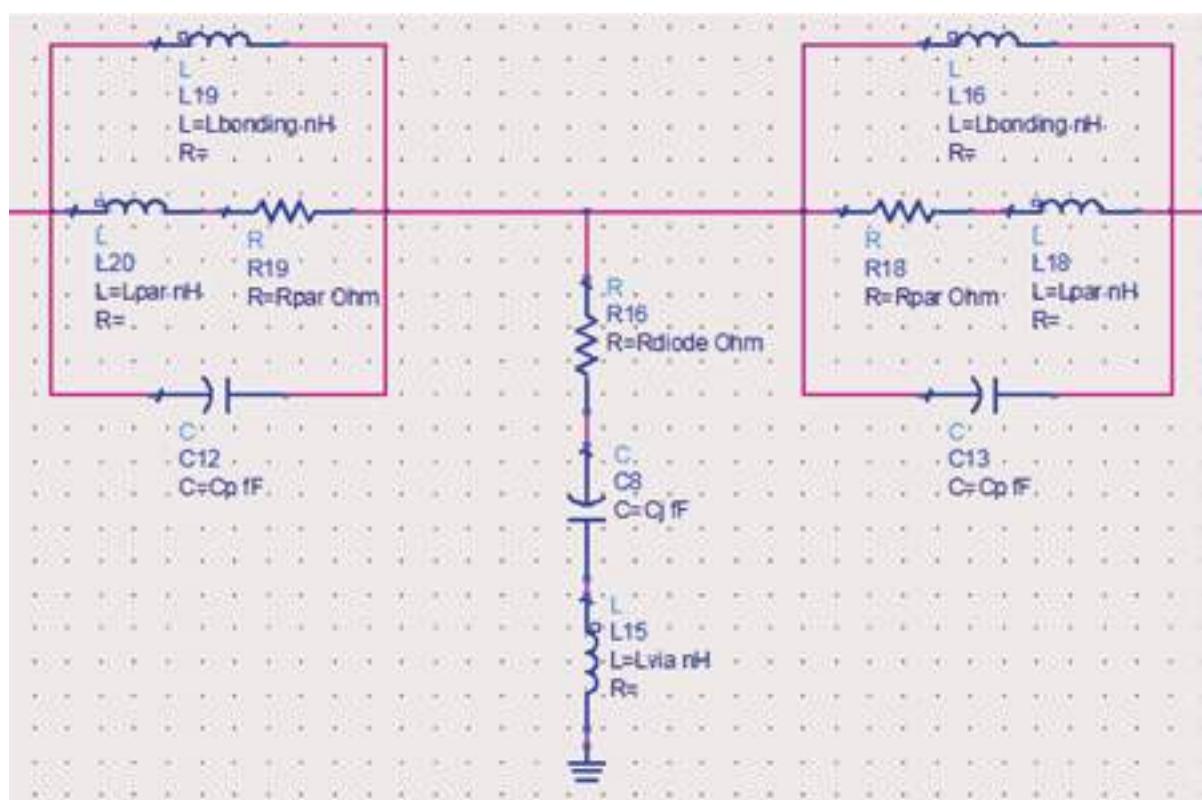


EQUIVALENT MODEL

Forward Bias



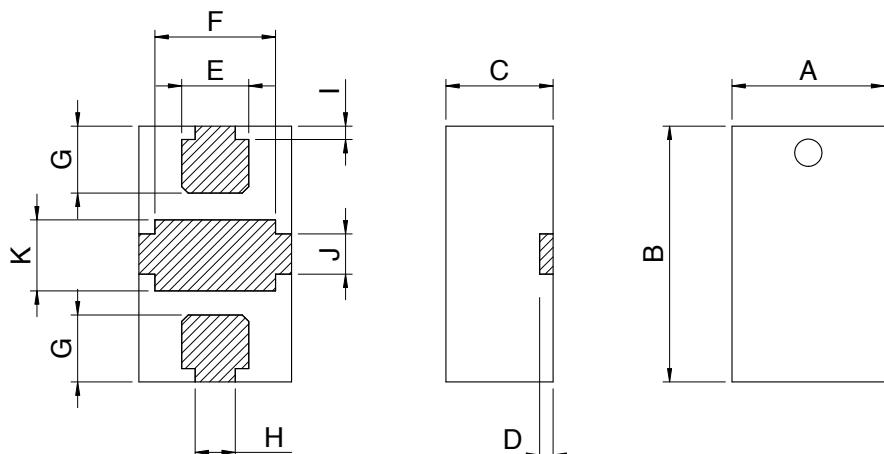
Reverse Bias



OUTLINE DRAWING

Case style: DFN-3L2 Package capacitance $\leq 0.10 \text{ pF}$ Package inductance $\leq 1 \text{ nH}$

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.0	1.25	0.040	0.049
B	1.8	2.0	0.071	0.079
C	0.7	0.9	0.027	0.035
D	Typ. 0.254		Typ. 0.01	
E	Typ. 0.4		Typ. 0.016	
F	Typ. 0.85		Typ. 0.033	
G	Typ. 0.3		Typ. 0.011	
H	Typ. 0.3		Typ. 0.011	
I	Typ. 0.1		Typ. 0.004	
J	Typ. 0.3		Typ. 0.011	
K	Typ. 0.55		Typ. 0.021	



ORDERING INFORMATION

Part number	Package
DH60035-62N	In bulk
DH60154-62N	In bulk
DH60035-62NT1	Tape & reel, 1000 p
DH60154-62NT1	Tape & reel, 1000 p

Silicon Frequency Multiplier Diodes DH2xx

FEATURES

- Frequency multiplier diode
- Output frequency up to Ku band
- Low to high Power Handling
- Silicon epitaxial device
- Die or package option
- Rugged, hermetically sealed package
- RoHS compliant

DESCRIPTION

The DH/EH2XX serie is a Silicon Multiplier Varactor using a silicon epitaxial layer, oxide passivation technology and mesa design for high reliability purposes. It is available as well as naked die or in hermetically sealed packages for thermal or microwave performances optimization.

APPLICATIONS

This serie is specifically designed for harmonic generation of high power levels and/or at high multiplication orders.

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Breakdown Voltage VBR (V)		Junction Capacitance Cj @ Vr=6 V 1MHz (pF)		Carrier Lifetime τ_l @ If=10mA, Ir=6mA (ns)	Snap-off Time Tso @ IF=10mA Vr=10V (ps)
	min	max	min	max		
DH267	15	25	0.2	0.3	6	60
DH292	20	35	0.2	0.5	10	75
DH256	30	45	0.5	1.1	20	120
DH252	40	60	0.9	2.0	35	200
DH294	45	70	4.0	7.0	125	400

Part number	Total Capacitance Ct @ Vr=6 V 1MHz M208 (pF)		Total Capacitance Ct @ Vr=6 V 1MHz F27d (pF)		Termal Resistance Rth °C/W	Output Frequency Fout (GHz)	Output Power (Multiplication order 2) Po (W)
	min	max	min	max			
DH267	0.28	0.42	0.34	0.5	100	10-25	0.2
DH292	0.28	0.62	0.34	0.7	70	8-16	0.6
DH256	0.58	1.22	0.64	1.3	60	5-12	2.0
DH252	0.98	2.12	1.04	2.2	50	2-8	3.0
DH294	4.08	7.12	4.14	7.2	40	0.2-2	5.0



MAXIMUM RATINGS

	Value
Operating temperature (T _j)	- 55°C, +175°C
Storage temperature	- 65°C, +200°C
Maximum reverse voltage	VBR min
Dissipated power @ T _{case}	(T _j -T _{case})/R _{th} *

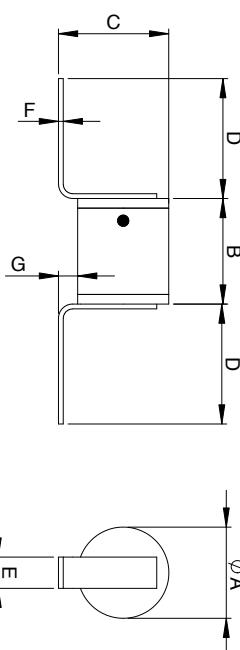
Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink.

OUTLINE DRAWING

Case style: M208a C_b=0.12pF

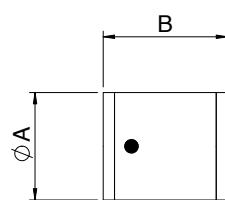
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053
C	1.3	1.9	0.052	0.076
D	2.5	--	0.100	--
E	0.55	0.65	0.022	0.026
F	0.06	0.1	0.0024	0.004
G	0.1	0.5	0.004	0.02

Other connections types on request



Case style: M208b C_b=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053

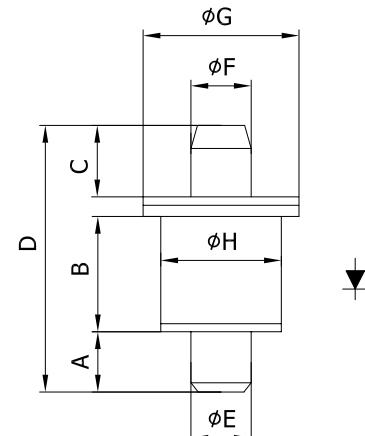
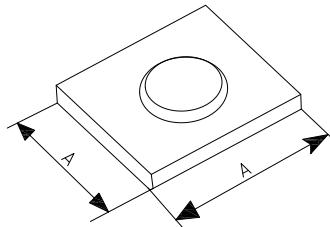


Case style: F27d C_b=0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.55	1.59	0.061	0.063
B	1.74	1.82	0.069	0.072
C	1.55	1.59	0.061	0.063
D	5.15	5.65	0.202	0.222
ΦE	1.55	1.59	0.061	0.063
ΦF	1.55	1.59	0.061	0.063
ΦG	2.95	3.15	0.116	0.124
ΦH	2.01	2.05	0.079	0.081

Case style: Die C2A

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C2A	0.34	0.4	0.013	0.016
C2B	0.44	0.6	0.017	0.024



ORDERING INFORMATION

Part Number	M208a	M208b	F27d	BH142a	Die Part Number	Die size
DH267	--	-41	--	--	EH267 -00	C2A
DH292	-88	-105	-00	--	EH292 -00	C2A
DH256	--	-57	-00	--	EH256 -00	C2A
DH252	--	-01	-00	--	EH252 -00	C2A
DH294	-28	--	--	-27	EH294 -00	C2B

Other packages available on request.

Silicon Multiplier PIN Diodes, DFN 2L0603

FEATURES

- Frequency multiplier diode
- Silicon epitaxial device
- Surface mount package
- ROHS compliant
- MSL1 @ 260°C reflow temperature

DESCRIPTION

The DH267 and DH294 series are Silicon Multiplier Varactors using a mesa design and an oxide passivation. They are designed for harmonic generation of low or high power levels and high multiplication orders when surface mounting are required for cost effective solution.

APPLICATIONS

Their excellent characteristics allow predictable superior performances in low or high power harmonic generation.

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Breakdown Voltage V _b r @ I _r = 10µA		Total Capacitance C _t @ V _r =6V, 1MHz (pF)		Minority Carrier Lifetime T _l @ I _f =10mA, I _r =6mA (ns)	Snap off Time T _{so} @ I _f =10mA, V _r =10V (ps)	Thermal Resistance R _{th} @ P _d =0.5W (°C/W)	Output Frequency F _o (GHz)	Output Power (Multiplication order 2) P _o (W)
	min	max	min	max					
DH267 -96N*	15	30	-	0.4	6	60	100	10-25	0.2
DH294 -96N	45	70	4.0	7.1	125	400	40	0.2-2	1.5

* Also available in package DFN2L0503, see drawing page 192, part number DH267-97N.

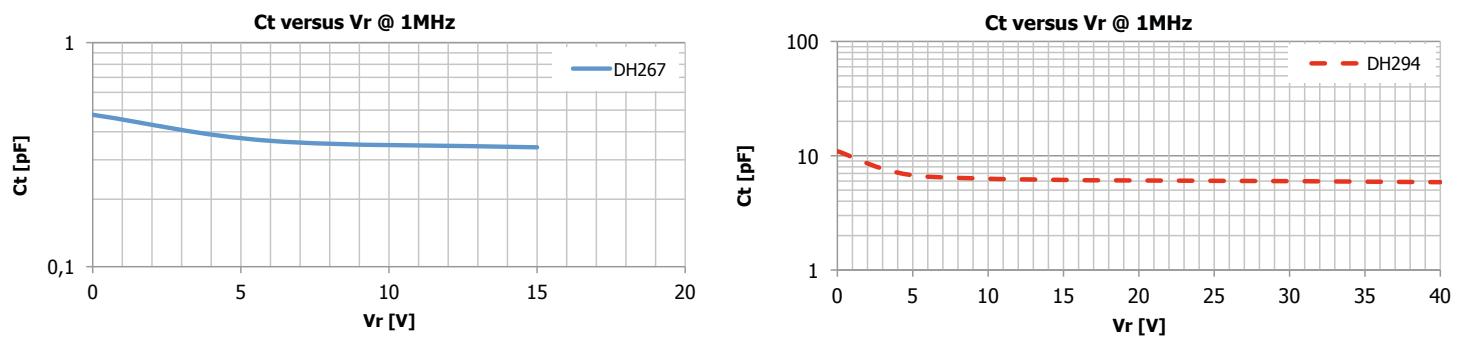
MAXIMUM RATINGS

	Value
Operating temperature (T _j)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Reverse voltage DH267-96N	15 V
DH294 -96N	45 V
Dissipated power @ T _{case}	(T _j -T _{case})/R _{th} *

Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink.



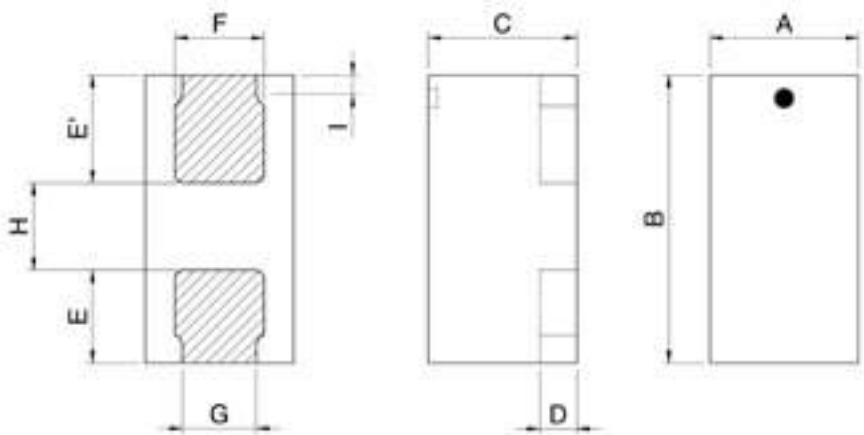
TYPICAL PERFORMANCES @ 25°C



OUTLINE DRAWING

Case style: DFN-2L0603 Package capacitance $\leq 0.10 \text{ pF}$ Package inductance $\leq 1 \text{ nH}$

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	0.70	0.90	0.027	0.035
B	1.45	1.65	0.057	0.065
C	0.70	0.90	0.027	0.035
D	Typ. 0.254		Typ. 0.01	
E	Typ. 0.50		Typ. 0.020	
E'	Typ. 0.58		Typ. 0.023	
F	Typ. 0.48		Typ. 0.019	
G	Typ. 0.40		Typ. 0.016	
H	Typ. 0.47		Typ. 0.019	
I	Typ. 0.10		Typ. 0.004	



ORDERING INFORMATION

Part number	Package
DH267-96N	In bulk
DH294-96N	In bulk
DH267-96NT1	Tape & reel, 1000 p
DH294-96NT1	Tape & reel, 1000 p

Step Recovery Diodes: DH54x-xx

FEATURES

- Step recovery diode
- Low Power Handling
- Die or package option
- Rugged, hermetically sealed package
- RoHS compliant

DESCRIPTION

The DH54x-xx series is a SRD diode specifically designed for frequency multiplier applications. These diodes use mesa technology and oxide passivation. It is available as well as naked die or in hermetically sealed packages for thermal or microwave performances optimization.

APPLICATIONS

These diodes support applications such as:

- Very short pulse generation
- Ultra fast waveform shaping
- Comb generation
- High order multiplication at moderate power ratings

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Breakdown voltage VBR (V)	Junction Capacitance Cj @ Vr=6 V 1MHz (pF)	Total Capacitance Ct* @ Vr=6 V 1MHz (pF)	Thermal resistance Rth* @ Pd=1W (°C/W)	Carrier Lifetime τl @ If=10mA, Ir=6mA (ns)	Snap-off time tso @ IF=10mA Vr=10V (ps)	
	min	max	max	max	min	typ	max
DH545	25	0.4	0.6	70	10	75	100
DH543	30	1.0	1.2	40	20	90	140
DH542	50	1.5	1.7	25	40	150	250

* Values given for F27d package.

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +175°C
Storage temperature	- 65°C, +200°C
Maximum reverse voltage	VBR min
Dissipated power @ Tcase	(Tj-Tcase)/Rth *

Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink.



OUTLINE DRAWING

Case style: M208a Cb=0.12pF

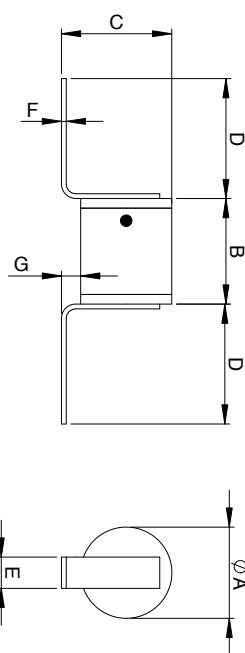
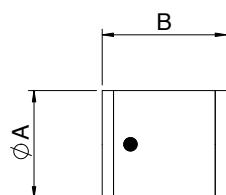
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053
C	1.3	1.9	0.052	0.076
D	2.5	-	0.100	-
E	0.55	0.65	0.022	0.026
F	0.06	0.1	0.0024	0.004
G	0.1	0.5	0.004	0.02

Case style: M208b Cb=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053

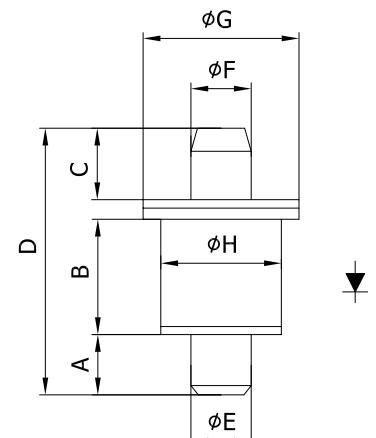
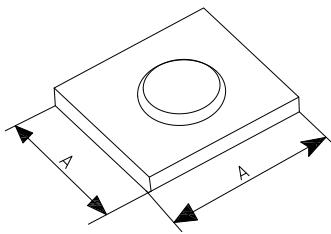
Case style: F27d Cb=0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.55	1.59	0.061	0.063
B	1.74	1.82	0.069	0.072
C	1.55	1.59	0.061	0.063
D	5.15	5.65	0.202	0.222
ΦE	1.55	1.59	0.061	0.063
ΦF	1.55	1.59	0.061	0.063
ΦG	2.95	3.15	0.116	0.124
ΦH	2.01	2.05	0.079	0.081



Case style: Die C2A

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C2A	0.34	0.4	0.013	0.016



ORDERING INFORMATION

Part Number	M208a	M208b	F27d	Die Part Number	Die size
DH542	--	--	--	EH542-00	C2A
DH543	--	--	-01	EH543-00	C2A
DH545	-11	-01	--	EH545-00	C2A

Other packages available on request.

