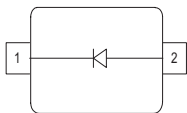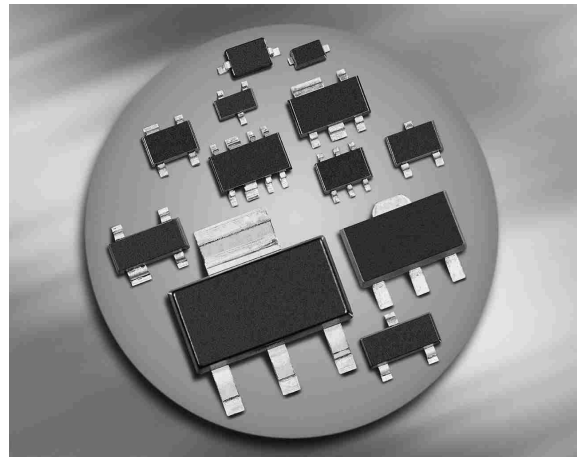**Silicon Tuning Diode**

- For SAT tuners

- High capacitance ratio

- Low series resistance

- Excellent uniformity and matching due to "in-line" matching assembly procedure

- Pb-free (RoHS compliant) package

RoHS ✓

BB837
BB857
BB857-02V

Type	Package	Configuration	Marking
BB837	SOD323	single	white M
BB857*	SCD80	single	OO
BB857-02V	SC79	single	P

* Not for new design

Maximum Ratings at T_A = 25 °C, unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	30	V
Peak reverse voltage $R \geq 5k\Omega$	V_{RM}	35	
Forward current	I_F	20	mA
Operating temperature range	T_{op}	-55 ...150	°C
Storage temperature	T_{Stg}	-55 ...150	

2014-03-31

Electrical Characteristics at T_A = 25 °C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current V_R = 30 V V_R = 30 V, T_A = 85 °C	I_R	- -	- -	10 200	nA
AC Characteristics					
Diode capacitance V_R = 1 V, f = 1 MHz V_R = 25 V, f = 1 MHz V_R = 28 V, f = 1 MHz	C_T	6 0.5 0.45	6.6 0.55 0.52	7.2 0.65 -	pF
Capacitance ratio V_R = 1 V, V_R = 25 V, f = 1 MHz	C_{T1}/C_{T25}	10.2	12	-	-
Capacitance ratio V_R = 1 V, V_R = 28 V, f = 1 MHz	C_{T1}/C_{T28}	9.7	12.7	-	
Capacitance matching[1] V_R = 1V ... 28V, f = 1 MHz, 7 diodes sequence	$\Delta C_T/C_T$	-	-	5	%
Series resistance V_R = 5 V, f = 470 MHz	r_S	-	1.5	-	Ω

