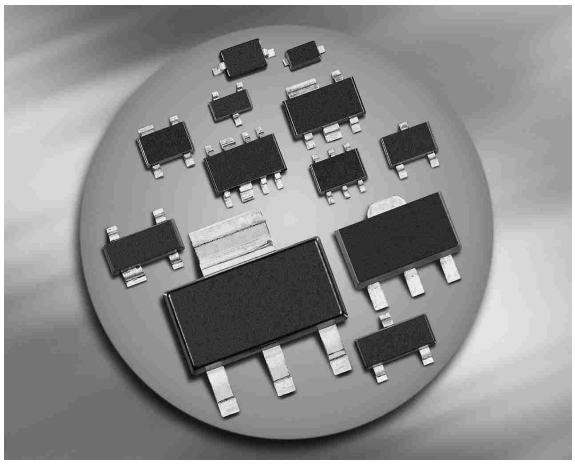
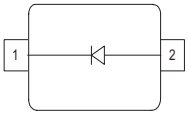
Silicon Tuning Diode

- For UHF-TV-tuners
- High capacitance ratio
- Low series inductance
- Low series resistance
- Excellent uniformity and matching due to "in-line" matching assembly procedure
- Pb-free (RoHS compliant) package



RoHS

BB535
BB555/-02V



Type	Package	Configuration	L_S(nH)	Marking
BB535	SOD323	single	1.8	white S
BB555	SCD80	single	0.6	BB
BB555-02V	SC79	single	0.6	B

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	

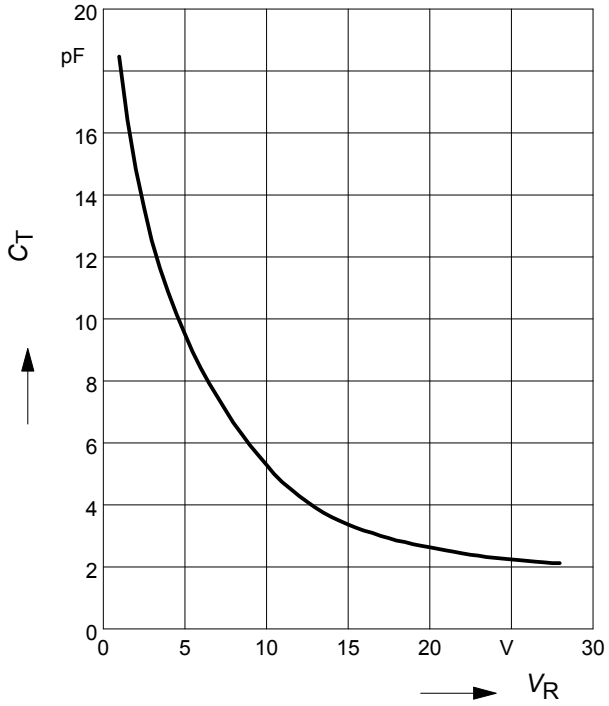
Electrical Characteristics at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current	I_R				nA
V_R = 30 V		-	-	10	
V_R = 30 V, T_A = 85 °C		-	-	200	
AC Characteristics					
Diode capacitance	C_T				pF
V_R = 1 V, f = 1 MHz		17.5	18.7	20	
V_R = 2 V, f = 1 MHz		14.01	15	16.1	
V_R = 25 V, f = 1 MHz		2.05	2.24	2.4	
V_R = 28 V, f = 1 MHz		1.9	2.1	2.3	
Capacitance ratio	C_{T1}/C_{T28}	8.2	8.9	9.8	-
V_R = 1 V, V_R = 28 V, f = 1 MHz					
Capacitance ratio	C_{T2}/C_{T25}	6	6.7	7.5	
V_R = 2 V, V_R = 25 V, f = 1 MHz					
Capacitance matching[1)]	$\Delta C_T/C_T$				%
V_R = 1V to 28V, f = 1 MHz, **7** diodes sequence, BB535		-	-	2.5	
V_R = 1V to 28V, f = 1 MHz, **4** diodes sequence, BB555/-02V		-	0.15	1	
V_R = 1V to 28V, f = 1 MHz, **7** diodes sequence, BB555/-02V		-	0.25	2	
Series resistance	r_S	-	0.58	0.75	Ω
V_R = 3 V, f = 470 MHz					
Series inductance	L_S	-	0.6	-	nH