Plastic Step Recovery Diodes DH54x-xx

FEATURES

- Step recovery diode
- Low Power Handling
- Low cost
- Surface mount diode
- RoHS compliant

DESCRIPTION

The DH54x is a SRD diode specifically designed for frequency multiplier applications. This diode uses mesa technology and oxide passivation. It is available in plastic packages designed for low cost medium to high volume market. It can be supplied in tape and reel for automated pick and place assembly on surface mount circuit boards.

APPLICATIONS

These diodes support applications such as:
• Very short pulse generation
• Ultra fast waveform shaping
• Comb generation
• High order multiplication at moderate power ratings

ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Breakdown Voltage Vbr (V)	Total Capacitance Ct @ Vr=6 V 1MHz (pF)	Carrier Lifetime Tl @ If=10mA, Ir=6mA (ns)	Snap-off Time Tso @ IF=10mA, Vr=10V (ps)	
				min	max
DH545	25	0.65	10	75	100
DH543	30	1.25	20	90	140

MAXIMUM RATINGS

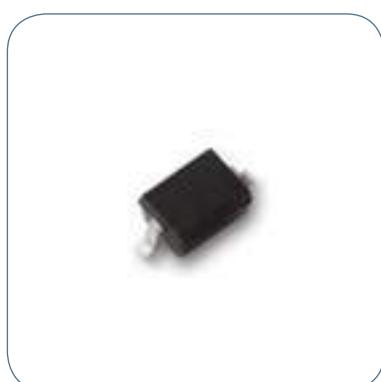
	Value
Operating temperature (Tj)	- 55°C, +125°C
Storage temperature	- 65°C, +150°C
Maximum reverse voltage	Vbr min
Dissipated power @ Tcase	(Tj-Tcase)/Rth*

*Note: any operation above these parameters may cause permanent damages. * Contact on infinite copper heatsink*

ORDERING INFORMATION

Part Number	SOT23-51N	SOT23-53N	SOD323-60N
DH545	-51N	--	-60N
DH543	-51N	--	--

Ordering reference is according the following table,
Parts are delivered in bulk packaging for quantities below 1000 pieces or in tape & reel, indicated by the suffix T1 for 1000 pieces per reel or T3 for 3000 pieces per reel.

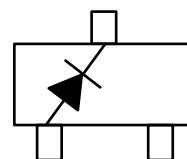


OUTLINE DRAWING

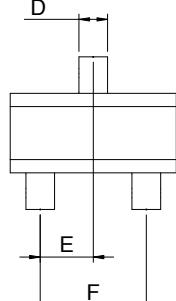
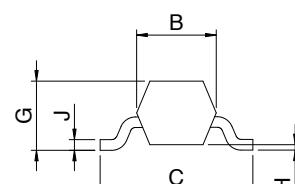
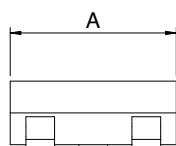
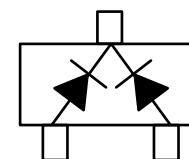
Case style: SOT23, Cb=0.25pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	2.80	3.04	0.110	0.120
B	1.20	1.40	0.047	0.055
C	2.10	2.64	0.083	0.104
D	0.36	0.50	0.014	0.020
E	0.89	1.02	0.035	0.040
F	1.78	2.03	0.070	0.080
G	0.90	1.17	0.035	0.046
H	0.01	0.15	0.0004	0.006
J	0.08	0.20	0.003	0.008

SOT23-51N

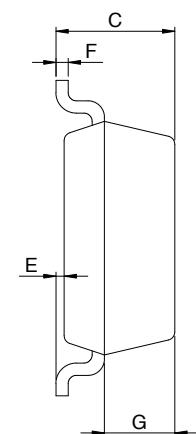
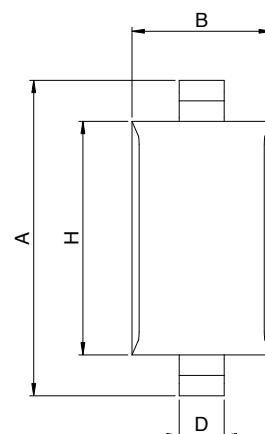


SOT23-53N



Case style: SOD323, Cb=0.25pF

Symbol	Millimeters		Inches	
	Typical	Typical	Typical	Typical
A	2.50		0.098	
B	1.25		0.049	
C	1.10		0.043	
D	0.30		0.012	
E	0.05		0.002	
F	0.15		0.006	
G	0.20		0.008	
H	1.70		0.067	



Anti Parallel PIN Diodes DH52076 & DH54076

FEATURES

- Anti Parallel pair Design
- BH61 Surface Mount package
- BH60 package with leads
- Dedicated to MRI market
- Non magnetic package
- ROHS compliant
- MSL1 @ 260°C reflow temperature

DESCRIPTION

DH52076 and DH54076 series are designed with one or two set of two Silicon PIN diodes in anti parallel configuration.

APPLICATIONS

These diodes are dedicated to MRI market. Their role is to tune and de-tune a resonant circuit while the anti-parallel design provides a high RF power handling.

ELECTRICAL SPECIFICATIONS @ 25°C

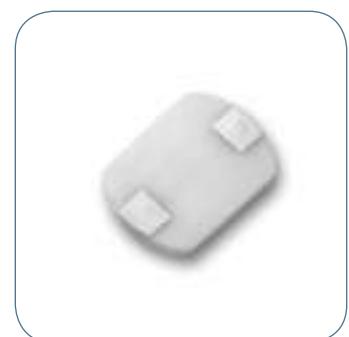
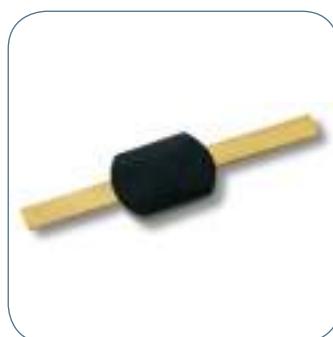
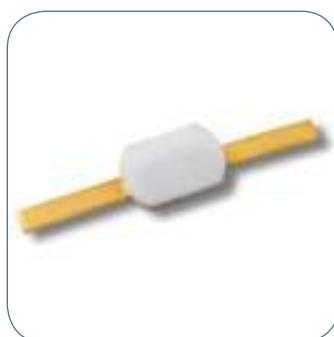
	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C ¹	Ir	Vr=70 V			10	µA
		DH52076				
Total capacitance ²	Ct	Vr=0V, F = 1 MHz		1.2	1.8	pF
Forward series resistance ²	Rsf	If = 10 mA, F=120 MHz			1.2	Ω
Forward voltage ²	Vf	If = 100 mA			1.1	V
		DH54076				
Total capacitance ²	Ct	Vr=0V, F = 1 MHz		2.2	3.6	pF
Forward series resistance ²	Rsf	If = 10 mA, F=120 MHz			0.6	Ω
Forward voltage ²	Vf	If = 100 mA			1.0	V
		Common Parameters				
Minority carrier lifetime ²	Tl	If=10mA Ir=6mA		100		ns
Parallel resistance ²	Rp	Vr=0V, F = 120 MHz		100		kΩ
Non-magneticity ²		Distorsion Bo field			0.5	ppm

1: specification is given for a bare die - 2: specification is given for packaged diode.

MAXIMUM RATINGS

	Value
Operating temperature (Tj)	- 55°C, +125°C
Storage temperature	- 65°C, +150°C

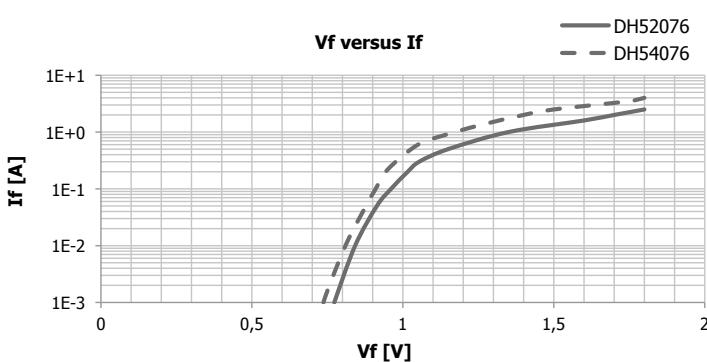
Nota: any operation above these parameters may cause permanent damages.



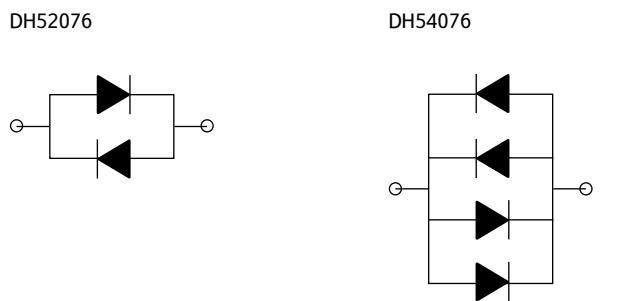
ORDERING INFORMATION

Part number	Package
DH52076-01	In bulk
DH52076-02	In bulk
DH54076-01	In bulk
DH54076-02	In bulk
DH52076-02T1	Tape & reel, 1000 p
DH54076-02T1	Tape & reel, 1000 p
DH52076-02T3	Tape & reel, 3000 p
DH54076-02T3	Tape & reel, 3000 p

TYPICAL PERFORMANCES



BLOCK DIAGRAM



OUTLINE DRAWING

Case style: DH52076-02, DH54076-02

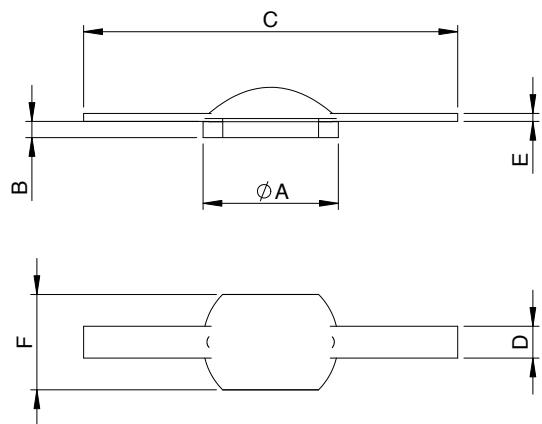
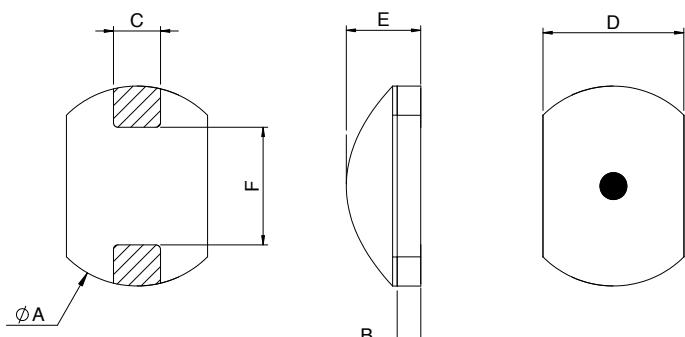
- BH61AM package, Alumina ceramic
- Lead terminaison: Pure Tin
- Green dot as mark for DH52076-02

Case style: DH52076-01, DH54076-01

- BH60AM package, Alumina ceramic
- Lead terminaison: gold plating

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	4.2	4.4	0.165	0.173
B	0.45	0.56	0.018	0.022
C	0.95	1.10	0.037	0.043
D	2.90	3.20	0.115	0.125
E	1.00	1.80	0.04	0.07
F	2.4	2.7	0.096	0.108

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	4.2	4.4	0.165	0.173
B	0.45	0.56	0.018	0.022
C	12	12.8	0.47	0.50
D	0.95	1.10	0.037	0.043
E	0.23	0.28	0.009	0.011
F	2.90	3.20	0.115	0.125



Anti Parallel PIN Diodes DH52076 & DH54076, AlN package

FEATURES

- Anti Parallel pair Design
- New BH62 Surface Mount package
- AlN with High thermal conductivity
- Dedicated to MRI market
- Non magnetic package
- ROHS compliant
- MSL1 @ 260°C reflow temperature

DESCRIPTION

DH52076 and DH54076 series are designed with one or two set of two Silicon PIN diodes in anti parallel configuration.

APPLICATIONS

These diodes are dedicated to MRI market. Their role is to tune and de-tune a resonant circuit while the anti-parallel design provides a high RF power handling.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
Reverse current at 25°C ¹	Ir	Vr = 70 V			10	µA
DH52076						
Total capacitance ²	Ct	Vr=0V, F = 1 MHz		1.6	2.1	pF
Forward series Resistance ²	Rsf	If = 10 mA, F=120 MHz			1.2	Ω
Forward Voltage ²	Vf	If = 100 mA			1.1	V
DH54076						
Total capacitance ²	Ct	Vr=0V, F = 1 MHz		3.0	4	pF
Forward series Resistance ²	Rsf	If = 10 mA, F=120 MHz			0.6	Ω
Forward Voltage ²	Vf	If = 100 mA			1.0	V
Common Parameters						
Minority Carrier Lifetime 2	Tl	If=10mA Ir=6mA		100		ns
Parallel resistance 2	Rp	Vr=0V, F = 120 MHz		100		kΩ
Non-magneticity 2		Distorsion Bo field			0.5	ppm
Thermal Resistance	Rth				35	45
						°C/W

1: specification is given for a bare die - 2: specification is given for packaged diode.

ENVIRONMENTAL SPECIFICATIONS

	Value
Operating temperature (Tj)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C

Note: any operation above these parameters may cause permanent damages.

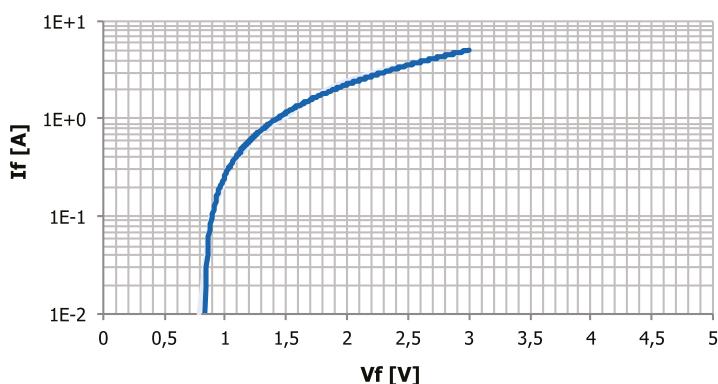
ORDERING INFORMATION

Part number	Package
DH52076-03	In bulk
DH54076-03	In bulk
DH52076-03T1	Tape & reel, 1000 p
DH54076-03T1	Tape & reel, 1000 p



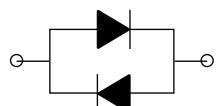
TYPICAL PERFORMANCES

Vf versus If

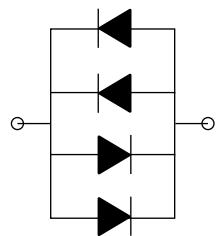


BLOCK DIAGRAM

DH52076



DH54076

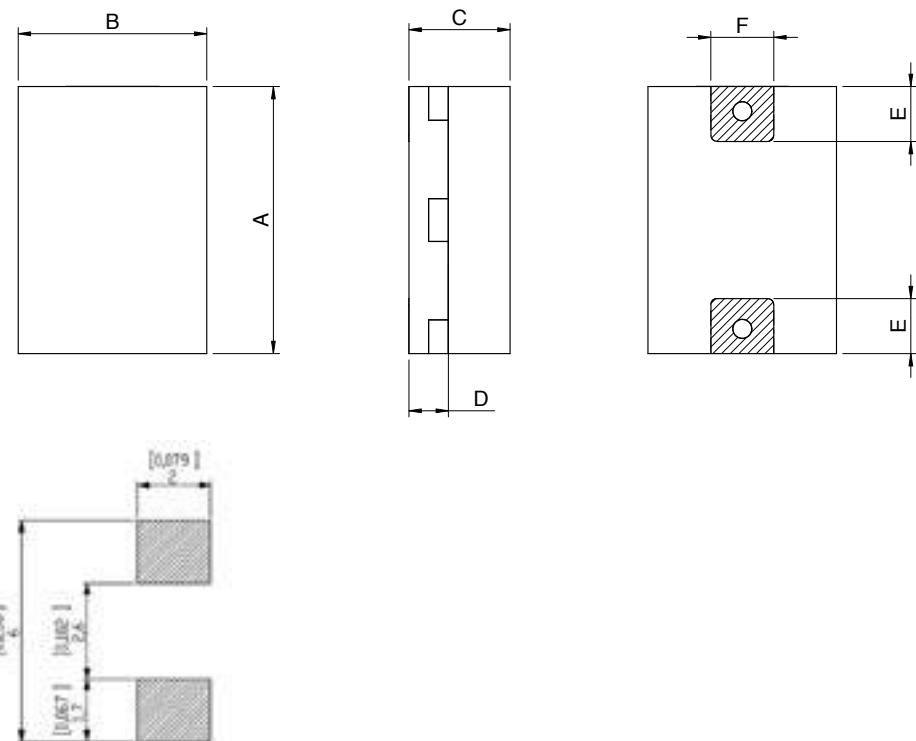


OUTLINE DRAWING

Case style: DH52076-03, DH54076-03

- BH62AM package, AlN Ceramic
- Pad terminaison: Pure Tin

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	4.2	4.4	0.165	0.173
B	2.95	3.15	0.116	0.124
C	-	1.8	-	0.071
D	-	0.685	-	0.027
E	0.8	1.0	0.031	0.039
F	0.9	1.1	0.035	0.043



Voltage multiplier DFN Diodes

FEATURES

- High voltage, very low leakage current
- Surface mount package
- ROHS compliant
- MSL1 @ 260°C reflow temperature

DESCRIPTION

These series are designed as cost effective solution for multiplier and switching application where high isolation is required. Diodes use glass passivation technology and mesa design.

APPLICATIONS

Its excellent characteristics allow predictable superior performances when applications handle high voltage with low and medium power applications.