[1]For details please refer to Application Note 047

2014-03-31
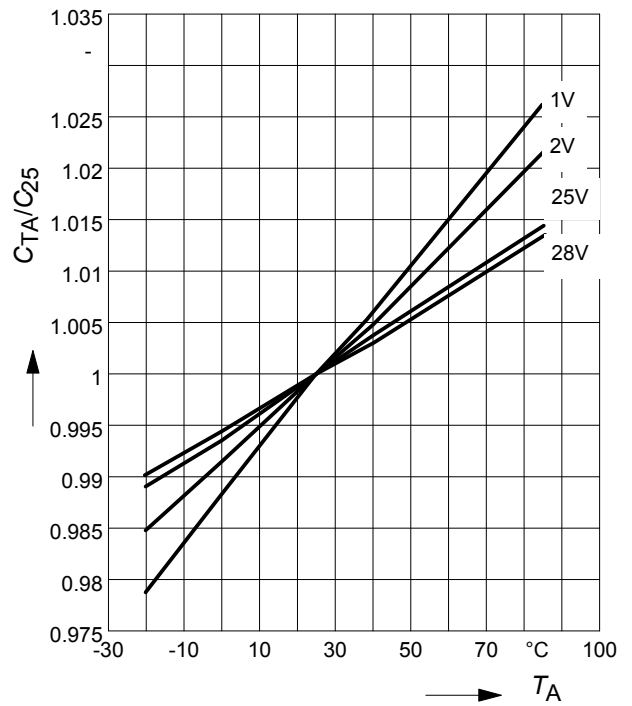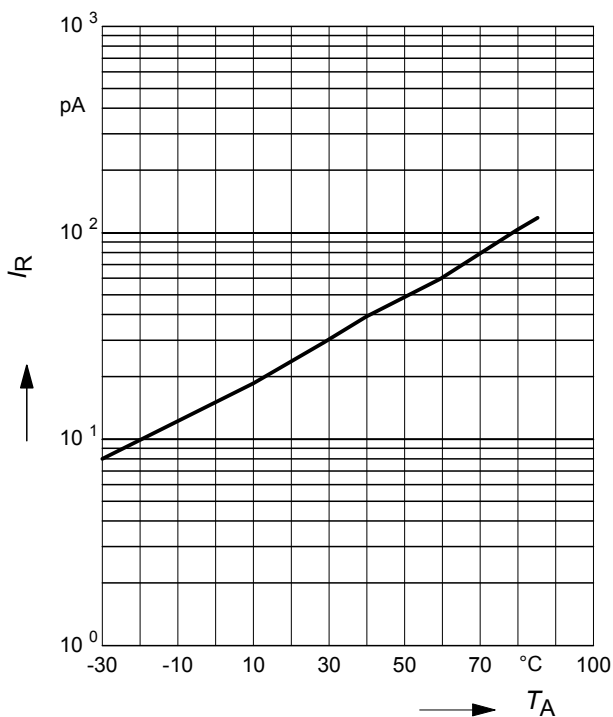
Diode capacitance $C_T = f(V_R)$