[1]For details please refer to Application Note 047

Diode capacitance $C_T = f(V_R)$

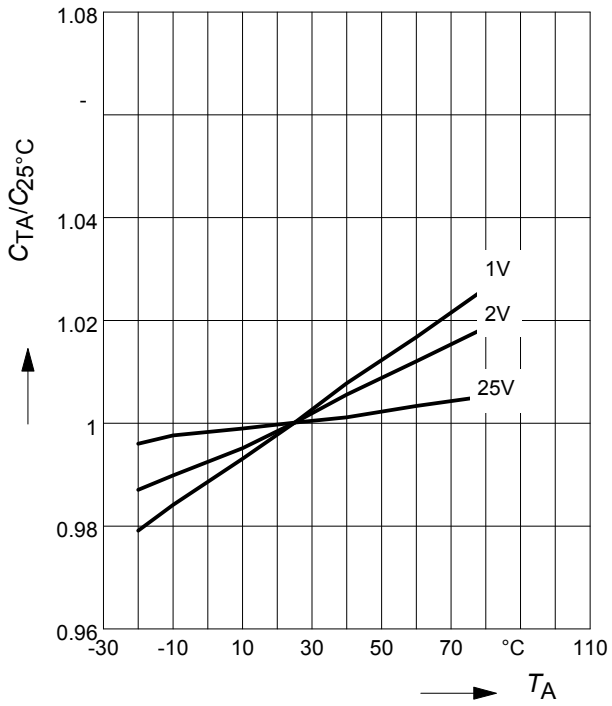
f = 1MHz



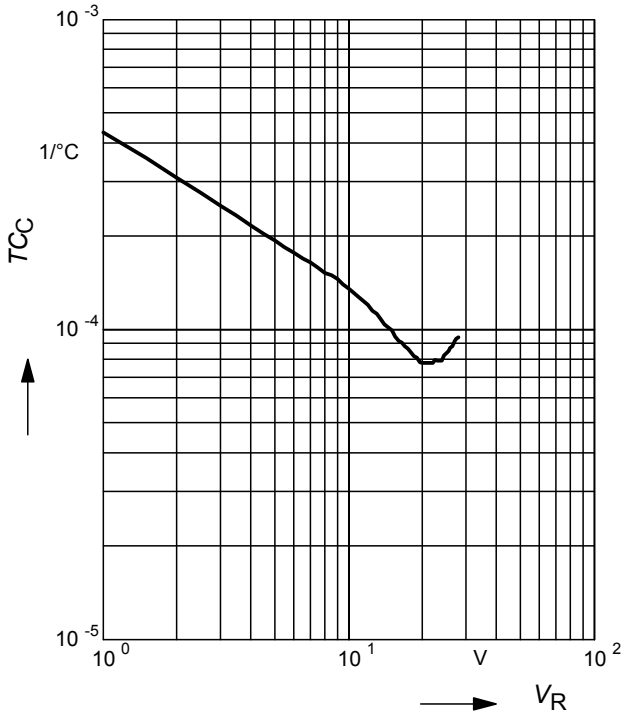
Normalized diode capacitance

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

V_R = Parameter

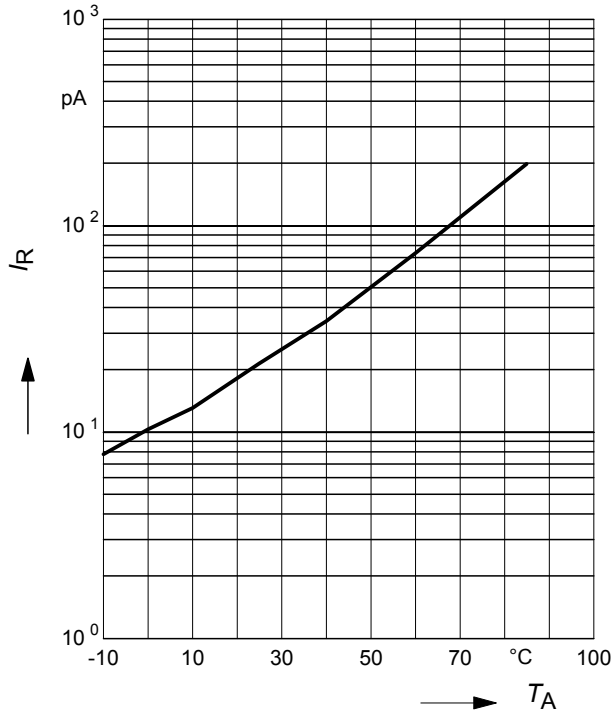


Temperature coefficient of the diode capacitance $T_{Cc} = f(V_R)$



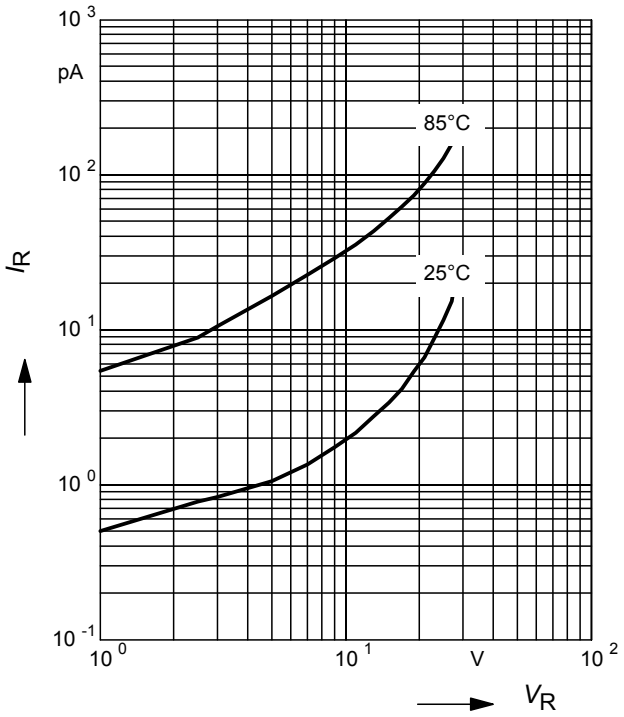
Reverse current $I_R = f(T_A)$

V_R = 28 V