ELECTRICAL SPECIFICATIONS @ 25°C

	Symbol	Test condition	Min	Typ	Max	Unit
DH85050-93N						
Reverse current at 25°C	Ir	Vr = 500 V		100	nA	
Forward voltage	Vf	If=100 mA		1.2	V	
Total capacitance	Ct	Vr= 50V, F = 1 MHz		0.1	0.2	pF
Reverse recovery time	Tr _r	If = 2mA , Ir= 5mA		700	ns	
DH85100-91N						
Reverse current at 25°C	Ir	Vr = 1000 V		100	nA	
Forward voltage	Vf	If = 100 mA		2.4	V	
Total capacitance	Ct	Vr= 50V, F = 1 MHz	0.06	0.1	pF	
Reverse recovery time	Tr _r	If = 2mA , Ir= 5mA		500	ns	

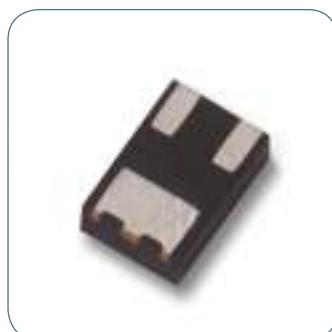
MAXIMUM RATINGS

	Value
Operating temperature (T _j)	- 55°C, +150°C
Storage temperature	- 65°C, +150°C
Dissipated power @ Tcase	(T _j -Tcase)/R _{th} *

Nota: any operation above these parameters may cause permanent damages. *Contact on infinite copper heatsink

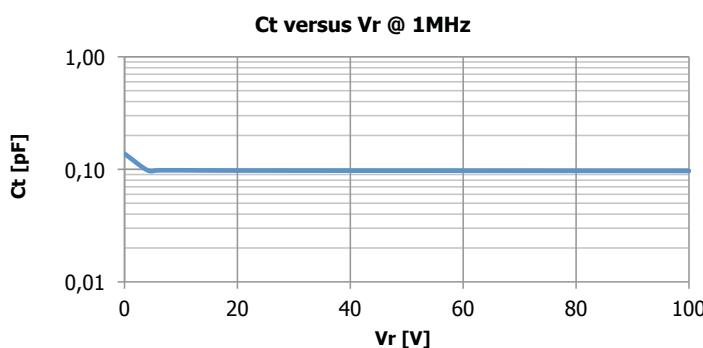
ORDERING INFORMATION

Part number	Package
DH85050-93N	In bulk
DH85100-91N	In bulk
DH85050-93NT1	Tape & reel, 1000 p
DH85100-91NT1	Tape & reel, 1000 p



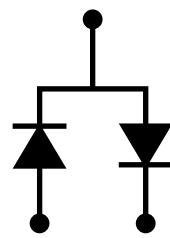
TYPICAL PERFORMANCES

DH85050-93N

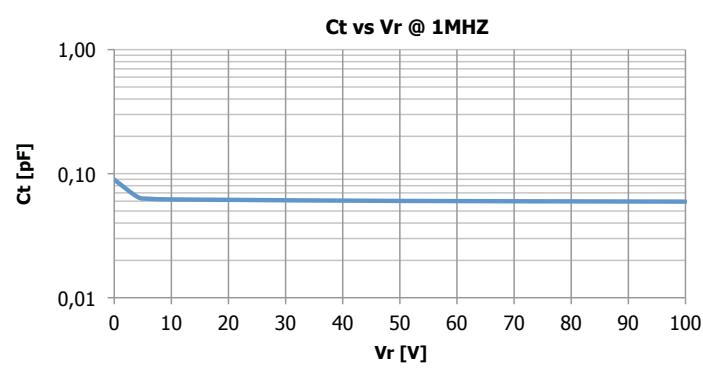


BLOCK DIAGRAM

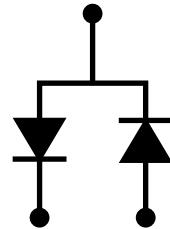
DH85050-93N



DH85100-91N



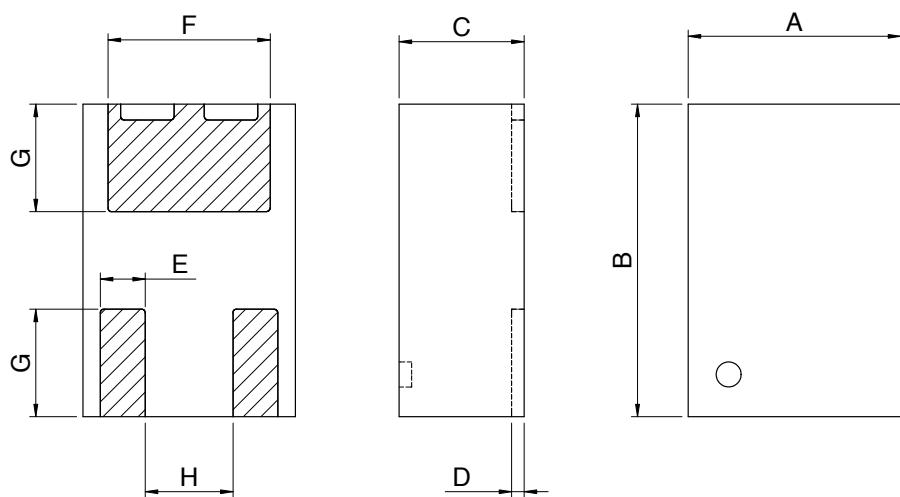
DH85100-91N



OUTLINE DRAWING

Case style: DFN-3L1 Package capacitance $\leq 0.10 \text{ pF}$

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.6	1.8	0.063	0.071
B	2.4	2.6	0.094	0.102
C	0.7	0.9	0.027	0.035
D	Typ. 0.254		Typ. 0.01	
E	Typ. 0.36		Typ. 0.014	
F	Typ. 1.3		Typ. 0.05	
G	Typ. 0.86		Typ. 0.034	
H	Typ. 0.7		Typ. 0.027	



Nota: Finish SMD pads: 100% Sn mat

Tuning Varactor Diodes DH76xxx and DH71xxx

FEATURES

- Two series Abrupt ($\gamma \sim 0.5$) or Hyperabrupt ($\gamma \sim 1.0$)
- Large selection of capacitance range
- High Q factor (low reverse serie resistance)
- Die or several package options as :
 - rugged, hermetically sealed ceramic package
 - plastic SOT and SOD packages, MSL1 @ 260°C reflow temperature
- RoHS compliant

DESCRIPTION

The DH76xxx series are hyperabrupt silicon tuning varactor diodes with a gamma near 1 and a Maximum reverse voltage of 20V. This diode is a high Q junction microwave component using oxide passivated mesa technology. The capacitance tolerance at 4V is $\pm 20\%$. For space application, these series figure in ESA QPL for procurement of flight models according generic specification ESCC 5010 and detail specification ESCC 5512/023.

APPLICATIONS

These two series are used for frequency tuning in applications from UHF up to Ku band frequencies ranges. Main applications are VCO in mobile communications equipment and voltage tuneable filters, phase shifters, delay line, etc.

Hyperabrupt Tuning Varactor Diodes DH76xxx

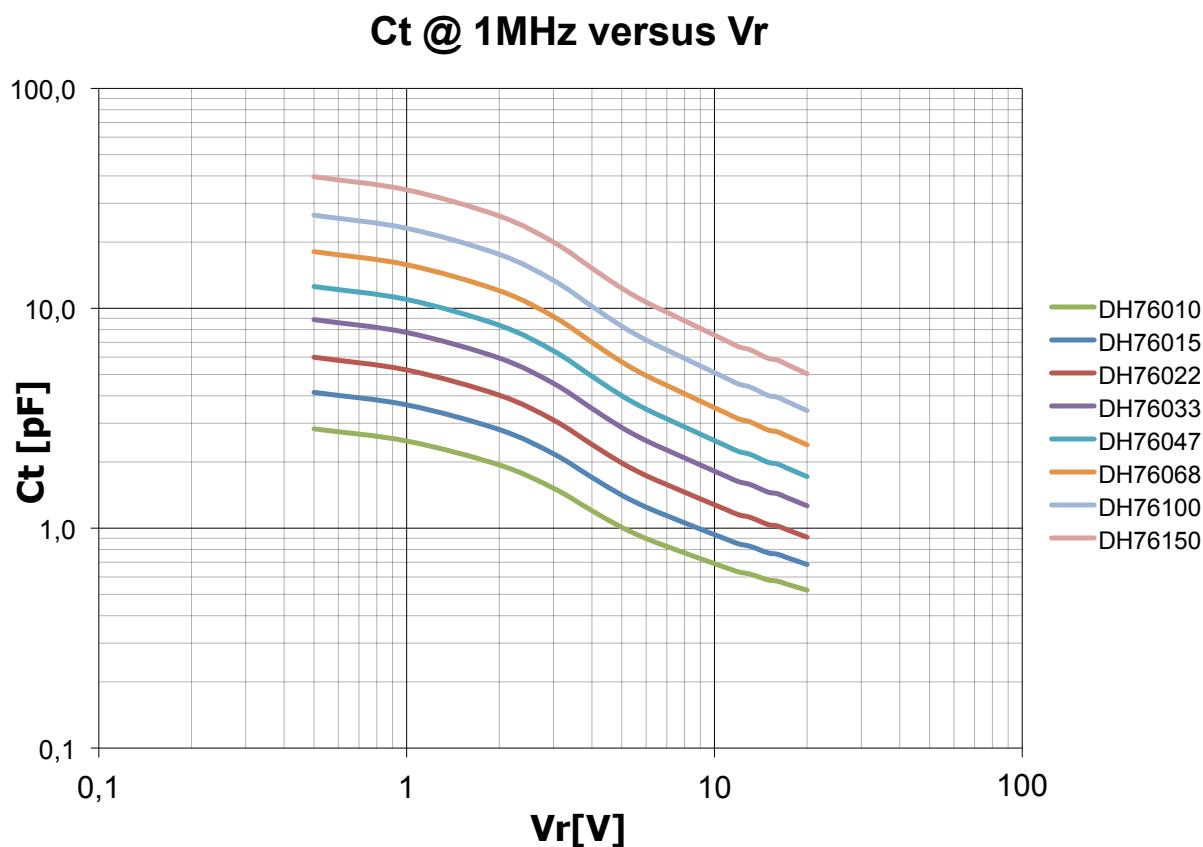
ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Breakdown voltage VBR (V)	Junction Capacitance Cj @F=1MHz (pF)	Total Capacitance Ct @ F=1MHz (pF)					Tuning Ratio @ F=1MHz		Figure of Merit @ F=1GHz, Vr=4V
			Vr=4V	Vr=1V	Vr=4V	Vr=12V	Vr=20V	Ct1/Ct12	Ct1/Ct20	
		min	@ $\pm 20\%$	typ	@ $\pm 20\%$	typ	typ	typ	typ	
DH76010	20	1.0	2.5	1.2	0.6	0.5	0.5	4.1	5.0	100
DH76015	20	1.5	3.6	1.7	0.8	0.7	0.7	4.5	5.1	90
DH76022	20	2.2	5.2	2.4	1.1	0.9	0.9	4.7	5.7	75
DH76033	20	3.3	7.7	3.5	1.6	1.3	1.3	4.8	5.9	58
DH76047	20	4.7	11	4.9	2.2	1.7	1.7	5.0	6.4	40
DH76068	20	6.7	16	6.9	3.0	2.4	2.4	5.3	6.6	25
DH76100	20	10.0	23	10.2	4.5	3.5	3.5	5.1	6.6	12
DH76150	20	15.0	34	15.2	6.6	5.1	5.1	5.2	6.7	4

*Total capacitance $C_t = C_j + C_b$, values given for F27d package.



TYPICAL PERFORMANCES



ORDERING INFORMATION

Part Number	M208a	M208b	F27d	SOD323	Die Part Number	Die size
DH76010	-01	-03	--	-60N	EH76010-00	C2A
DH76015	-01	-03	-02	-60N	EH76015-00	C2A
DH76022	-02	--	--	-60N	EH76022-00	C2A
DH76033	-02	-01	--	-60N	EH76033-00	C2A
DH76047	-01	-02	-03	-60N	EH76047-00	C2A
DH76068	-02	-01	--	--	EH76068-00	C2A
DH76100	-02	--	--	--	EH76100-00	C2A
DH76150	-02	--	-01	-60N	EH76150-00	C2A

*See factory for other PIN.

Abrupt Tuning Varactor Diodes DH71xxx

DESCRIPTION

The DH71xxx series are abrupt silicon tuning varactor diodes. This diode is a high Q epi-junction microwave component using oxide passivated mesa technology. The capacitance tolerance at 4V is $\pm 20\%$ or $\pm 10\%$ for the larger values.

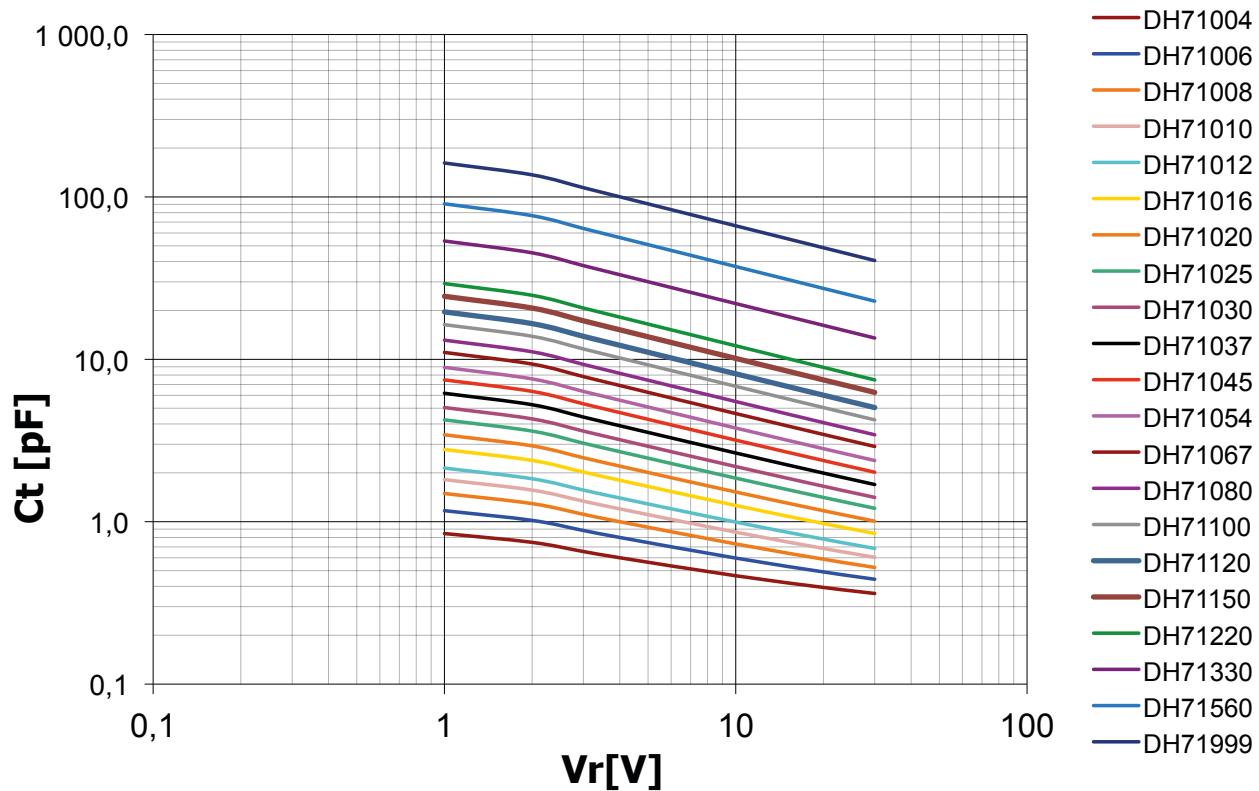
ELECTRICAL SPECIFICATIONS @ 25°C

Part number	Breakdown voltage VBR (V)	Junction Capacitance C _j @ F=1MHz (pF)	Tuning Ratio @ F=1MHz (die)	Total Capacitance C _t @ F=1MHz (pF)	Tuning Ratio @ F=1MHz (packaged)	Figure of Merit @ F=50MHz, V _r =4V
		V _r =4V	C _{j0V} /C _{j30V}	V _r =4V	C _{t0V} /C _{t30V}	
		min	@ $\pm 20\%$	min	@ $\pm 20\%$	min
DH71004	30	0.4	5.2	0.6	2.5	4500
DH71006	30	0.6	5.2	0.8	2.7	4500
DH71008	30	0.8	5.2	1.0	3.0	4400
DH71010	30	1.0	5.2	1.2	3.2	4300
DH71012	30	1.2	5.2	1.4	3.5	4200
DH71016	30	1.6	5.2	1.8	3.8	4100
DH71020	30	2.0	5.2	2.2	4.0	3900
DH71025	30	2.5	5.2	2.7	4.2	3600
DH71030	30	3.0	5.2	3.2	4.3	3400
DH71037	30	3.7	5.2	3.9	4.4	3200
DH71045	30	4.5	5.2	4.7	4.5	3000
DH71054	30	5.4	5.2	5.6	4.6	2800
		$\pm 10\%$		$\pm 10\%$		
DH71067	30	6.7	5.2	6.9	4.7	2600
DH71080	30	8.0	5.2	8.2	4.8	2400
DH71100	30	10.0	5.2	10.2	4.8	2200
DH71120	30	12.0	5.2	12.2	4.9	2000
DH71150	30	15.0	5.2	15.2	5.0	1800
DH71220	30	22.0	5.2	22.2	5.0	1400
DH71330	30	33.0	5.2	33.2	5.0	1200
DH71560	30	56.0	5.2	56.2	5.0	650
DH71999	30	100.0	5.2	100.2	5.0	300

*Total capacitance C_t=C_j+C_b, values given for F27d package.

TYPICAL PERFORMANCES

Ct @ 1MHz versus Vr



ORDERING INFORMATION

Part Number	M208a	M208b	F27d	BH28	SOD323	Die Part Number	Die size
DH71004	-02	-03	-01	--	--	EH71004-00	C2A
DH71006	-02	-03	-01	--	--	EH71006-00	C2A
DH71008	-02	-03	-01	--	--	EH71008-00	C2A
DH71010	-14	-02	-01	--	-60N	EH71010-00	C2A
DH71012	-03	-02	-01	--	--	EH71012-00	C2A
DH71016	--	--	--	-13	-60N	--	--
DH71020	-16	-03	-01	--	-60N	EH71020-00	C2A
DH71025	--	--	--	-10	--	--	--
DH71030	--	--	-01	-12	--	EH71030-00	C2A
DH71037	--	--	--	-10	--	--	--
DH71045	--	--	--	--	--	EH71045-00	C2A
DH71054	--	--	--	--	--	EH71054-00	C2A
DH71067	--	--	-01	-11	--	EH71067-00	C2A
DH71080	--	--	--	-10	--	--	--
DH71100	--	--	-01	-10	--	EH71100-00	C2A
DH71120	--	--	--	-10	--	--	--
DH71150	--	--	--	-11	--	--	--
DH71220	--	--	--	--	--	--	--
DH71330	--	--	--	--	--	--	C2C
DH71560	--	--	-01	--	--	EH71560-00	C2C
DH71999	--	--	-01	--	--	--	--

*See factory for other PIN.

MAXIMUM RATINGS - DIES AND CERAMIC PACKAGES

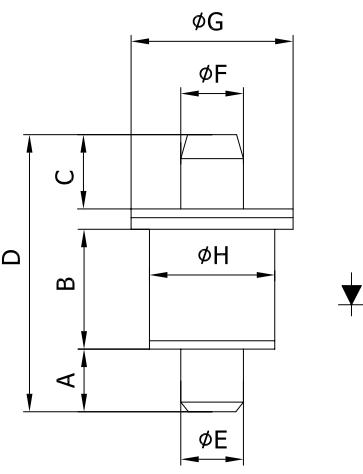
	Value
Operating temperature (T_j)	- 55°C, +175°C
Storage temperature	- 65°C, +200°C
Reverse voltage DH76xxx	20 V
Reverse voltage DH71xxx	30 V

Nota: any operation above these parameters may cause permanent damages.

OUTLINE DRAWING

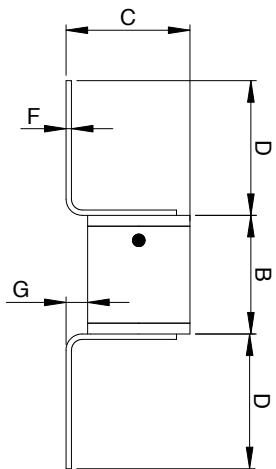
Case style: F27d Cb=0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.55	1.59	0.061	0.063
B	1.74	1.82	0.069	0.072
C	1.55	1.59	0.061	0.063
D	5.15	5.65	0.202	0.222
ΦE	1.55	1.59	0.061	0.063
ΦF	1.55	1.59	0.061	0.063
ΦG	2.95	3.15	0.116	0.124
ΦH	2.01	2.05	0.079	0.081



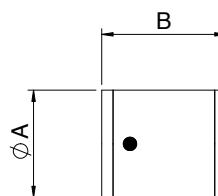
Case style: M208a Cb=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.07	0.053
C	1.3	1.9	0.052	0.076
D	2.5	-	0.100	-
E	0.55	0.65	0.022	0.026
F	0.06	0.1	0.0024	0.004
G	0.1	0.5	0.004	0.020



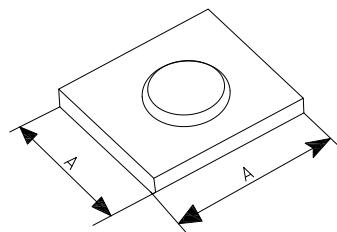
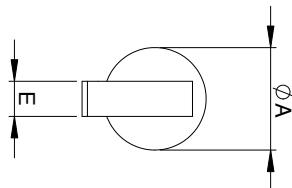
Case style: M208b Cb=0.12pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053



Case style: Die C2

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C2A	0.34	0.4	0.013	0.016
C2C	0.74	0.8	0.029	0.032



Other packages available on request.

