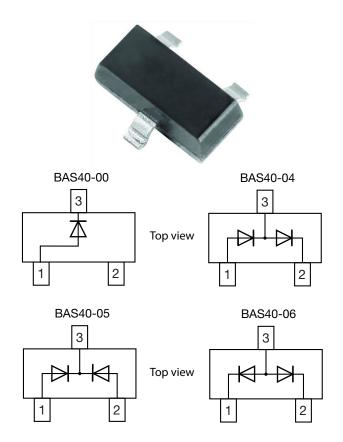


Small Signal Schottky Diodes, Single and Dual



FEATURES

- These diodes feature very low turn-on voltage and fast switching
- These devices are protected by a PN junction guardring against excessive voltage, such as electrostatic discharges
- AEC-Q101 qualified available
- Molding compound meets UL 94 V-0 flammability rating
- RoHS

AUTOMOTIVE GRADE

- Moisture Sensitivity Level (MSL) 1
- Base P/N-E3 RoHS-compliant, commercial grade
- Base P/N-HE3 RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

MECHANICAL DATA

Case: SOT-23

Weight: approx. 9.2 mg
Packaging codes / options:

18/10K per 13" reel (8 mm tape), 10K/box 08/3K per 7" reel (8 mm tape), 15K/box

LINKS TO ADDITIONAL RESOURCES











PARTS T	ABLE						
PART	ORDERING CODE	AEC-Q101 QUALIFIED	TYPE MARKING	CIRCUIT CONFIGURATION	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY	
	BAS40-00-E3-08	no		Single	3 000	15 000	
BAS40-00	BAS40-00-HE3_A-08	yes	43G		(8 mm tape on 7" reel)		
BA040 00	BAS40-00-E3-18	no	43G	Sirigle	10 000	10 000	
	BAS40-00-HE3_A-18	yes			(8 mm tape on 13" reel)	10 000	
BAS40-04	BAS40-04-E3-08	no	44G		3 000	15 000	
	BAS40-04-HE3_A-08	yes		Dual serial	(8 mm tape on 7" reel)		
	BAS40-04-E3-18	no		Duai Seriai	10 000	10 000	
	BAS40-04-HE3_A-18	yes			(8 mm tape on 13" reel)	10 000	
	BAS40-05-E3-08	no			3 000	15 000	
BAS40-05	BAS40-05-HE3_A-08	yes	45G	Common cathode	(8 mm tape on 7" reel)	13 000	
BA340-03	BAS40-05-E3-18	no		Common camode	10 000	10 000	
	BAS40-05-HE3_A-18	yes			(8 mm tape on 13" reel)	10 000	
	BAS40-06-E3-08	no		Common anode	3 000	15 000	
BAS40-06	BAS40-06-HE3_A-08	yes	46G		(8 mm tape on 7" reel)	15 000	
	BAS40-06-E3-18	no			10 000	10 000	
	BAS40-06-HE3_A-18	yes			(8 mm tape on 13" reel)	10 000	



PACKAGE					
PACKAGE NAME WEIGHT MOLDING COMPOUND MOISTURE SENSITIVIT LEVEL		MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS		
SOT-23	9.2 mg	UL 94 V-0	MSL 1 (according J-STD-020)	Peak temperature max. 260 °C	

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Repetitive peak reverse voltage		$V_{RRM} = V_{RWM} = V_{R}$	40	V	
Forward continuous current (1)		I _F	200	mA	
Surge forward current (1)	t _p < 1 s	I _{FSM}	600	mA	
Power dissipation	on FR-4 board with recommended soldering footprint	В	220	mW	
Fower dissipation	Infinite heatsink	P _{tot}	310	mW	

Note

(1) Infinite heatsink

THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Thermal resistance junction to ambient air	according to JEDEC® 51-3 on FR-4 board with recommended soldering footprint	R _{thJA}	460	K/W	
Thermal resistance junction lead	Infinite heatsink	R _{thJL}	320	K/W	
Maximum junction temperature		T _j	125	°C	
Storage temperature range		T _{stg}	-65 to +150	°C	
Operating temperature range		T _{op}	-55 to +125	°C	

ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	I _R = 10 μA (pulsed)	V_{BR}	40			V
Leakage current	V _R = 30 V	I _R		20	100	nA
Forward voltage	I _F = 1 mA	V _F			380	mV
Forward voltage (1)	I _F = 50 mA	V _F			1	V
Diode capacitance	V _R = 0; f = 1 MHz	C _D		2.5	5	pF
Reverse recovery time	$I_F = I_R = 10 \text{ mA},$ $i_R = 1 \text{ mA}, R_L = 100 \Omega$	t _{rr}			5	ns

Note

 $^{(1)}~$ Pulse test $t_p < 300 \mu s$

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

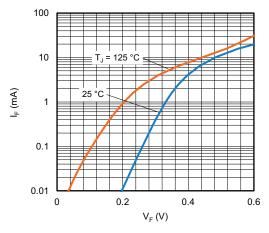


Fig. 1 - Typical Forward Current vs. Forward Voltage

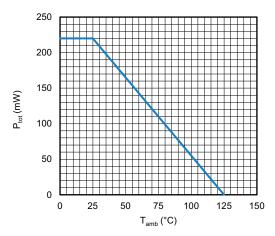


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

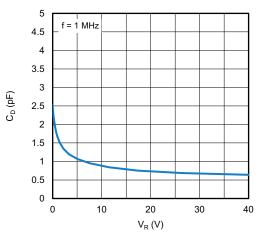


Fig. 3 - Typical Capacitance vs. Reverse Voltage

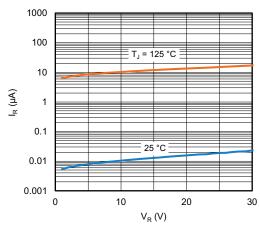
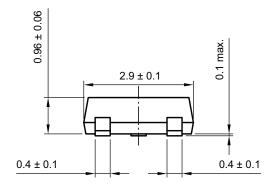
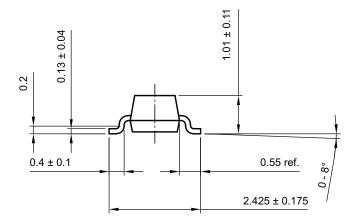
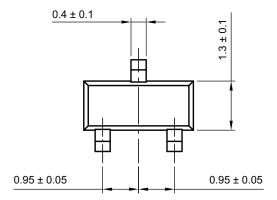


Fig. 4 - Typical Reverse Leakage Current vs. Reverse Voltage

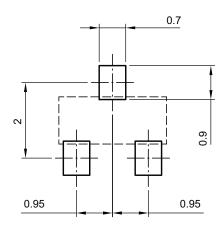
PACKAGE DIMENSIONS in millimeters: **SOT-23**







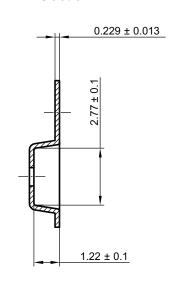
footprint recommendation:



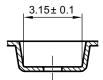
Created - Date: 18-Oct-2021 Rev. 01 - Date: 18-Jan-2022 S8-V-3929.01-009 (4)

CARRIER TAPE SOT-23

A-A Section



B-B Section



Created Date: 04-Feb-2010 Rev. Date: 07-Feb-2022 S8-V-3929.01-005 (4)

ORIENTATION IN CARRIER TAPE SOT-23

Unreeling direction SOT-23 Top view

Created Date: 04-Feb-2010 Rev. Date: 07-Nov-2022 S8-V-3929.01-005 (4)



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