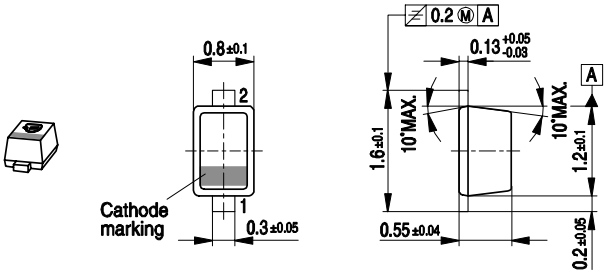


Reverse current $I_R = f(V_R)$

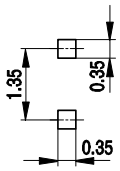
T_A = Parameter



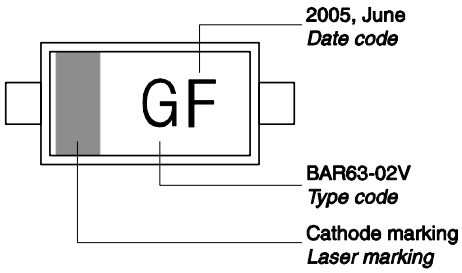
Package Outline



Foot Print

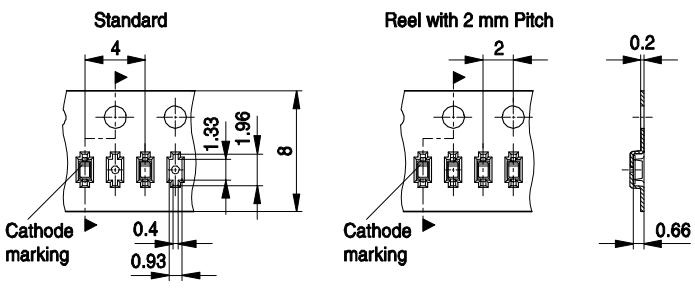


Marking Layout (Example)

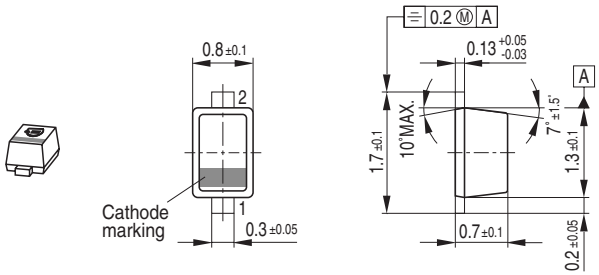


Standard Packing

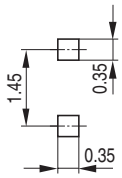
Reel ø180 mm = 3.000 Pieces/Reel
Reel ø180 mm = 8.000 Pieces/Reel (2 mm Pitch)
Reel ø330 mm = 10.000 Pieces/Reel