MAXIMUM RATINGS - PLASTIC PACKAGES

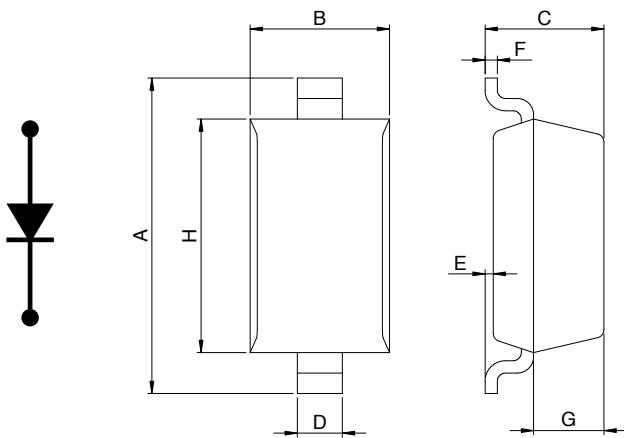
	Value
Operating temperature (T _j)	- 55°C, +125°C
Storage temperature	- 65°C, +150°C
Reverse voltage DH76xxx	20 V
Reverse voltage DH71xxx	30 V

Nota: any operation above these parameters may cause permanent damages.

OUTLINE DRAWING

Case style: SOD323 C_b=0.25pF

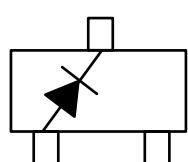
Symbol	Millimeters		Inches	
	Typical		Typical	
A	2.50		0.098	
B	1.25		0.049	
C	1.10		0.043	
D	0.30		0.012	
E	0.05		0.002	
F	0.15		0.006	
G	0.20		0.008	
H	1.70		0.067	



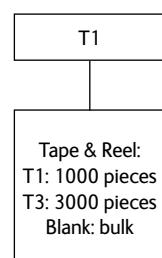
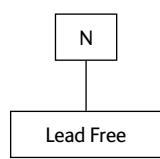
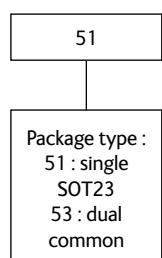
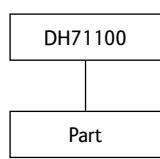
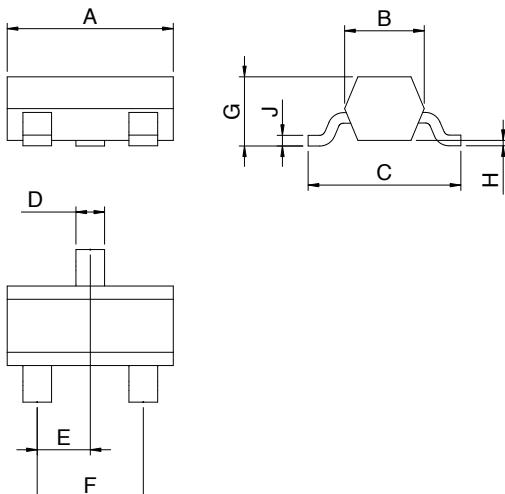
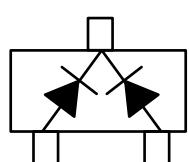
Case style: SOT23 C_b=0.25pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	2.80	3.04	0.110	0.120
B	1.20	1.40	0.047	0.055
C	2.10	2.64	0.083	0.104
D	0.36	0.50	0.014	0.020
E	0.89	1.02	0.035	0.040
F	1.78	2.03	0.070	0.080
G	0.90	1.17	0.035	0.046
H	0.01	0.15	0.0004	0.006
J	0.08	0.20	0.003	0.008

SOT23-51



SOT23-53



Single and multi-pads chip MOS capacitor series

FEATURES

- M.O.S. (Metal - Oxide - Semiconductor) capacitors
- Capacitance C range from 0.1 to 100pF
- Rated voltage VR from 40V to 500V
- Single and multi-arrays chips
- High Q performances
- Low temperature coefficient
- Small size
- High stability, high reliability

DESCRIPTION

The MOS capacitor series use a silicon dioxide insulator thermally grown on a silicon substrate. This dielectric layer has a dielectric constant of $\epsilon_1 = 3.9 \epsilon_0$ and a very stable temperature coefficient allowing a complete range of stable capacitance values (0.1 to 100pF). Voltage and capacitance values are tightly linked to dielectric thickness e and top termination area S . The Dielectric thickness, from $0.15\mu\text{m}$ to $1.8\mu\text{m}$, determines the rated voltage VR , from 40V to 500V, for a given capacitance value.

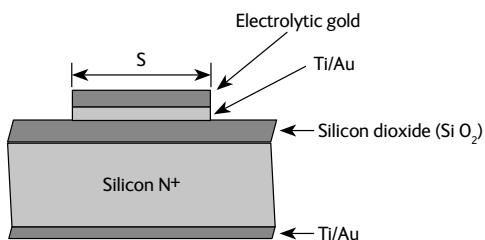
The capacitance is given by the formula:

$$C = \epsilon_1 S / e$$
$$\epsilon_1 = 3.9 \epsilon_0$$

Metallization areas, which are capacitors terminations, are made of sputtered titanium and gold with a final plating of electrolytic gold layer of $1.5\mu\text{m}$ to ensure the best contact with the external circuits.

Bottom termination attachment techniques are either: Au-Sn (80/20) Melting point 280°C , either Au-Ge (88/12) Melting point 350°C , either Conductive epoxy.

Top termination attachment techniques as thermocompression, thermosonic or wedge bonding may be used.



APPLICATIONS

They are ideally suited for hybrid microwave circuits up to 30 GHz for DC block, RF bi-pass, decoupling MMIC... They can be provided in commercial grade according this data sheet or in space grade, according to the ESCC detail specification No. 5711/002 (see ESCIES web site) for which these series are qualified and figure on ESA QPL.

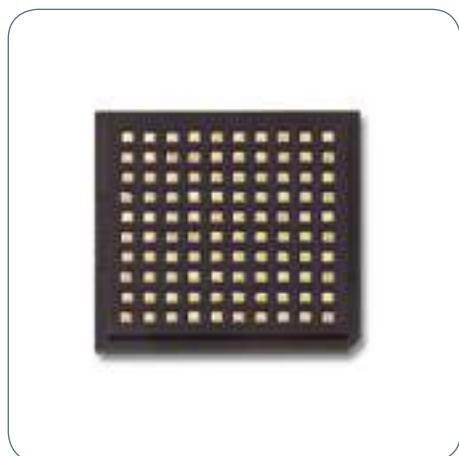
GENERAL CHARACTERISTICS AND MAXIMUM RATINGS

Voltage proof @ $25^\circ\text{C} = 1.5 \times VR$
Insulation resistance $R_i > 10^5 \text{ M}\Omega$ @ V_r and @ $T=25^\circ\text{C}$
Temperature coefficient: 50 ppm/ $^\circ\text{C}$
Storage temperature range: -55°C to $+175^\circ\text{C}$
Operating temperature range: -55°C to $+150^\circ\text{C}$
Tolerance capacitance available as standard: $\pm 20\%$;
on request $\pm 10\%$, $\pm 5\%$, $\pm 2\%$

SINGLE PAD CHIP CAPACITOR SERIES

DESCRIPTION

The single-pad chip capacitors are available with a round (C) or square (A) termination pad. All pads have a side or a diameter greater than $100\mu\text{m}$.



LIST OF STANDARD PRODUCTS: VOLTAGE RANGE, CAPACITANCE AND TOLERANCE

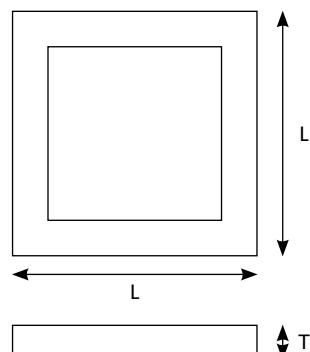
Single pad Dimension →	M104 (540µm)		M106 (400µm)		M107 (600µm)		M108 (800µm)		M110 (1000µm)		
Capacitance pF (code) ↓	A	C	A	C	A	C	A	C	A	C	Capacitance Tolerance ↓
0.22 (0R22)											
0.27 (0R27)											
0.33 (0R33)											
0.39 (0R39)											
0.47 (0R47)											
0.56 (0R56)											
0.68 (0R68)											
0.82 (0R82)											
1.0 (1R0)											
1.2 (1R2)											
1.5 (1R5)											
1.8 (1R8)											
2.2 (2R2)											
2.7 (2R7)											
3.3 (3R3)											
3.9 (3R9)											
4.7 (4R7)											
5.6 (5R6)											
6.8 (6R8)											
8.2 (8R2)											
10 (100)											
12 (120)											
15 (150)											
18 (180)											
22 (220)											
27 (270)											
33 (330)											
39 (390)											
47 (470)											
56 (560)											
68 (680)											
82 (820)											
100 (101)											

Special requirement may be achieved by our engineers.

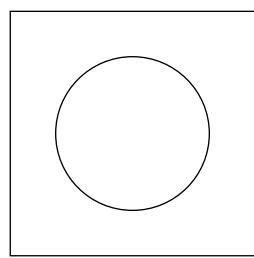
SINGLE PAD DIE SIZE

Die size	L (µm) min - max	τ (µm) Typ.
M104	480 - 540	200
M106	340 - 400	200
M107	540 - 600	200
M108	740 - 800	200
M110	940 - 1000	200

A Type



C Type



MULTI PAD ARRAYS CAPACITOR SERIES

DESCRIPTION

These capacitors arrays are intended for fine and precise adjustments in circuits that need to be tuned and kept tuned whatever the mechanical and environmental conditions are.

Note: These capacitors arrays are made of several pads per case size.

- For each size, the unit and basic capacitance value is "S".
- This is also the value of the step capacitance.
- The number of steps is obtained with all combinations to be achieved with the basic capacitance pad "S" and the other pads made of "2S", "4S", "10S"...
- The area of the minimum capacitance value "S" is given here below for each case size.
 - M111 : $S = (70 \times 70) \mu\text{m}^2$
 - M112 : $S = (90 \times 90) \mu\text{m}^2$
 - M113 : $S = (180 \times 270) \mu\text{m}^2$
 - M114 : $S = (115 \times 400) \mu\text{m}^2$

LIST OF STANDARD PRODUCTS: VOLTAGE RANGE, CAPACITANCE AND TOLERANCE

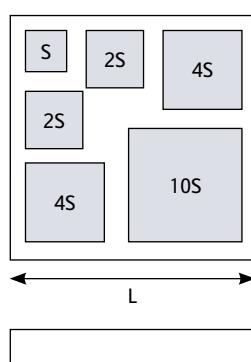
Die size	C min. "S"	Number of steps	C max.	Voltage (VR)
M111	0.125 pF	23	2.875 pF	200V
M111	0.25 pF	23	5.75 pF	200V
M111	0.50 pF	23	11.5 pF	100V
M112	0.2 pF	11	2.2 pF	200V
M112	0.4 pF	11	4.4 pF	200V
M112	0.8 pF	11	8.8 pF	100V
M113	10 pF	6	60 pF	40 V
M114	10 pF	3	30 pF	40 V

Note: Standard tolerance: $\pm 20\%$ (M), on request $\pm 10\%$ (K)

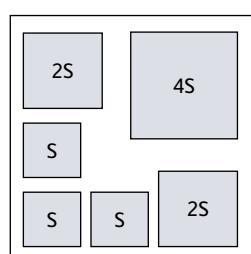
MULTI-PAD DIE SIZE

Die size	L (μm) min - max	T (μm) Typ.
M111	400 - 500	200
M112	400 - 500	200
M113	650 - 750	200
M114	450 - 550	200

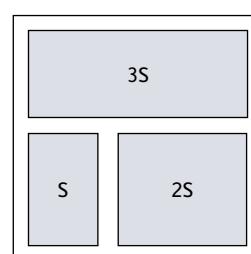
M111



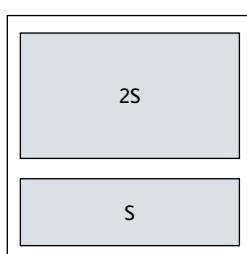
M112



M113



M114



HOW TO ORDER: PART-NUMBER STRUCTURE

501	M106	C	0R82	K	-	A
3 digits	M+3 digits	1 letter	3 to 4 digits	1 letter	1 symbol	1 letter
Voltage	Code dimension and Pad configuration	Pad shape	Capacitance Code & value	Capacitance Tolerance	-	Only for space product
2 first digits : voltage significant number Third digit : Multiplier factor 501 = 500V 401 = 400V* 201 = 200V 101 = 100V 400 = 40V *200V for M111 & M112	Single-pad chip capacitor S series M104 540µm M106 400µm M107 600µm M108 800µm M110 1mm	C: round pad A:square pad J: multi pad	0R1 = 0.1 pF 1R0 = 1 pF 0R82 = 0.82 pF R for decimal 100 = 10pF 101 = 100pF Third digit : Multiplier factor 0 : $10^0 = 1$ 1 : $10^1 = 10$	M = ± 20% K = ± 10% J = ± 5 % G = ± 2 %	If dash: space dedicated product	A: flight model B2: LAT2 model Q: qualification model
	Multi-pads capacitor arrays J series M111 M112 M113 M114					

Example: VR = 100V; square pad; M106A; Capacitance C = 5.6pF; tolerance = 20% à 101M106A5R6M
Dies are delivered in ESD waffle pack

Mos capacitors and Silicon Diodes for space applications

Cobham Microwave is committed in delivering high quality products for space applications since more than fifty years. His heritage is going through the participation to lot of satellite programs.

The ESCC qualification and products listed in ESCC QPL is the status given by European Space Agency to our products which are manufactured in Europe under controlled conditions and which have been shown to meet all the requirements of the relevant ESCC specifications, in particular the ESCC generic specification 5010 for discrete microwave semiconductor components, hermetically sealed and naked dies and associated detail specifications.

Our space qualified components are marked with the ESA logo which guarantees that our components have the appropriate performance characteristics and reliability for use in space applications.

The following table lists our products in ESA QPL.

Sub-Families	Types	Detail Spec.	Certificates
Tuning Varactors	DH 76XXX	5512/023	Certificate 273
Multipliers Varactors	DH 267, 252, 256, 292, 294	5512/016	Certificate 225
PIN, Fast Switching	DH 5015x DH 5020x DH 5025x	5513/031 5513/033 5513/034	Certificate 225
PIN, Ultra Fast Switching	DH 5003x DH 5005x DH 5007x DH 5010x	5513/032 5513/036 5513/037 5513/038	Certificate 225
MOS Capacitors	Types 101M, 201M, 400M and 401M	5711/002	Certificate 286

The following lists give the correspondence between the ESCC and Cobham references for each series in QPL.

MULTIPLIERS VARACTORS

Designed for harmonic generation from 0.2GHz to 25GHz of high power levels and/or high multiplication orders, the multiplier varactors diode series type DH2xx are ESA qualified and can be procured according ESCC detail specification 5512/016.

Variant	Type	ESCC N°	Cobham P/N
10	DH267	551201610	DH267-510A
11	DH267	551201611	DH267-511A
12	DH267	551201612	DH267-512A
13	DH267	551201613	DH267-513A
14	DH267	551201614	DH267-514A
15	DH267	551201615	DH267-515A
16	DH267	551201616	DH267-516A
20	DH292	551201620	DH292-520A
21	DH292	551201621	DH292-521A
22	DH292	551201622	DH292-522A
23	DH292	551201623	DH292-523A
24	DH292	551201624	DH292-524A
25	DH292	551201625	DH292-525A
26	DH292	551201626	DH292-526A
30	DH256	551201630	DH256-530A
31	DH256	551201631	DH256-531A
32	DH256	551201632	DH256-532A
33	DH256	551201633	DH256-533A
34	DH256	551201634	DH256-534A
35	DH256	551201635	DH256-535A
36	DH256	551201636	DH256-536A
40	DH252	551201640	DH252-540A
41	DH252	551201641	DH252-541A
42	DH252	551201642	DH252-542A
43	DH252	551201643	DH252-543A
44	DH252	551201644	DH252-544A
45	DH252	551201645	DH252-545A
46	DH252	551201646	DH252-546A
50	DH294	551201650	DH294-550A
51	DH294	551201651	DH294-551A
52	DH294	551201652	DH294-552A
53	DH294	551201653	DH294-553A
54	DH294	551201654	DH294-554A
55	DH294	551201655	DH294-555A
56	DH294	551201656	DH294-556A
17	EH267	551201617	EH267-500A
27	EH292	551201627	EH292-500A
37	EH256	551201637	EH256-500A
47	EH252	551201647	EH252-500A
57	EH294	551201657	EH294-500A

SWITCHING DIODES

These diodes are designed for fast switching from few MHz to 25GHz. They are manufactured with proprietary technology in using shallow (from 2µm) to medium (<= 50µm) intrinsic layer with a passivated mesa shape. They are ESA qualified and can be procured according several detail specifications N°5513 from /031 to /038 set by maximum rated voltage from 30V to 250V.