f = 1MHz
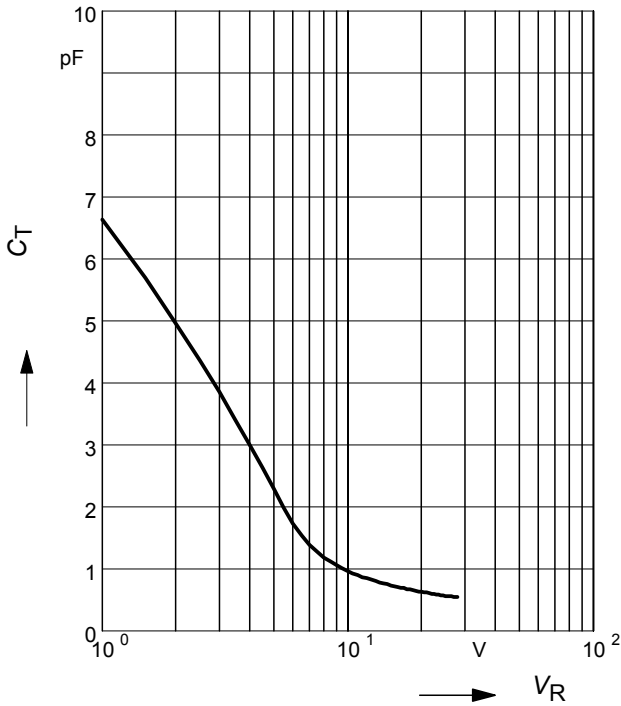
Normalized diode capacitance

$C_{(TA)}/C_{(25°C)} = f(T_A)$; f = 1MHz
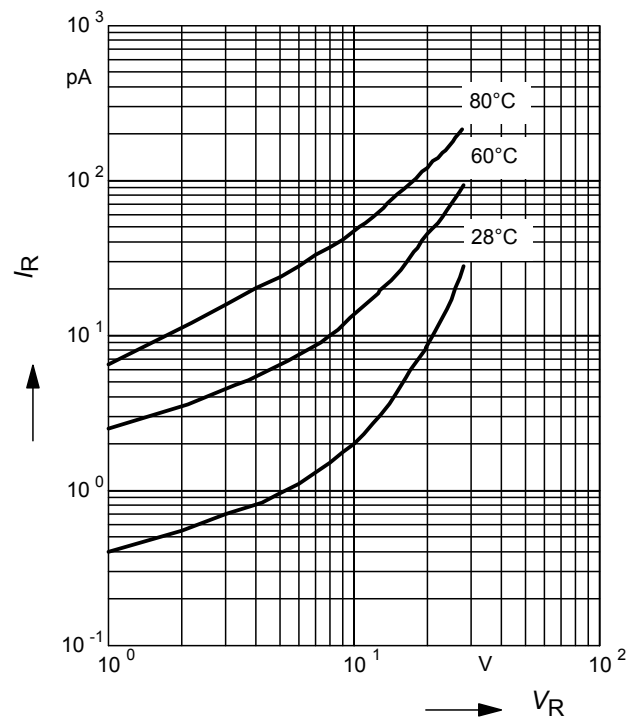

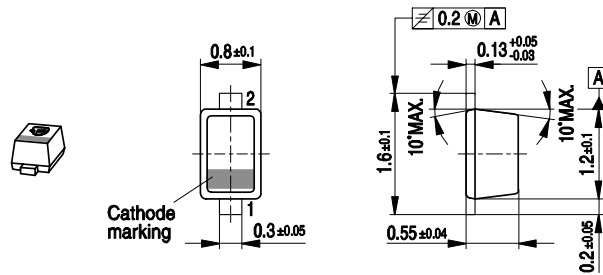**Reverse current** $I_R = f(T_A)$

V_R = 28V

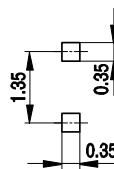

Reverse current $I_R = f(V_R)$

T_A = Parameter

2014-03-31

Package Outline

Foot Print

Marking Layout (Example)

2005, June
Date code

BAR63-02V
Type code

Cathode marking
Laser marking

Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø180 mm = 8.000 Pieces/Reel (2 mm Pitch)
Reel ø330 mm = 10.000 Pieces/Reel

Package Outline

0.8 ±0.1

2

Cathode
marking

1

0.3 ±0.05

0.2 Ⓜ A

0.13 +0.05 / -0.03

A

1.7 ±0.1

10° MAX.

7° ±1.5°

1.3 ±0.1

0.7 ±0.1

0.2 ±0.05

Foot Print

1.45

0.35

0.35

Marking Layout (Example)

2005, June
Date code

GGF

BAR63-02W
Type code

Cathode marking
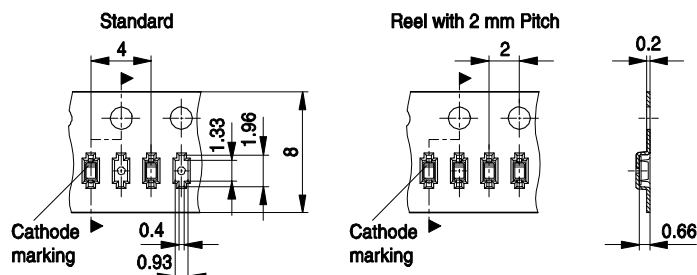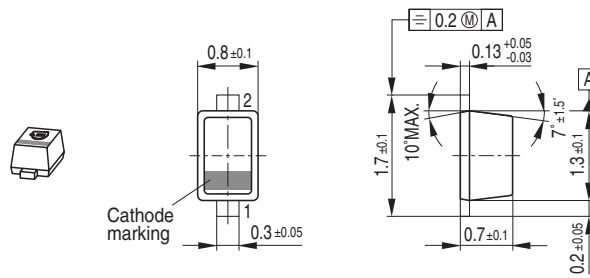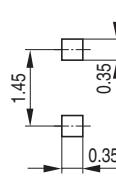*Laser marking*

Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
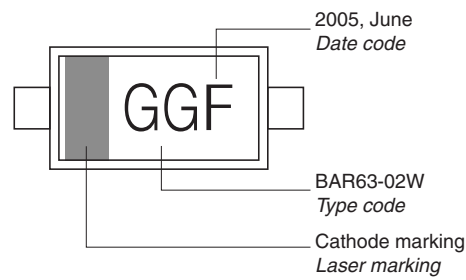Reel ø180 mm = 8.000 Pieces/Reel (2 mm Pitch)
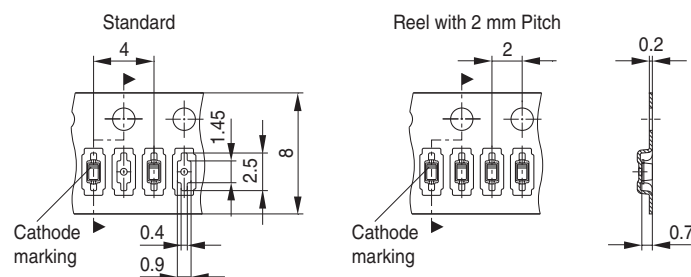Reel ø330 mm = 10.000 Pieces/Reel

Standard

4

1.45

2.5

8

Cathode
marking

0.4

0.9

Reel with 2 mm Pitch
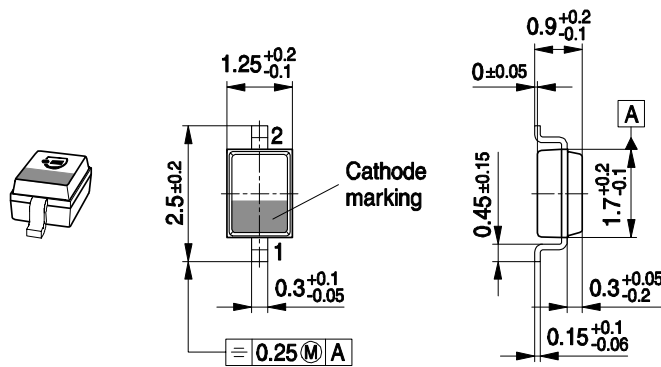
2

Cathode
marking

0.2

0.7

Date Code marking for discrete packages with one digit (SCD80, SC79, SC75[1]) CES-Code

Month	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
01	a	p	A	P	a	p	A	P	a	p	A	P
02	b	q	B	Q	b	q	B	Q	b	q	B	Q
03	c	r	C	R	c	r	C	R	c	r	C	R
04	d	s	D	S	d	s	D	S	d	s	D	S
05	e	t	E	T	e	t	E	T	e	t	E	T
06	f	u	F	U	f	u	F	U	f	u	F	U
07	g	v	G	V	g	v	G	V	g	v	G	V
08	h	x	H	X	h	x	H	X	h	x	H	X
09	j	y	J	Y	j	y	J	Y	j	y	J	Y
10	k	z	K	Z	k	z	K	Z	k	z	K	Z
11	l	2	L	4	l	2	L	4	l	2	L	4
12	n	3	N	5	n	3	N	5	n	3	N	5

1) New Marking Layout for SC75, implemented at October 2005.

.

Package Outline

1.25$^{+0.2}_{-0.1}$

2.5±0.2

2

Cathode
marking

1

0.3$^{+0.1}_{-0.05}$

0.25 Ⓜ A

0.9$^{+0.2}_{-0.1}$

0±0.05

A

0.45±0.15

1.7$^{+0.2}_{-0.1}$

0.3$^{+0.05}_{-0.2}$

0.15$^{+0.1}_{-0.06}$

Foot Print

0.8

1.7

0.8

0.6

Marking Layout (Example)

GG

BAR63-03W
Type code

Cathode marking
Color ink or laser marking

Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel

4

0.2

8

2.9

2

Cathode
marking

0.65

1.35

1

2014-03-31

Edition 2009-11-16

Legal Disclaimer

Information

For further information on technology, delivery terms and conditions and prices, please contact the nearest Infineon Technologies Office (<www.infineon.com>).

Warnings

Due to technical requirements, components may contain dangerous substances. For information on the types in question, please contact the nearest Infineon Technologies Office.
Infineon Technologies components may be used in life-support devices or systems only with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

2014-03-31