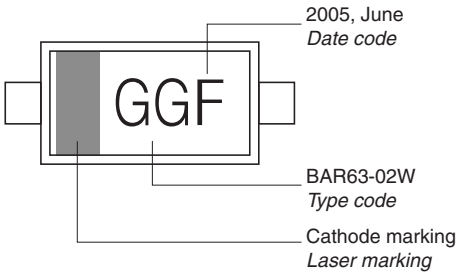
Package Outline



Foot Print

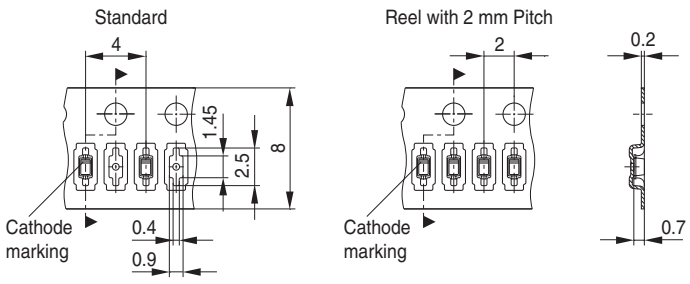


Marking Layout (Example)



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

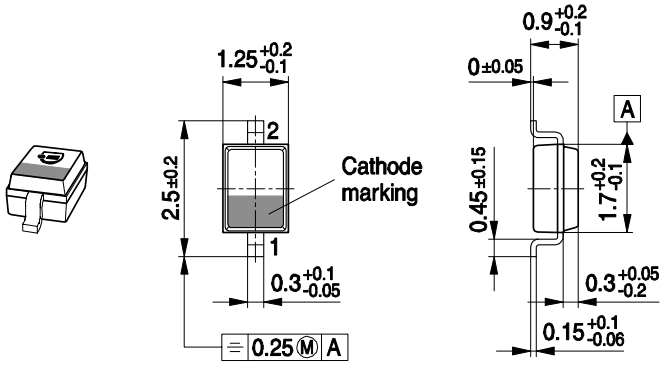


Date Code marking for discrete packages with one digit (SCD80, SC79, SC75[1]) CES-Code

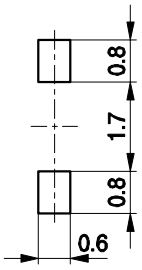
Month	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
01	a	p	A	P	a	p	A	P	a	p	A	P
02	b	q	B	Q	b	q	B	Q	b	q	B	Q
03	c	r	C	R	c	r	C	R	c	r	C	R
04	d	s	D	S	d	s	D	S	d	s	D	S
05	e	t	E	T	e	t	E	T	e	t	E	T
06	f	u	F	U	f	u	F	U	f	u	F	U
07	g	v	G	V	g	v	G	V	g	v	G	V
08	h	x	H	X	h	x	H	X	h	x	H	X
09	j	y	J	Y	j	y	J	Y	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.

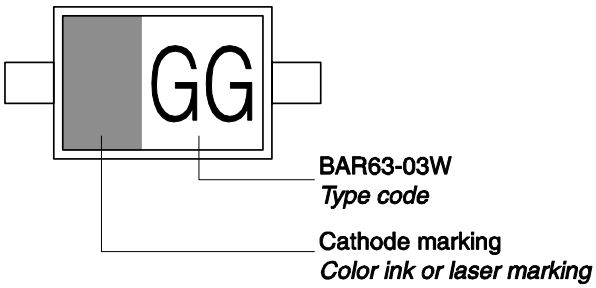
Package Outline



Foot Print

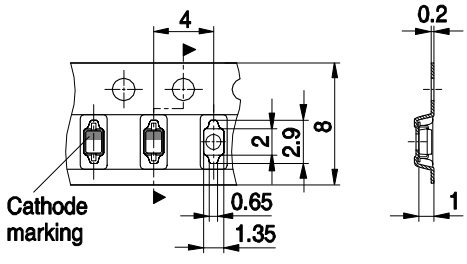


Marking Layout (Example)



Standard Packing

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



Edition 2009-11-16

Published by
Infineon Technologies AG
81726 Munich, Germany

© 2009 Infineon Technologies AG
All Rights Reserved.

Legal Disclaimer

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics. With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation, warranties of non-infringement of intellectual property rights of any third party.

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.