ESCC detail specification N° 5513/032			Cobham P/N
Variant	Type	ESCC N°	
10	DH50034	551303210	DH50034-510A
11	DH50034	551303211	DH50034-511A
12	DH50034	551303212	DH50034-512A
13	DH50034	551303213	DH50034-513A
14	DH50034	551303214	DH50034-514A
15	DH50035	551303215	DH50035-515A
16	DH50035	551303216	DH50035-516A
17	DH50035	551303217	DH50035-517A
18	DH50035	551303218	DH50035-518A
19	DH50035	551303219	DH50035-519A
20	DH50035	551303220	DH50035-520A
21	DH50035	551303221	DH50035-521A
22	DH50036	551303222	DH50036-522A
23	DH50036	551303223	DH50036-523A
24	DH50036	551303224	DH50036-524A
25	DH50036	551303225	DH50036-525A
26	DH50036	551303226	DH50036-526A
27	DH50036	551303227	DH50036-527A
28	DH50036	551303228	DH50036-528A
29	DH50037	551303229	DH50037-529A
30	DH50037	551303230	DH50037-530A
31	DH50037	551303231	DH50037-531A
32	DH50037	551303232	DH50037-532A
33	DH50037	551303233	DH50037-533A
34	DH50037	551303234	DH50037-534A
35	DH50037	551303235	DH50037-535A
36	DH50033	551303236	DH50033-536A
37	DH50034	551303237	DH50034-537A
38	DH50035	551303238	DH50035-538A
39	DH50036	551303239	DH50036-539A
40	DH50037	551303240	DH50037-540A
41	EH50033	551303241	EH50033-500A
42	EH50034	551303242	EH50034-500A
43	EH50035	551303243	EH50035-500A
44	EH50036	551303244	EH50036-500A
45	EH50037	551303245	EH50037-500A

ESCC detail specification N° 5513/036			Cobham P/N
Variant	Type	ESCC N°	
1	DH50052	551303601	DH50052-501A
2	DH50052	551303602	DH50052-502A
3	DH50052	551303603	DH50052-503A
4	DH50052	551303604	DH50052-504A
5	DH50052	551303605	DH50052-505A
6	DH50052	551303606	DH50052-506A
7	DH50052	551303607	DH50052-507A
8	DH50053	551303608	DH50053-508A
9	DH50053	551303609	DH50053-509A
10	DH50053	551303610	DH50053-510A
11	DH50053	551303611	DH50053-511A
12	DH50053	551303612	DH50053-512A
13	DH50053	551303613	DH50053-513A
14	DH50053	551303614	DH50053-514A
15	DH50054	551303615	DH50054-515A
16	DH50054	551303616	DH50054-516A
17	DH50054	551303617	DH50054-517A
18	DH50054	551303618	DH50054-518A
19	DH50054	551303619	DH50054-519A
20	DH50054	551303620	DH50054-520A
21	DH50054	551303621	DH50054-521A
22	DH50055	551303622	DH50055-522A
23	DH50055	551303623	DH50055-523A
24	DH50055	551303624	DH50055-524A
25	DH50055	551303625	DH50055-525A
26	DH50055	551303626	DH50055-526A
27	DH50055	551303627	DH50055-527A
28	DH50055	551303628	DH50055-528A
29	DH50056	551303629	DH50056-529A
30	DH50056	551303630	DH50056-530A
31	DH50056	551303631	DH50056-531A
32	DH50056	551303632	DH50056-532A
33	DH50056	551303633	DH50056-533A
34	DH50056	551303634	DH50056-534A
35	DH50056	551303635	DH50056-535A
36	DH50057	551303636	DH50057-536A
37	DH50057	551303637	DH50057-537A
38	DH50057	551303638	DH50057-538A
39	DH50057	551303639	DH50057-539A
40	DH50057	551303640	DH50057-540A
41	DH50057	551303641	DH50057-541A
42	DH50057	551303642	DH50057-542A
43	DH50052	551303643	DH50052-543A
44	DH50053	551303644	DH50053-544A
45	DH50054	551303645	DH50054-545A
46	DH50055	551303646	DH50055-546A
47	DH50056	551303647	DH50056-547A
48	DH50057	551303648	DH50057-548A
49	EH50052	551303649	EH50052-500A
50	EH50053	551303650	EH50053-500A
51	EH50054	551303651	EH50054-500A
52	EH50055	551303652	EH50055-500A
53	EH50056	551303653	EH50056-500A
54	EH50057	551303654	EH50057-500A

ESCC detail specification N° 5513/037			Cobham P/N
Variant	Type	ESCC N°	
1	DH50071	551303701	DH50071-501A
2	DH50071	551303702	DH50071-502A
3	DH50071	551303703	DH50071-503A
4	DH50071	551303704	DH50071-504A
5	DH50071	551303705	DH50071-505A
6	DH50071	551303706	DH50071-506A
7	DH50071	551303707	DH50071-507A
8	DH50072	551303708	DH50072-508A
9	DH50072	551303709	DH50072-509A
10	DH50072	551303710	DH50072-510A
11	DH50072	551303711	DH50072-511A
12	DH50072	551303712	DH50072-512A
13	DH50072	551303713	DH50072-513A
14	DH50072	551303714	DH50072-514A
15	DH50073	551303715	DH50073-515A
16	DH50073	551303716	DH50073-516A
17	DH50073	551303717	DH50073-517A
18	DH50073	551303718	DH50073-518A
19	DH50073	551303719	DH50073-519A
20	DH50073	551303720	DH50073-520A
21	DH50073	551303721	DH50073-521A
22	DH50074	551303722	DH50074-522A
23	DH50074	551303723	DH50074-523A
24	DH50074	551303724	DH50074-524A
25	DH50074	551303725	DH50074-525A
26	DH50074	551303726	DH50074-526A
27	DH50074	551303727	DH50074-527A
28	DH50074	551303728	DH50074-528A
29	DH50075	551303729	DH50075-529A
30	DH50075	551303730	DH50075-530A
31	DH50075	551303731	DH50075-531A
32	DH50075	551303732	DH50075-532A
33	DH50075	551303733	DH50075-533A
34	DH50075	551303734	DH50075-534A
35	DH50075	551303735	DH50075-535A
36	DH50076	551303736	DH50076-536A
37	DH50076	551303737	DH50076-537A
38	DH50076	551303738	DH50076-538A
39	DH50076	551303739	DH50076-539A
40	DH50076	551303740	DH50076-540A
41	DH50076	551303741	DH50076-541A
42	DH50076	551303742	DH50076-542A
43	DH50077	551303743	DH50077-543A
44	DH50077	551303744	DH50077-544A
45	DH50077	551303745	DH50077-545A
46	DH50077	551303746	DH50077-546A
47	DH50077	551303747	DH50077-547A
48	DH50077	551303748	DH50077-548A
49	DH50077	551303749	DH50077-549A
50	DH50071	551303750	DH50071-550A
51	DH50072	551303751	DH50072-551A
52	DH50073	551303752	DH50073-552A
53	DH50074	551303753	DH50074-553A
54	DH50075	551303754	DH50075-554A
55	DH50076	551303755	DH50076-555A
56	DH50077	551303756	DH50077-556A
57	EH50071	551303757	EH50071-500A
58	EH50072	551303758	EH50072-500A
59	EH50073	551303759	EH50073-500A
60	EH50074	551303760	EH50074-500A
61	EH50075	551303761	EH50075-500A
62	EH50076	551303762	EH50076-500A
63	EH50077	551303763	EH50077-500A

ESCC detail specification N° 5513/038			Cobham P/N
Variant	Type	ESCC N°	
1	DH50101	551303801	DH50101-501A
2	DH50101	551303802	DH50101-502A
3	DH50101	551303803	DH50101-503A
4	DH50101	551303804	DH50101-504A
5	DH50101	551303805	DH50101-505A
6	DH50101	551303806	DH50101-506A
7	DH50101	551303807	DH50101-507A
8	DH50102	551303808	DH50102-508A
9	DH50102	551303809	DH50102-509A
10	DH50102	551303810	DH50102-510A
11	DH50102	551303811	DH50102-511A
12	DH50102	551303812	DH50102-512A
13	DH50102	551303813	DH50102-513A
14	DH50102	551303814	DH50102-514A
15	DH50103	551303815	DH50103-515A
16	DH50103	551303816	DH50103-516A
17	DH50103	551303817	DH50103-517A
18	DH50103	551303818	DH50103-518A
19	DH50103	551303819	DH50103-519A
20	DH50103	551303820	DH50103-520A
21	DH50103	551303821	DH50103-521A
22	DH50104	551303822	DH50104-522A
23	DH50104	551303823	DH50104-523A
24	DH50104	551303824	DH50104-524A
25	DH50104	551303825	DH50104-525A
26	DH50104	551303826	DH50104-526A
27	DH50104	551303827	DH50104-527A
28	DH50104	551303828	DH50104-528A
29	DH50105	551303829	DH50105-529A
30	DH50105	551303830	DH50105-530A
31	DH50105	551303831	DH50105-531A
32	DH50105	551303832	DH50105-532A
33	DH50105	551303833	DH50105-533A
34	DH50105	551303834	DH50105-534A
35	DH50105	551303835	DH50105-535A
36	DH50106	551303836	DH50106-536A
37	DH50106	551303837	DH50106-537A
38	DH50106	551303838	DH50106-538A
39	DH50106	551303839	DH50106-539A
40	DH50106	551303840	DH50106-540A
41	DH50106	551303841	DH50106-541A
42	DH50106	551303842	DH50106-542A
43	DH50107	551303843	DH50107-543A
44	DH50107	551303844	DH50107-544A
45	DH50107	551303845	DH50107-545A
46	DH50107	551303846	DH50107-546A
47	DH50107	551303847	DH50107-547A
48	DH50107	551303848	DH50107-548A
49	DH50107	551303849	DH50107-549A
50	DH50101	551303850	DH50101-550A
51	DH50102	551303851	DH50102-551A
52	DH50103	551303852	DH50103-552A
53	DH50104	551303853	DH50104-553A
54	DH50105	551303854	DH50105-554A
55	DH50106	551303855	DH50106-555A
56	DH50107	551303856	DH50107-556A
57	EH50101	551303857	EH50101-500A
58	EH50102	551303858	EH50102-500A
59	EH50103	551303859	EH50103-500A
60	EH50104	551303860	EH50104-500A
61	EH50105	551303861	EH50105-500A
62	EH50106	551303862	EH50106-500A
63	EH50107	551303863	EH50107-500A

ESCC detail specification N° 5513/031			Cobham P/N
Variant	Type	ESCC N°	
1	DH50151	551303101	DH50151-501A
2	DH50151	551303102	DH50151-502A
3	DH50151	551303103	DH50151-503A
4	DH50151	551303104	DH50151-504A
5	DH50151	551303105	DH50151-505A
6	DH50151	551303106	DH50151-506A
7	DH50151	551303107	DH50151-507A
8	DH50152	551303108	DH50152-508A
9	DH50152	551303109	DH50152-509A
10	DH50152	551303110	DH50152-510A
11	DH50152	551303111	DH50152-511A
12	DH50152	551303112	DH50152-512A
13	DH50152	551303113	DH50152-513A
14	DH50152	551303114	DH50152-514A
15	DH50153	551303115	DH50153-515A
16	DH50153	551303116	DH50153-516A
17	DH50153	551303117	DH50153-517A
18	DH50153	551303118	DH50153-518A
19	DH50153	551303119	DH50153-519A
20	DH50153	551303120	DH50153-520A
21	DH50153	551303121	DH50153-521A
22	DH50154	551303122	DH50154-522A
23	DH50154	551303123	DH50154-523A
24	DH50154	551303124	DH50154-524A
25	DH50154	551303125	DH50154-525A
26	DH50154	551303126	DH50154-526A
27	DH50154	551303127	DH50154-527A
28	DH50154	551303128	DH50154-528A
29	DH50155	551303129	DH50155-529A
30	DH50155	551303130	DH50155-530A
31	DH50155	551303131	DH50155-531A
32	DH50155	551303132	DH50155-532A
33	DH50155	551303133	DH50155-533A
34	DH50155	551303134	DH50155-534A
35	DH50155	551303135	DH50155-535A
36	DH50156	551303136	DH50156-536A
37	DH50156	551303137	DH50156-537A
38	DH50156	551303138	DH50156-538A
39	DH50156	551303139	DH50156-539A
40	DH50156	551303140	DH50156-540A
41	DH50156	551303141	DH50156-541A
42	DH50156	551303142	DH50156-542A
43	DH50157	551303143	DH50157-543A
44	DH50157	551303144	DH50157-544A
45	DH50157	551303145	DH50157-545A
46	DH50157	551303146	DH50157-546A
47	DH50157	551303147	DH50157-547A
48	DH50157	551303148	DH50157-548A
49	DH50157	551303149	DH50157-549A
50	DH50151	551303150	DH50151-550A
51	DH50152	551303151	DH50152-551A
52	DH50153	551303152	DH50153-552A
53	DH50154	551303153	DH50154-553A
54	DH50155	551303154	DH50155-554A
55	DH50156	551303155	DH50156-555A
56	DH50157	551303156	DH50157-556A
57	EH50151	551303157	EH50151-500A
58	EH50152	551303158	EH50152-500A
59	EH50153	551303159	EH50153-500A
60	EH50154	551303160	EH50154-500A
61	EH50155	551303161	EH50155-500A
62	EH50156	551303162	EH50156-500A
63	EH50157	551303163	EH50157-500A

ESCC detail specification N° 5513/033			Cobham P/N
Variant	Type	ESCC N°	
1	DH50201	551303301	DH50201-501A
2	DH50201	551303302	DH50201-502A
3	DH50201	551303303	DH50201-503A
4	DH50201	551303304	DH50201-504A
5	DH50201	551303305	DH50201-505A
6	DH50201	551303306	DH50201-506A
7	DH50201	551303307	DH50201-507A
8	DH50202	551303308	DH50202-508A
9	DH50202	551303309	DH50202-509A
10	DH50202	551303310	DH50202-510A
11	DH50202	551303311	DH50202-511A
12	DH50202	551303312	DH50202-512A
13	DH50202	551303313	DH50202-513A
14	DH50202	551303314	DH50202-514A
15	DH50203	551303315	DH50203-515A
16	DH50203	551303316	DH50203-516A
17	DH50203	551303317	DH50203-517A
18	DH50203	551303318	DH50203-518A
19	DH50203	551303319	DH50203-519A
20	DH50203	551303320	DH50203-520A
21	DH50203	551303321	DH50203-521A
22	DH50204	551303322	DH50204-522A
23	DH50204	551303323	DH50204-523A
24	DH50204	551303324	DH50204-524A
25	DH50204	551303325	DH50204-525A
26	DH50204	551303326	DH50204-526A
27	DH50204	551303327	DH50204-527A
28	DH50204	551303328	DH50204-528A
29	DH50205	551303329	DH50205-529A
30	DH50205	551303330	DH50205-530A
31	DH50205	551303331	DH50205-531A
32	DH50205	551303332	DH50205-532A
33	DH50205	551303333	DH50205-533A
34	DH50205	551303334	DH50205-534A
35	DH50205	551303335	DH50205-535A
36	DH50206	551303336	DH50206-536A
37	DH50206	551303337	DH50206-537A
38	DH50206	551303338	DH50206-538A
39	DH50206	551303339	DH50206-539A
40	DH50206	551303340	DH50206-540A
41	DH50206	551303341	DH50206-541A
42	DH50206	551303342	DH50206-542A
43	DH50207	551303343	DH50207-543A
44	DH50207	551303344	DH50207-544A
45	DH50207	551303345	DH50207-545A
46	DH50207	551303346	DH50207-546A
47	DH50207	551303347	DH50207-547A
48	DH50207	551303348	DH50207-548A
49	DH50207	551303349	DH50207-549A
56	DH50208	551303356	DH50208-556A
63	DH50209	551303363	DH50209-563A
64	DH50201	551303364	DH50201-564A
65	DH50202	551303365	DH50202-565A
66	DH50203	551303366	DH50203-566A
67	DH50204	551303367	DH50204-567A
68	DH50205	551303368	DH50205-568A
69	DH50206	551303369	DH50206-569A
70	DH50207	551303370	DH50207-570A
71	EH50201	551303371	EH50201-500A
72	EH50202	551303372	EH50202-500A
73	EH50203	551303373	EH50203-500A
74	EH50204	551303374	EH50204-500A
75	EH50205	551303375	EH50205-500A

ESCC detail specification N° 5513/033			Cobham P/N
Variant	Type	ESCC N°	
76	EH50206	551303376	EH50206-500A
77	EH50207	551303377	EH50207-500A
78	EH50208	551303378	EH50208-500A
79	EH50209	551303379	EH50209-500A

TUNING VARACTOR DIODES

Designed for tuning in VCO and VCXO, the DH76xxx series offer a large selection of capacitance range and quality factor, these diodes are available in packaged or naked dies form according the ESCC detail specification N° 5512/023.

ESCC detail specification N° 5513/034			Cobham P/N
Variant	Type	ESCC N°	
1	DH50251	551303401	DH50251-501A
2	DH50251	551303402	DH50251-502A
3	DH50251	551303403	DH50251-503A
4	DH50251	551303404	DH50251-504A
5	DH50251	551303405	DH50251-505A
6	DH50251	551303406	DH50251-506A
7	DH50251	551303407	DH50251-507A
8	DH50252	551303408	DH50252-508A
9	DH50252	551303409	DH50252-509A
10	DH50252	551303410	DH50252-510A
11	DH50252	551303411	DH50252-511A
12	DH50252	551303412	DH50252-512A
13	DH50252	551303413	DH50252-513A
14	DH50252	551303414	DH50252-514A
15	DH50253	551303415	DH50253-515A
16	DH50253	551303416	DH50253-516A
17	DH50253	551303417	DH50253-517A
18	DH50253	551303418	DH50253-518A
19	DH50253	551303419	DH50253-519A
20	DH50253	551303420	DH50253-520A
21	DH50253	551303421	DH50253-521A
22	DH50254	551303422	DH50254-522A
23	DH50254	551303423	DH50254-523A
24	DH50254	551303424	DH50254-524A
25	DH50254	551303425	DH50254-525A
26	DH50254	551303426	DH50254-526A
27	DH50254	551303427	DH50254-527A
28	DH50254	551303428	DH50254-528A
29	DH50255	551303429	DH50255-529A
30	DH50255	551303430	DH50255-530A
31	DH50255	551303431	DH50255-531A
32	DH50255	551303432	DH50255-532A
33	DH50255	551303433	DH50255-533A
34	DH50255	551303434	DH50255-534A
35	DH50255	551303435	DH50255-535A
36	DH50256	551303436	DH50256-536A
37	DH50251	551303437	DH50251-537A
38	DH50252	551303438	DH50252-538A
39	DH50253	551303439	DH50253-539A
40	DH50254	551303440	DH50254-540A
41	DH50255	551303441	DH50255-541A
42	EH50251	551303442	EH50251-500A
43	EH50252	551303443	EH50252-500A
44	EH50253	551303444	EH50253-500A
45	EH50254	551303445	EH50254-500A
46	EH50255	551303446	EH50255-500A
47	EH50256	551303447	EH50256-500A

ESCC detail specification 5512/023			Cobham P/N
Variant	Type	ESCC N°	
1	DH76010	551202301	DH76010-501A
2	DH76010	551202302	DH76010-502A
3	DH76010	551202303	DH76010-503A
4	DH76010	551202304	DH76010-504A
5	DH76010	551202305	DH76010-505A
6	DH76010	551202306	DH76010-506A
7	DH76010	551202307	DH76010-507A
8	DH76010	551202308	DH76010-508A
9	DH76010	551202309	DH76010-509A
10	DH76015	551202310	DH76015-510A
11	DH76015	551202311	DH76015-511A
12	DH76015	551202312	DH76015-512A
13	DH76015	551202313	DH76015-513A
14	DH76015	551202314	DH76015-514A
15	DH76015	551202315	DH76015-515A
16	DH76015	551202316	DH76015-516A
17	DH76015	551202317	DH76015-517A
18	DH76015	551202318	DH76015-518A
19	DH76022	551202319	DH76022-519A
20	DH76022	551202320	DH76022-520A
21	DH76022	551202321	DH76022-521A
22	DH76022	551202322	DH76022-522A
23	DH76022	551202323	DH76022-523A
24	DH76022	551202324	DH76022-524A
25	DH76022	551202325	DH76022-525A
26	DH76022	551202326	DH76022-526A
27	DH76022	551202327	DH76022-527A
28	DH76033	551202328	DH76033-528A
29	DH76033	551202329	DH76033-529A
30	DH76033	551202330	DH76033-530A
31	DH76033	551202331	DH76033-531A
32	DH76033	551202332	DH76033-532A
33	DH76033	551202333	DH76033-533A
34	DH76033	551202334	DH76033-534A
35	DH76033	551202335	DH76033-535A
36	DH76033	551202336	DH76033-536A
37	DH76047	551202337	DH76047-537A
38	DH76047	551202338	DH76047-538A
39	DH76047	551202339	DH76047-539A
40	DH76047	551202340	DH76047-540A
41	DH76047	551202341	DH76047-541A
42	DH76047	551202342	DH76047-542A
43	DH76047	551202343	DH76047-543A
44	DH76047	551202344	DH76047-544A
45	DH76047	551202345	DH76047-545A
46	DH76068	551202346	DH76068-546A
47	DH76068	551202347	DH76068-547A
48	DH76068	551202348	DH76068-548A
49	DH76068	551202349	DH76068-549A
50	DH76068	551202350	DH76068-550A
51	DH76068	551202351	DH76068-551A
52	DH76068	551202352	DH76068-552A
53	DH76068	551202353	DH76068-553A

ESCC detail specification 5512/023			Cobham P/N
Variant	Type	ESCC N°	
54	DH76068	551202354	DH76068-554A
55	DH76100	551202355	DH76100-555A
56	DH76100	551202356	DH76100-556A
57	DH76100	551202357	DH76100-557A
58	DH76100	551202358	DH76100-558A
59	DH76100	551202359	DH76100-559A
60	DH76100	551202360	DH76100-560A
61	DH76100	551202361	DH76100-561A
62	DH76100	551202362	DH76100-562A
63	DH76100	551202363	DH76100-563A
64	DH76150	551202364	DH76150-564A
65	DH76150	551202365	DH76150-565A
66	DH76150	551202366	DH76150-566A
67	DH76150	551202367	DH76150-567A
68	DH76150	551202368	DH76150-568A
69	DH76150	551202369	DH76150-569A
70	DH76150	551202370	DH76150-570A
71	DH76150	551202371	DH76150-571A
72	DH76150	551202372	DH76150-572A
73	EH76010	551202373	EH76010-500A
74	EH76015	551202374	EH76015-500A
75	EH76022	551202375	EH76022-500A
76	EH76033	551202376	EH76033-500A
77	EH76047	551202377	EH76047-500A
78	EH76068	551202378	EH76068-500A
79	EH76100	551202379	EH76100-500A
80	EH76150	551202380	EH76150-500A

ESCC detail specification 5711/002					Cobham P/N
Var.	VN (V)	C (pF)	K=10% M=20%	ESCC N°	
3	40	8.2	K	5711002038C2KB	400M106C8R2K-A
			M	5711002038C2MB	400M106C8R2M-A
		10	K	571100203100KB	400M106C100K-A
			M	571100203100MB	400M106C100M-A
		12	K	571100203120KB	400M106C120K-A
			M	571100203120MB	400M106C120M-A
		15	K	571100203150KB	400M106C150K-A
			M	571100203150MB	400M106C150M-A
		3.9	K	5711002043C9KG	201M107C3R9K-A
			M	5711002043C9MG	201M107C3R9M-A
4	200	4.7	K	5711002044C7KG	201M107C4R7K-A
			M	5711002044C7MG	201M107C4R7M-A
		5.6	K	5711002045C6KG	201M107C5R6K-A
			M	5711002045C6MG	201M107C5R6M-A
		6.8	K	5711002046C8KG	201M107C6R8K-A
			M	5711002046C8MG	201M107C6R8M-A
		8.2	K	5711002048C2KG	201M107C8R2K-A
			M	5711002048C2MG	201M107C8R2M-A
		10	K	571100205100KE	101M107C100K-A
			M	571100205100ME	101M107C100M-A
5	100	12	K	571100205120KE	101M107C120K-A
			M	571100205120ME	101M107C120M-A
		15	K	571100205150KE	101M107C150K-A
			M	571100205150ME	101M107C150M-A
		18	K	571100206180KB	400M107C180K-A
			M	571100206180MB	400M107C180M-A
		22	K	571100206220KB	400M107C220K-A
			M	571100206220MB	400M107C220M-A
		27	K	571100206270KB	400M107C270K-A
			M	571100206270MB	400M107C270M-A
6	40	33	K	571100206330KB	400M107C330K-A
			M	571100206330MB	400M107C330M-A
		39	K	571100206390KB	400M107C390K-A
			M	571100206390MB	400M107C390M-A
		10	K	571100207100KG	201M108C100K-A
			M	571100207100MG	201M108C100M-A
		12	K	571100207120KG	201M108C120K-A
			M	571100207120MG	201M108C120M-A
		15	K	571100207150KG	201M108C150K-A
			M	571100207150MG	201M108C150M-A
7	200	18	K	571100207180KG	201M108C180K-A
			M	571100207180MG	201M108C180M-A
		22	K	571100208220KE	101M108C220K-A
			M	571100208220ME	101M108C220M-A
		27	K	571100208270KE	101M108C270K-A
			M	571100208270ME	101M108C270M-A
		33	K	571100208330KE	101M108C330K-A
			M	571100208330ME	101M108C330M-A
		39	K	571100208390KE	101M108C390K-A
			M	571100208390ME	101M108C390M-A
8	100	47	K	571100209470KB	400M108C470K-A
			M	571100209470MB	400M108C470M-A
		56	K	571100209560KB	400M108C560K-A
			M	571100209560MB	400M108C560M-A
		68	K	571100209680KB	400M108C680K-A
			M	571100209680MB	400M108C680M-A
		82	K	571100210820KB	400M110C820K-A
			M	571100210820MB	400M110C820M-A
		100	K	571100210101KB	400M110C101K-A
			M	571100210101MB	400M110C101M-A

SILICON MOS CAPACITORS

MOS (Metal-Oxide-Semiconductor) capacitors chips are suitable for hybrid microwave up to 30GHz. Metallization for front and rear side pads are Titanium and gold, the insulator is a high temperature silicon dioxide. Their extreme stability versus temperature makes them the best capacitors choice for all wide temperature and Frequency range. The dice according ESCC detail specification 5711/002 are procured in ESD waffle pack.

ESCC detail specification 5711/002					Cobham P/N
Var.	VN (V)	C (pF)	K=10% M=20%	ESCC N°	
1	200	2.2	K	5711002012C2KG	201M106C2R2K-A
			M	5711002012C2MG	201M106C2R2M-A
		2.7	K	5711002012C7KG	201M106C2R7K-A
			M	5711002012C7MG	201M106C2R7M-A
		3.3	K	5711002013C3KG	201M106C3R3K-A
			M	5711002013C3MG	201M106C3R3M-A
		3.9	K	5711002023C9KE	101M106C3R9K-A
			M	5711002023C9ME	101M106C3R9M-A
		4.7	K	5711002024C7KE	101M106C4R7K-A
			M	5711002024C7ME	101M106C4R7M-A
2	100	5.6	K	5711002025C6KE	101M106C5R6K-A
			M	5711002025C6ME	101M106C5R6M-A
		6.8	K	5711002026C8KE	101M106C6R8K-A
			M	5711002026C8ME	101M106C6R8M-A

ESCC detail specification 5711/002					Cobham P/N	ESCC detail specification 5711/002					Cobham P/N
Var.	VN (V)	C (pF)	K=10% M=20%	ESCC N°		Var.	VN (V)	C (pF)	K=10% M=20%	ESCC N°	
11	200	2.2	K	5711002112C2KG	201M106A2R2K-A	21	100	22	K	571100221220KE	101M108A220K-A
			M	5711002112C2MG	201M106A2R2M-A				M	571100221220ME	101M108A220M-A
		2.7	K	5711002112C7KG	201M106A2R7K-A			27	K	571100221270KE	101M108A270K-A
			M	5711002112C7MG	201M106A2R7M-A				M	571100221270ME	101M108A270M-A
		3.3	K	5711002113C3KG	201M106A3R3K-A			33	K	571100221330KE	101M108A330K-A
			M	5711002113C3MG	201M106A3R3M-A				M	571100221330ME	101M108A330M-A
12	100	3.9	K	5711002123C9KE	101M106A3R9K-A			39	K	571100221390KE	101M108A390K-A
			M	5711002123C9ME	101M106A3R9M-A				M	571100221390ME	101M108A390M-A
		4.7	K	5711002124C7KE	101M106A4R7K-A			47	K	571100222470KB	400M108A470K-A
			M	5711002124C7ME	101M106A4R7M-A				M	571100222470MB	400M108A470M-A
		5.6	K	5711002125C6KE	101M106A5R6K-A			56	K	571100222560KB	400M108A560K-A
			M	5711002125C6ME	101M106A5R6M-A				M	571100222560MB	400M108A560M-A
13	40	8.2	K	5711002138C2KB	400M106A8R2K-A			68	K	571100222680KB	400M108A680K-A
			M	5711002138C2MB	400M106A8R2M-A				M	571100222680MB	400M108A680M-A
		10	K	571100213100KB	400M106A100K-A			82	K	571100223820KB	400M110A820K-A
			M	571100213100MB	400M106A100M-A				M	571100223820MB	400M110A820M-A
		12	K	571100213120KB	400M106A120K-A			100	K	571100223101KB	400M110A101K-A
			M	571100213120MB	400M106A120M-A				M	571100223101MB	400M110A101M-A
14	200	15	K	571100213150KB	400M106A150K-A			24	K	571100224C12KG	401M111J0R12K-A
			M	571100213150MB	400M106A150M-A				M	571100224C12MG	401M111J0R12M-A
		3.9	K	5711002143C9KG	201M104A3R9K-A			25	K	571100225C25KG	201M111J0R25K-A
			M	5711002143C9MG	201M104A3R9M-A				M	571100225C25MG	201M111J0R25M-A
		4.7	K	5711002144C7KG	201M104A4R7K-A			26	K	571100226C50KE	101M111J0R5K-A
			M	5711002144C7MG	201M104A4R7M-A				M	571100226C50ME	101M111J0R5M-A
15	100	5.6	K	5711002145C6KG	201M104A5R6K-A			27	K	571100227C20KG	401M112J0R2K-A
			M	5711002145C6MG	201M104A5R6M-A				M	571100227C20MG	401M112J0R2M-A
		6.8	K	5711002146C8KG	201M104A6R8K-A			28	K	571100228C40KG	201M112J0R4K-A
			M	5711002146C8MG	201M104A6R8M-A				M	571100228C40MG	201M112J0R4M-A
		10	K	571100215100KE	101M104A100K-A			29	K	5711002290C8KE	101M112J0R8K-A
			M	571100215100ME	101M104A100M-A				M	5711002290C8ME	101M112J0R8M-A
16	40	12	K	571100215120KE	101M104A120K-A			30	K	571100230101KB	400M113J100K-A
			M	571100215120ME	101M104A120M-A				M	571100230101MB	400M113J100M-A
		18	K	571100216180KB	400M104A180K-A			31	K	571100231101KB	400M114J100K-A
			M	571100216180MB	400M104A180M-A				M	571100231101MB	400M114J100M-A
		22	K	571100216220KB	400M104A220K-A						
			M	571100216220MB	400M104A220M-A						
17	200	27	K	571100216270KB	400M104A270K-A						
			M	571100216270MB	400M104A270M-A						
		8.2	K	5711002178C2KG	201M107A8R2K-A			15	K	571100218150KE	101M107A150K-A
			M	5711002178C2MG	201M107A8R2M-A				M	571100218150ME	101M107A150M-A
		15	K	571100218150KE	101M107A150K-A			16	K	571100219330KB	400M107A330K-A
			M	571100218150ME	101M107A150M-A				M	571100219330MB	400M107A330M-A
18	100	33	K	571100219390KB	400M107A390K-A			17	K	571100219390KB	400M107A390K-A
			M	571100219390MB	400M107A390M-A				M	571100219390MB	400M107A390M-A
		39	K	571100219390KB	400M107A390K-A			18	K	571100220100KG	201M108A100K-A
			M	571100219390MB	400M107A390M-A				M	571100220100MG	201M108A100M-A
		10	K	571100220120KG	201M108A120K-A			19	K	571100220150KG	201M108A150K-A
			M	571100220120MG	201M108A120M-A				M	571100220150MG	201M108A150M-A
19	40	12	K	571100220150KG	201M108A150K-A			20	K	571100220180KG	201M108A180K-A
			M	571100220150MG	201M108A150M-A				M	571100220180MG	201M108A180M-A
		15	K	571100220220120KG	201M108A120K-A			21	K	571100220220100KG	201M108A100K-A
			M	571100220220120MG	201M108A120M-A				M	571100220220100MG	201M108A100M-A
		18	K	571100220220150KG	201M108A150K-A			22	K	571100220220180KG	201M108A180K-A
			M	571100220220150MG	201M108A150M-A				M	571100220220180MG	201M108A180M-A

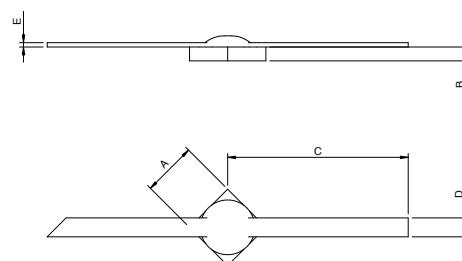
Main Diodes Families



Packages Index

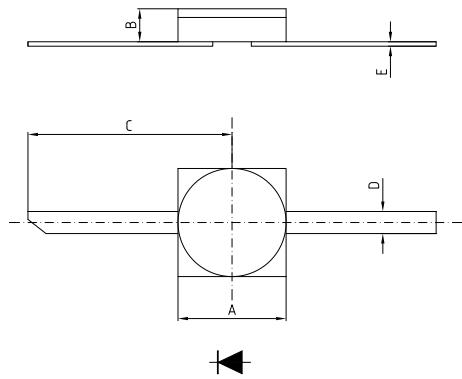
BH15 Cb= 0.1pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.17	1.37	0.046	0.054
B	0.15	0.35	0.006	0.014
C	3.82	4.58	0.15	0.18
D	0.28	0.48	0.011	0.019
E	0.09	0.11	0.0035	0.0043



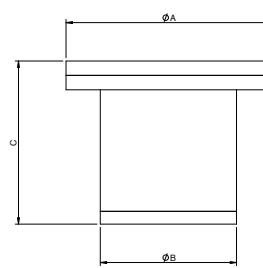
BH16 Cb= 0.16pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	2.40	2.60	0.094	0.102
B	0.66	0.86	0.026	0.034
C	4.58	5.58	0.180	0.220
D	0.45	0.55	0.018	0.022
E	0.08	0.12	0.003	0.005



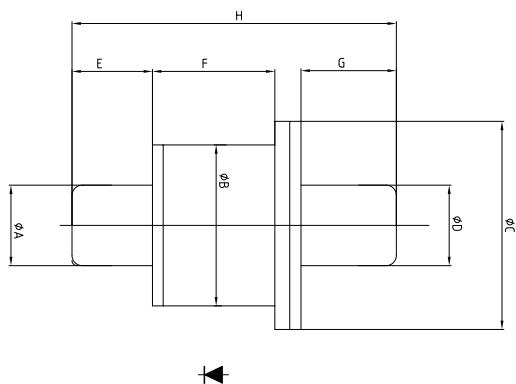
BH28 Cb= 0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ϕA	3.0	3.2	0.118	0.126
ϕB	1.93	2.13	0.076	0.084
C	2.04	2.5	0.080	0.098



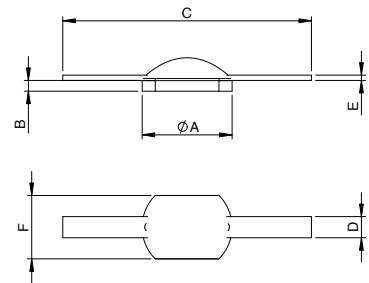
BH35 Cb= 0.25pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ϕA	1.52	1.62	0.060	0.064
ϕB	3.05	3.25	0.120	0.128
ϕC	3.96	4.16	0.156	0.164
ϕD	1.52	1.62	0.060	0.064
E	1.37	1.77	0.054	0.070
F	1.78	1.98	0.07	0.078
G	1.37	1.77	0.054	0.070
H	5.14	5.93	0.202	0.233



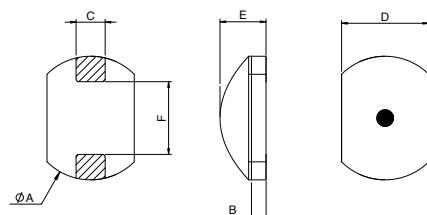
BH60AM

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	4.2	4.4	0.165	0.173
B	0.45	0.56	0.018	0.022
C	12	12.8	0.47	0.50
D	0.95	1.10	0.037	0.043
E	0.23	0.28	0.009	0.011
F	2.90	3.20	0.115	0.125



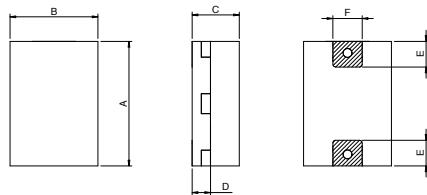
BH61AM

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	4.2	4.4	0.165	0.173
B	0.45	0.56	0.018	0.022
C	0.95	1.10	0.037	0.043
D	2.90	3.20	0.115	0.125
E	1.00	1.80	0.04	0.07
F	2.4	2.7	0.096	0.108



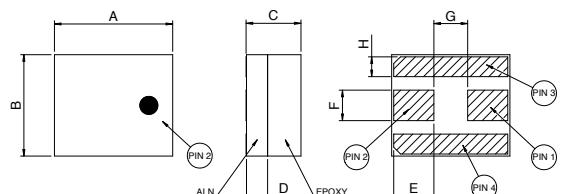
BH62AM

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	4.22	4.42	0.166	0.174
B	2.95	3.15	0.116	0.124
C	-	1.8	-	0.071
D	-	0.685	-	0.027
E	0.8	1.0	0.031	0.039
F	0.9	1.1	0.035	0.043



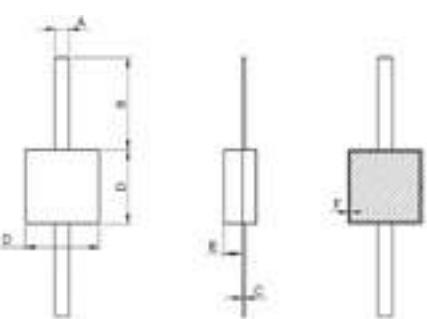
BH64

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	3.43	3.68	0.135	0.145
B	2.92	3.175	0.115	0.125
C	-	1.65	-	0.065
D	-	0.685	-	0.027
E	1.13	1.28	0.044	0.050
F	0.865	0.965	0.034	0.038
G	0.94	1.09	0.037	0.043
H	0.55	0.65	0.022	0.025



BH68AM

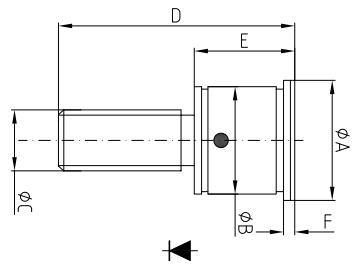
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.4	1.6	0.055	0.062
B	9.9	10.1	0.389	0.397
C	0.2	0.3	0.008	0.012
D	7.9	8.1	0.311	0.318
E	1.9	2.1	0.074	0.082
F	0.2	0.3	0.008	0.012



Cathode indication : chamfer on lead

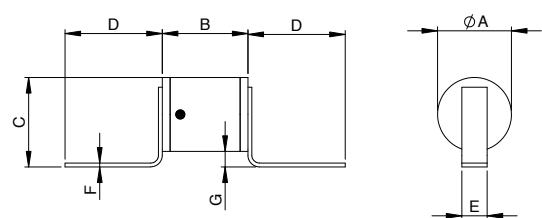
BH141 Cb=0.4pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	6.5	6.7	0.256	0.263
ΦB	5.2	5.4	0.203	0.205
ΦC	6.40 UNF - 3A			
D	12.8	13.4	0.504	0.526
E	4.7	5.1	0.185	0.201
F	-	0.7	-	0.028



BH142a Cb=0.2pF

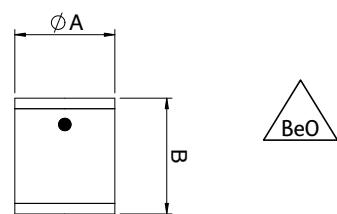
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.90	2.20	0.075	0.087
B	1.24	1.58	0.049	0.062
C	2.10	2.70	0.083	0.106
D	2.5	-	0.098	
E	0.55	0.65	0.022	0.026
F	0.06	0.10	0.0024	0.0039
G	0.1	0.5	0.004	0.020



BeO

BH142b Cb=0.2pF

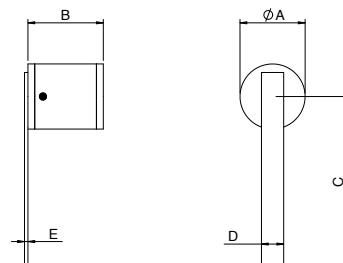
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.9	2.2	0.075	0.087
B	1.24	1.58	0.049	0.062



BeO

BH142c Cb=0.2pF

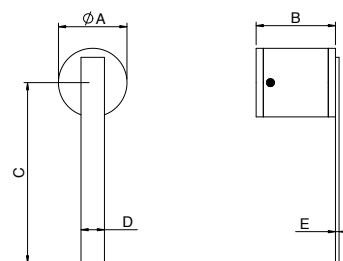
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.90	2.20	0.075	0.087
B	1.24	1.58	0.049	0.062
C	5.0	-	0.197	-
D	0.55	0.65	0.022	0.026
E	0.06	0.1	0.0024	0.0039



BeO

BH142d Cb=0.2pF

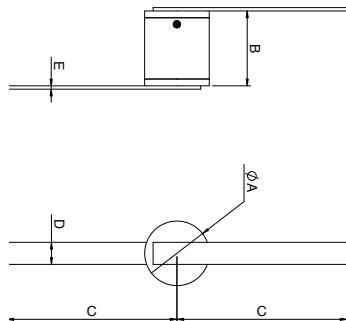
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.90	2.20	0.075	0.087
B	1.24	1.58	0.049	0.062
C	5.0	-	0.197	-
D	0.55	0.65	0.022	0.026
E	0.06	0.1	0.0024	0.0039



BeO

BH142e Cb=0.2pF

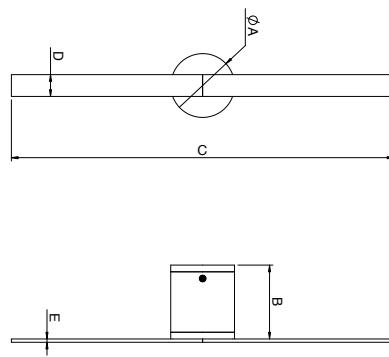
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.90	2.20	0.075	0.087
B	1.24	1.58	0.049	0.062
C	5.0	-	0.197	-
D	0.55	0.65	0.022	0.026
E	0.06	0.1	0.0024	0.0039



BeO

BH142f Cb=0.2pF

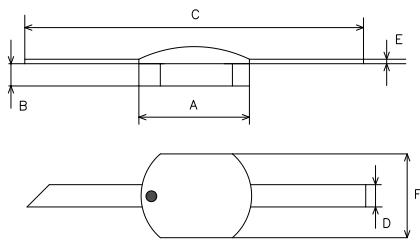
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.90	2.20	0.075	0.087
B	1.24	1.58	0.049	0.062
C	5.0	-	0.197	-
D	0.55	0.65	0.022	0.026
E	0.06	0.1	0.0024	0.0039



BeO

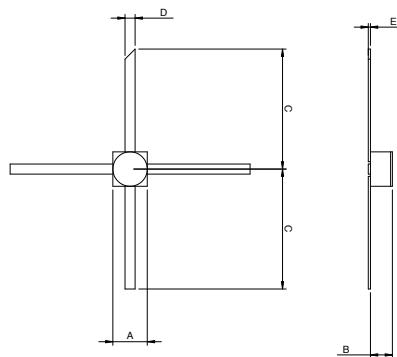
BH143 Cb=0.1pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	2.40	2.60	0.094	0.102
B	0.45	0.55	0.018	0.022
C	7.60	-	0.299	-
D	0.45	0.55	0.018	0.022
E	0.08	0.12	0.003	0.005
F	1.79	-	0.070	-



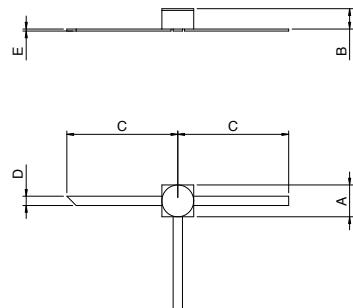
BH153 Cb=0.13pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.68	1.88	0.066	0.074
B	0.91	1.01	0.036	0.040
C	6.15	6.55	0.242	0.258
D	0.45	0.55	0.018	0.022
E	0.08	0.12	0.003	0.005



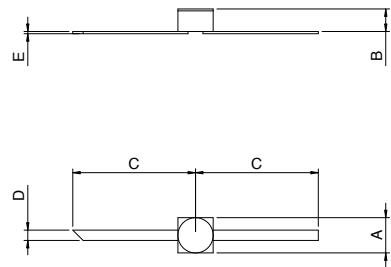
BH154 Cb=0.13pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.68	1.88	0.066	0.074
B	0.91	1.01	0.036	0.040
C	6.15	6.55	0.242	0.258
D	0.45	0.55	0.018	0.022
E	0.08	0.12	0.003	0.005



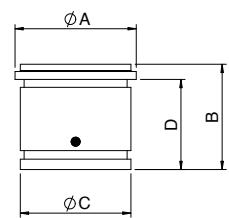
BH155 Cb=0.13pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.68	1.88	0.066	0.074
B	0.91	1.01	0.036	0.040
C	6.15	6.55	0.242	0.258
D	0.45	0.55	0.018	0.022
E	0.08	0.12	0.003	0.005



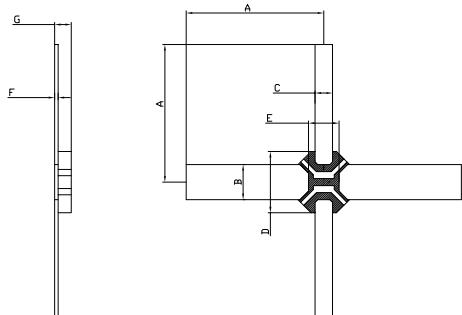
BH158AM Cb=0.4pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	5.7	6.1	0.224	0.24
B	4.7	5.2	0.185	0.205
ΦC	5.2	5.5	0.204	0.216
D	4.1	4.4	0.160	0.173



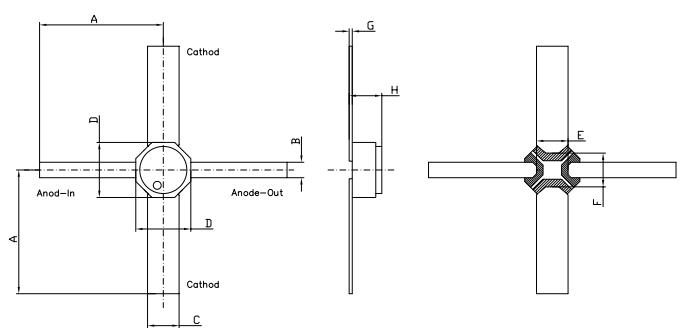
BH194 Cb=0.6pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	3.5	4.5	0.138	0.177
B	0.97	1.07	0.038	0.042
C	0.46	0.56	0.018	0.022
D	1.7	1.89	0.067	0.073
E	0.81	0.97	0.032	0.038
F	0.072	0.13	0.028	0.0051
G	--	0.95	--	0.037



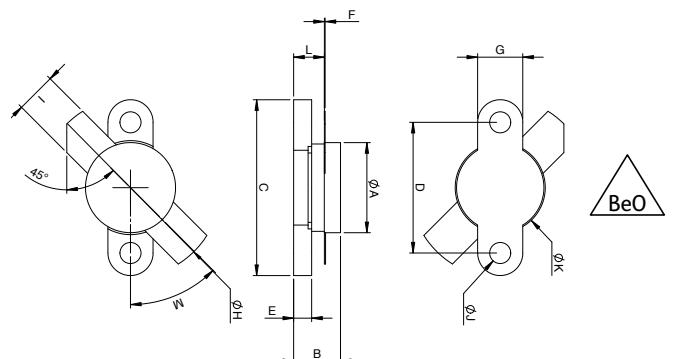
BH198 Cb=0.6pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	0.66	0.86	0.026	0.034
B	0.86	1.25	0.034	0.049
C	0.92	1.12	0.036	0.044
D	0.4	0.6	0.016	0.024
E	0.07	0.15	0.003	0.006
F	1.68	1.88	0.066	0.074
G	1.55	1.75	0.06	0.069
H	4	-	0.157	-



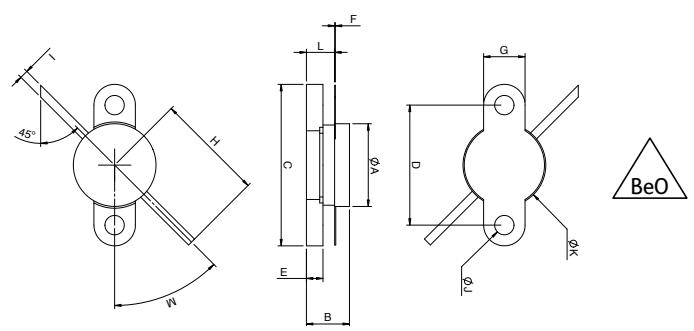
BH200A Cb=0.4pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	12.5	12.9	0.492	0.508
B	2.5	2.667	0.098	0.105
C	3.86	4.27	0.152	0.168
D	6.78	7.19	0.267	0.283
E	0.10	0.127	0.004	0.005
ΦF	3.1	3.25	0.122	0.128
G	24.64	24.89	0.970	0.980
H	18.26	18.6	0.719	0.735
I	6.30	6.40	0.248	0.252
ΦJ	30.48	31.50	1.2	1.24
K	5.49	5.89	0.216	0.232
L	43°	47°	43°	47°



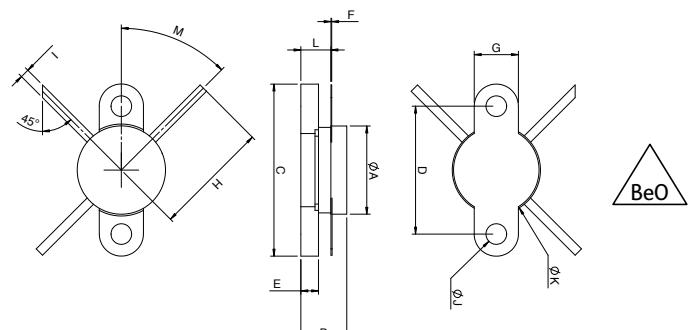
BH202 Cb=0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	12.63	12.83	0.497	0.505
B	6.78	7.19	0.267	0.283
C	24.64	24.89	0.970	0.980
D	18.26	18.67	0.719	0.735
E	2.50	2.67	0.098	0.105
F	0.23	0.27	0.009	0.011
G	6.30	6.40	0.248	0.252
H	16.30	16.70	0.642	0.658
I	1.25	1.29	0.049	0.051
Φj	3.10	3.25	0.122	0.128
Φk	12.14	12.24	0.478	0.482
L	4.12	4.52	0.162	0.178
M	43°	47°	43°	47°



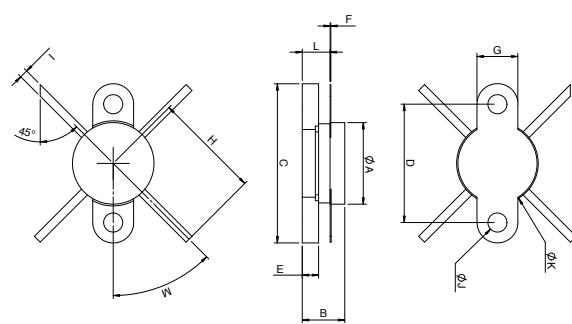
BH203 Cb= 0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	12.63	12.83	0.497	0.505
B	6.78	7.19	0.267	0.283
C	24.64	24.89	0.970	0.980
D	18.26	18.67	0.719	0.735
E	2.50	2.67	0.098	0.105
F	0.23	0.27	0.009	0.011
G	6.30	6.40	0.248	0.252
H	16.30	16.70	0.642	0.658
I	1.25	1.29	0.049	0.051
Φj	3.10	3.25	0.122	0.128
Φk	12.14	12.24	0.478	0.482
L	4.12	4.52	0.162	0.178
M	43°	47°	43°	47°



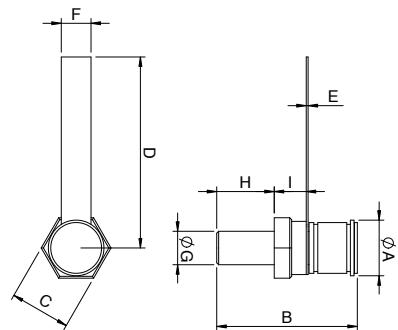
BH204 Cb= 0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	12.63	12.83	0.497	0.505
B	6.78	7.19	0.267	0.283
C	24.64	24.89	0.970	0.980
D	18.26	18.67	0.719	0.735
E	2.50	2.67	0.098	0.105
F	0.23	0.27	0.009	0.011
G	6.30	6.40	0.248	0.252
H	16.30	16.70	0.642	0.658
I	1.25	1.29	0.049	0.051
Φj	3.10	3.25	0.122	0.128
Φk	12.14	12.24	0.478	0.482
L	4.12	4.52	0.162	0.178
M	43°	47°	43°	47°



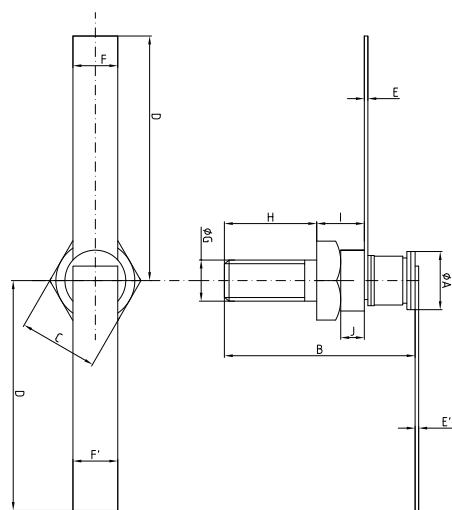
BH300 Cb= 0.4pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	6.5	6.7	0.256	0.264
ΦB	13.95	15.05	0.549	0.593
ΦC	6.30	6.40	0.248	0.252
ΦD	20	-	0.787	-
E	0.20	0.30	0.008	0.012
F	2.97	3.38	0.177	0.133
G	6 -32 UNC -3A			
H	5.6	6.00	0.220	0.236
I	3.25	3.45	0.128	0.136



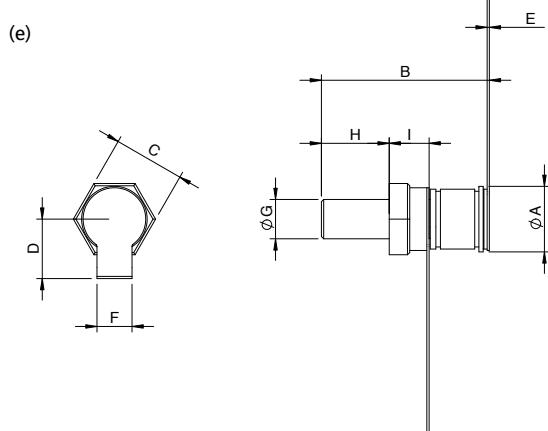
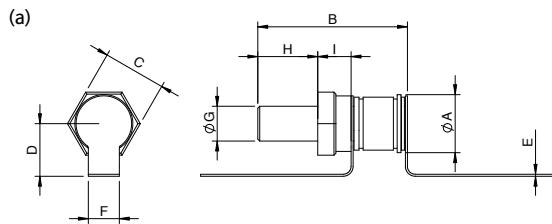
BH301 Cb= 0.2pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	3	3.2	0.118	0.126
B	9.46	10.54	0.372	0.415
C	4.7	4.8	0.185	0.189
D	16.67	16.18	0.617	0.637
E	0.18	0.2	0.007	0.008
E'	0.06	0.1	0.002	0.004
F	2.16	2.58	0.002	0.004
F'	1.95	2	0.077	0.079
ΦG	4 - 40 UNC - 3A			
H	4.42	4.82	0.174	0.190
I	2.82	3.02	0.111	0.119
J	1.52	1.62	0.060	0.064



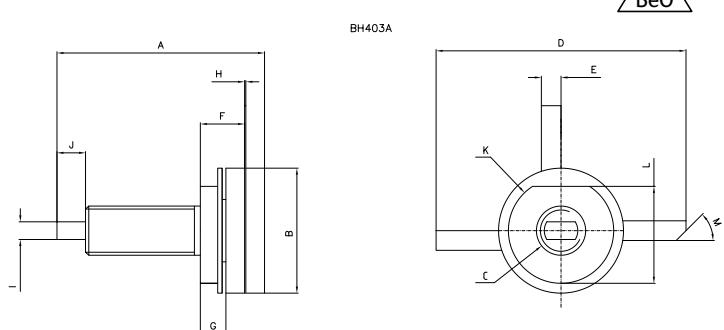
BH303AM Cb= 0.4pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	6.5	6.7	0.256	0.264
B	13.95	15.0	0.549	0.593
ΦC	6.30	6.40	0.248	0.252
D	3.5	-	0.138	-
E	0.17	0.30	0.007	0.012
F	2.97	3.38	0.177	0.133
ΦG	6 -32 UNC -3A			
H	5.6	6.00	0.220	0.236
I	3.25	3.45	0.128	0.136



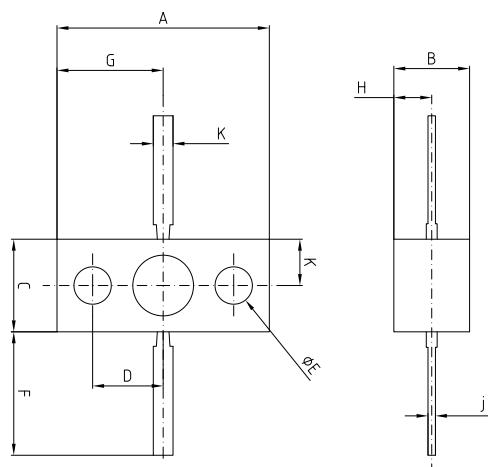
BH403 Cb=0.3pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	21.0	21.3	0.826	0.838
ΦB	12.5	12.9	0.492	0.508
Φc	10-32 UNF 2A			
D	25.3	25.5	0.995	1.004
E	1.90	2.1	0.074	0.083
F	4.4	4.6	0.173	0.181
G	2.5	2.8	0.098	0.110
H	0.1	0.15	0.004	0.005
I	1.57	1.98	0.062	0.078
J	2.7	3.0	0.106	0.118
Φk	10.46	10.87	0.412	0.428
L	9.68	10.08	0.381	0.397
M	44°	46°	44°	46°



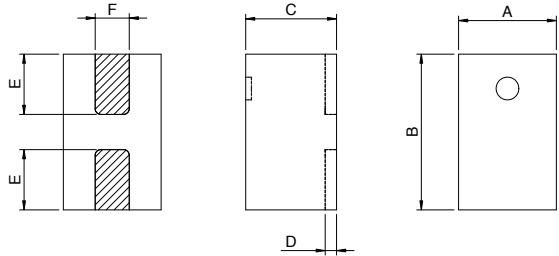
BMH76

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	10.3	10.5	0.406	0.413
B	3.02	3.22	0.119	0.127
C	4	4.2	0.157	0.165
D	3.1	3.3	0.122	0.130
ΦE	2.36	2.52	0.093	0.099
F	3.18	3.68	0.125	0.145
G	5.1	5.3	0.201	0.209
H	1.47	1.67	0.058	0.066
J	0.2	0.24	0.008	0.010
K	0.5	0.7	0.020	0.028
L	1.95	2.15	0.077	0.085



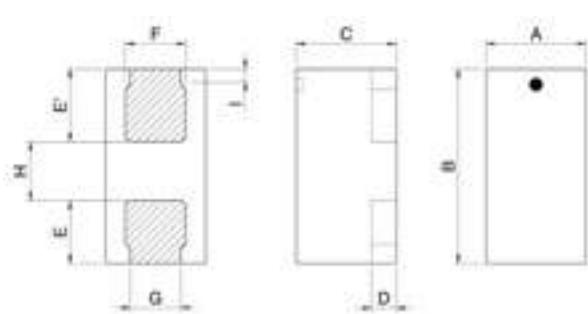
DFN 2L0503

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	0.65	0.90	0,026	0,035
B	1.15	1.45	0.045	0.057
C	0.70	0.91	0.027	0.036
D	Typ. 0.254		Typ. 0.01	
E	Typ. 0.53		Typ. 0.021	
F	Typ. 0.30		Typ. 0.012	



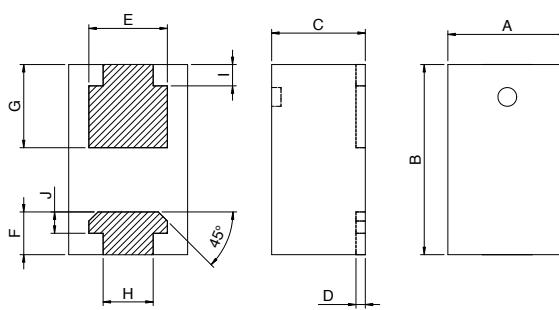
DFN 2L0603

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	0.70	0.90	0.027	0.035
B	1.45	1.65	0.057	0.065
C	0.70	0.90	0.027	0.035
D	Typ. 0.254		Typ. 0.01	
E	Typ. 0.50		Typ. 0.020	
E'	Typ. 0.58		Typ. 0.023	
F	Typ. 0.48		Typ. 0.019	
G	Typ. 0.40		Typ. 0.016	
H	Typ. 0.47		Typ. 0.019	
I	Typ. 0.10		Typ. 0.004	



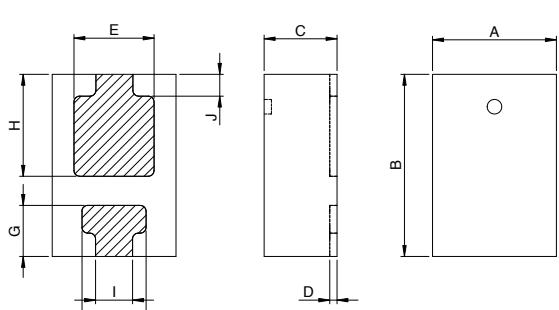
DFN 2L1

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.17	1.37	0.046	0.053
B	1.90	2.10	0.074	0.082
C	0.70	0.90	0.027	0.035
D	Typ. 0.254		Typ. 0.01	
E	Typ. 0.85		Typ. 0.033	
F	Typ. 0.48		Typ. 0.018	
G	Typ. 0.86		Typ. 0.034	
H	Typ. 0.54		Typ. 0.021	
I	Typ. 0.2		Typ. 0.007	
J	Typ. 0.25		Typ. 0.01	



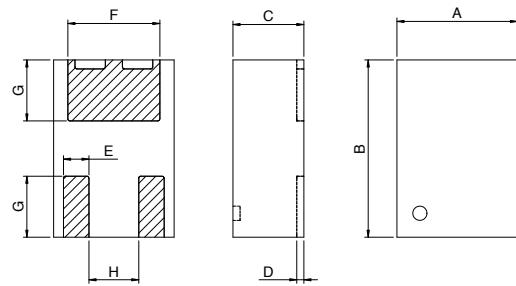
DFN 2L2

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.6	1.8	0.063	0.071
B	2.4	2.6	0.094	0.102
C	0.7	0.9	0.027	0.035
D	Typ. 0.254		Typ. 0.01	
E	Typ. 1.1		Typ. 0.043	
F	Typ. 0.9		Typ. 0.035	
G	Typ. 0.7		Typ. 0.027	
H	Typ. 1.2		Typ. 0.047	
I	Typ. 0.5		Typ. 0.019	
J	Typ. 0.3		Typ. 0.011	



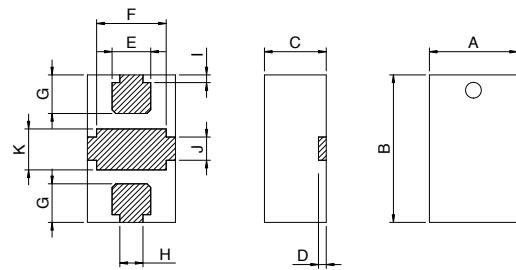
DFN 3L1

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.6	1.8	0.063	0.071
B	2.4	2.6	0.094	0.102
C	0.7	0.9	0.027	0.035
D	Typ. 0.254		Typ. 0.01	
E	Typ. 0.36		Typ. 0.014	
F	Typ. 1.3		Typ. 0.05	
G	Typ. 0.86		Typ. 0.034	
H	Typ. 0.7		Typ. 0.027	



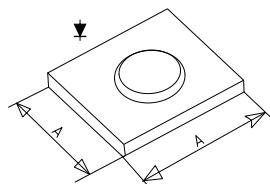
DFN 3L2

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.0	1.25	0.040	0.049
B	1.8	2.0	0.071	0.079
C	0.7	0.9	0.027	0.035
D	Typ. 0.254		Typ. 0.01	
E	Typ. 0.4		Typ. 0.016	
F	Typ. 0.85		Typ. 0.033	
G	Typ. 0.3		Typ. 0.011	
H	Typ. 0.3		Typ. 0.011	
I	Typ. 0.1		Typ. 0.004	
J	Typ. 0.3		Typ. 0.011	
K	Typ. 0.55		Typ. 0.021	



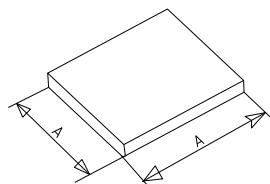
Die C2

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C2A	0.34	0.4	0.013	0.016
C2B	0.54	0.6	0.021	0.023
C2C	0.74	0.8	0.029	0.031
C2D	0.84	0.9	0.033	0.036
C2E	0.94	1	0.037	0.039
C2I	1.5	1.6	0.059	0.063
C2L	2.1	2.2	0.082	0.087



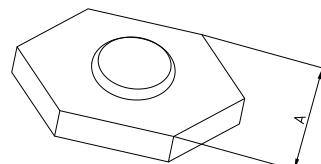
Die C4

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C4A	0.2	0.3	0.008	0.012
C4B	0.3	0.4	0.012	0.016
C4C	0.4	0.5	0.016	0.020
C4D	0.5	0.7	0.020	0.028



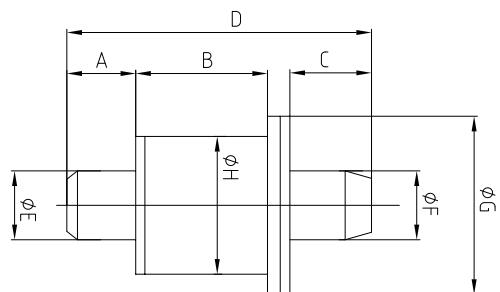
Die C6

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
C6B	2.5	2.6	0.098	0.103
C6C	3.0	3.1	0.118	0.122



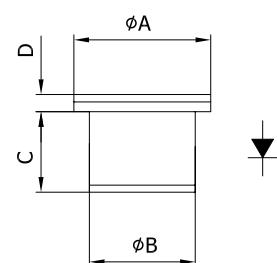
F27d Cb=0.20pF max

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.55	1.59	0.061	0.063
B	1.74	1.82	0.069	0.072
C	1.55	1.59	0.061	0.063
D	5.15	5.65	0.202	0.222
ΦE	1.55	1.59	0.061	0.063
ΦF	1.55	1.59	0.061	0.063
ΦG	2.95	3.15	0.116	0.124
ΦH	2.01	2.05	0.079	0.081



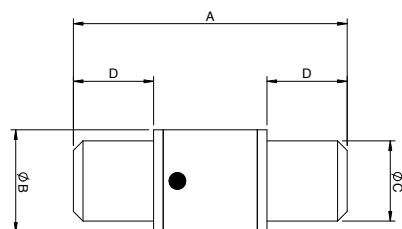
F30

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	2.94	3.14	0.116	0.124
ΦB	1.93	2.13	0.076	0.084
C	1.4	1.6	0.055	0.063
D	0.4	0.6	0.016	0.024



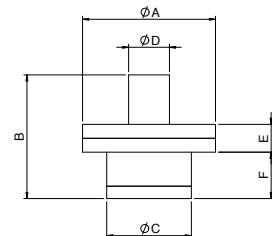
F51

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	4.9	5.3	0.193	0.209
ΦB	1.93	2.13	0.076	0.084
ΦC	1.47	1.67	0.058	0.066
D	1.47	1.67	0.058	0.066



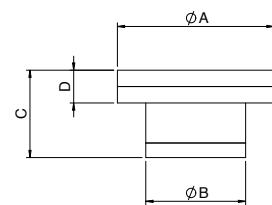
F54

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	2.00	2.16	0.079	0.085
B	1.70	2.00	0.067	0.079
ΦC	1.19	1.35	0.047	0.053
ΦD	0.61	0.66	0.024	0.029
E	0.40	0.47	0.016	0.019
F	1.00	1.20	0.039	0.047



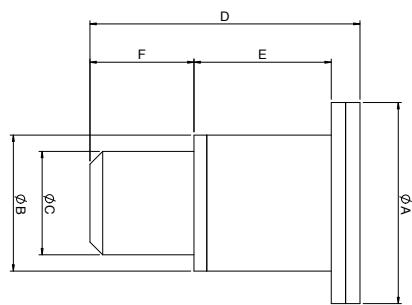
F54S

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	2.00	2.16	0.079	0.085
ΦB	1.19	1.35	0.047	0.053
C	0.84	0.94	0.073	0.047
D	0.36	0.46	0.014	0.018



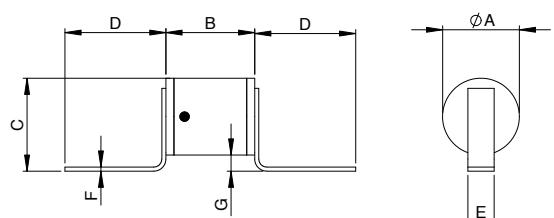
F60

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	2.95	3.15	0.116	0.124
ΦB	1.93	2.13	0.076	0.084
ΦC	1.52	1.62	0.060	0.064
D	3.76	4.21	0.148	0.166
E	1.81	1.95	0.071	0.077
F	1.51	1.63	0.059	0.064



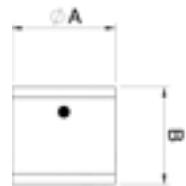
M208a Cb=0.12pF max

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053
C	1.3	1.9	0.052	0.076
D	2.5	-	0.100	-
E	0.55	0.65	0.022	0.026
F	0.06	0.1	0.0024	0.004
G	0.1	0.5	0.004	0.02



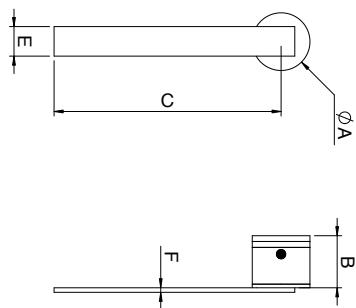
M208b Cb=0.12pF max

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
ΦA	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053



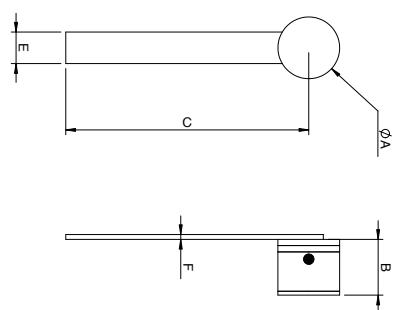
M208c Cb=0.12pF max

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053
C	5	-	0.2	-
D	0.55	0.65	0.022	0.026
E	0.06	0.1	0.0024	0.004



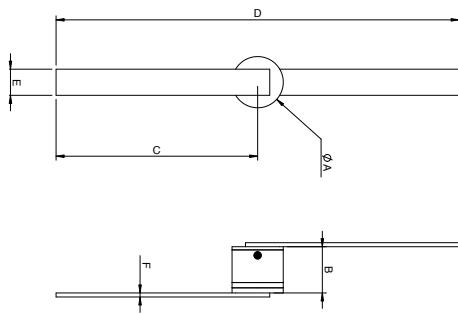
M208d Cb=0.12pF max

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053
C	5	-	0.2	-
D	0.55	0.65	0.022	0.026
E	0.06	0.1	0.0024	0.004



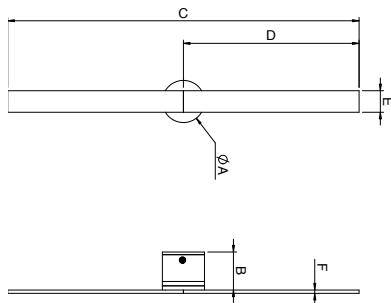
M208e Cb=0.12pF max

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053
C	5	-	0.2	-
D	0.55	0.65	0.022	0.026
E	0.06	0.1	0.0024	0.004



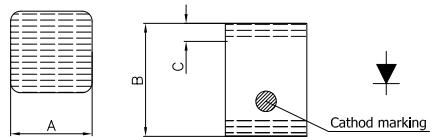
M208f Cb=0.12pF max

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.07	1.47	0.042	0.058
B	0.95	1.35	0.037	0.053
c	9.8	10.2	0.392	0.408
D	5	-	0.2	-
E	0.55	0.65	0.022	0.026
F	0.06	0.1	0.0024	0.004



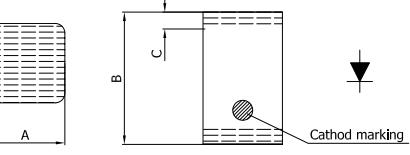
SMD4 Cb=0.24pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.9	2.3	0.076	0.091
B	2.75	3.5	0.108	0.138
C	0.2	0.8	0.008	0.031



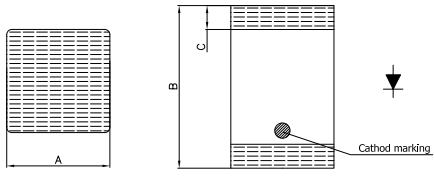
SMD6 Cb=0.24pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	2.5	2.8	0.098	0.110
B	4.7	5.2	0.185	0.205
C	0.3	0.8	0.012	0.031



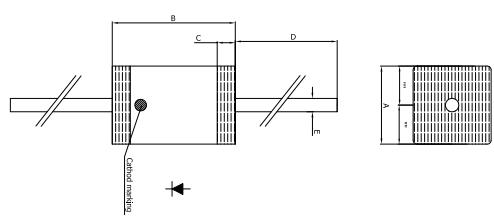
SMD8 Cb=0.4pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	3.5	3.8	0.138	0.15
B	4.7	5.2	0.185	0.205
C	0.2	0.6	0.008	0.024



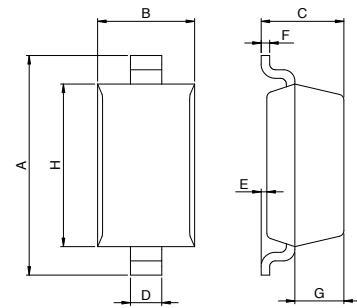
SMD8 + leads

Symbol	Millimeters			Inches		
	Min	Typ	Max	Min	Typ	Max
A	3.5	-	3.8	0.138	-	0.15
B	4.7	-	5.2	0.185	-	0.205
C	0.2	-	0.6	0.008	-	0.024
D	-	25	-	-	0.98	-
ΦE	0.95	-	1.05	0.037	-	0.041



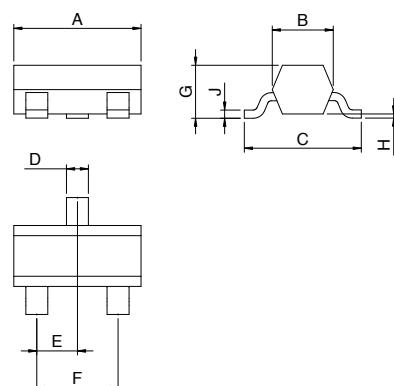
SOD323 Cb=0.25pF

Symbol	Millimeters		Inches	
	Typical		Typical	
A	2.50		0.098	
B	1.25		0.049	
C	1.10		0.043	
D	0.30		0.012	
E	0.05		0.002	
F	0.15		0.006	
G	0.20		0.008	
H	1.70		0.067	



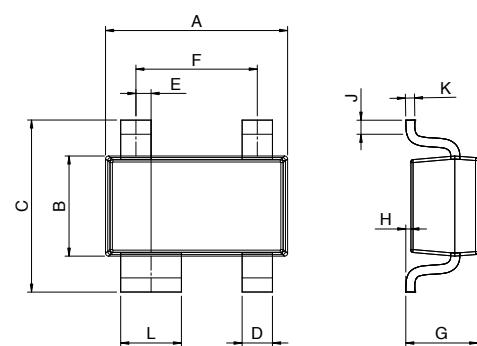
SOT23 Cb=0.25pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	2.80	3.04	0.110	0.120
B	1.20	1.40	0.047	0.055
C	2.10	2.64	0.083	0.104
D	0.36	0.50	0.014	0.020
E	0.89	1.02	0.035	0.040
F	1.78	2.03	0.070	0.080
G	0.90	1.17	0.035	0.046
H	0.01	0.15	0.0004	0.006
J	0.08	0.20	0.003	0.008



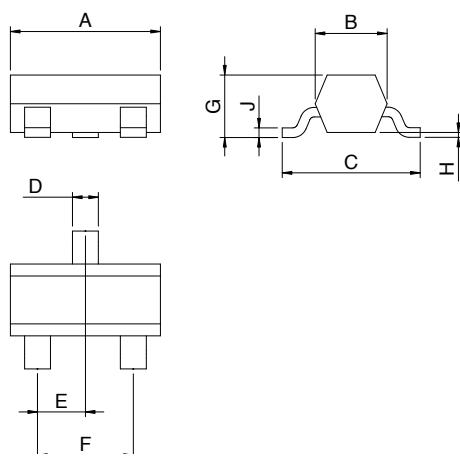
SOT143 Cb=0.25pF

Symbol	Millimeters		Inches	
	Typical	Typical	Typical	Typical
A	2.90		0.114	
B	2.60		0.102	
C	1.10		0.043	
D	1.30		0.051	
E	0.80		0.031	
F	0.40		0.016	
G	1.90		0.075	
H	0.12		0.005	
I	0.10		0.004	
J	max 8°			



SOT323 Cb=0.25pF

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.80	2.00	0.071	0.079
B	1.15	1.35	0.045	0.053
C	1.90	2.30	0.075	0.091
D	0.25	0.35	0.010	0.014
E	0.60	0.70	0.024	0.028
F	1.25	1.35	0.049	0.053
G	0.80	1.00	0.031	0.039
H	0.01	1.00	0.0004	0.039
J	0.10	0.15	0.004	0.006



Other information

PACKING OF SMD DIODES

OUR STANDARD TAPE AND REEL ARE:

- By 1000 pieces : articles ended by T1
- By 3000 pieces : articles ended by T3

Smaller quantities than 1000 are packed either in bulk either in cut tape depending on the ordered quantity and availability in stock.

Dedicated tape and reel (with empty tape for leader and trailer before and after the devices) can be done on request, this will be precised on the order by a specific line "ZDI-T&R" with an additional fee.

NOTE

Cobham Microwave and his authorized representative reserve the right to make change to any products or information presented herein at any time without notice.

Please consult our sales office or representative for last update or additionnal information.

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