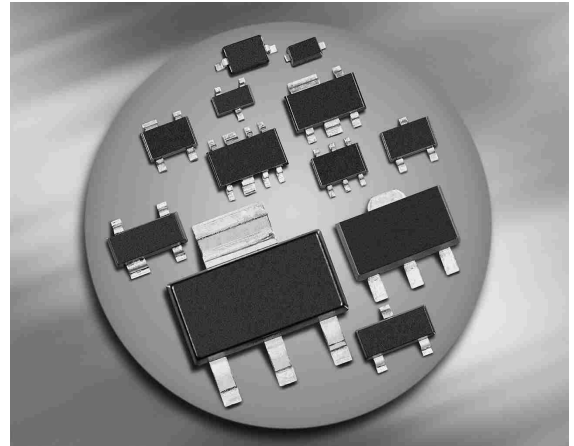
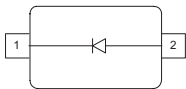


Silicon Tuning Diode

- For UHF-TV-tuners
- High capacitance ratio
- Low series inductance
- Low series resistance
- Excellent uniformity and matching due to "in-line" matching assembly procedure



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 $T_A = 25^\circ\text{C}$, unless otherwise specified

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

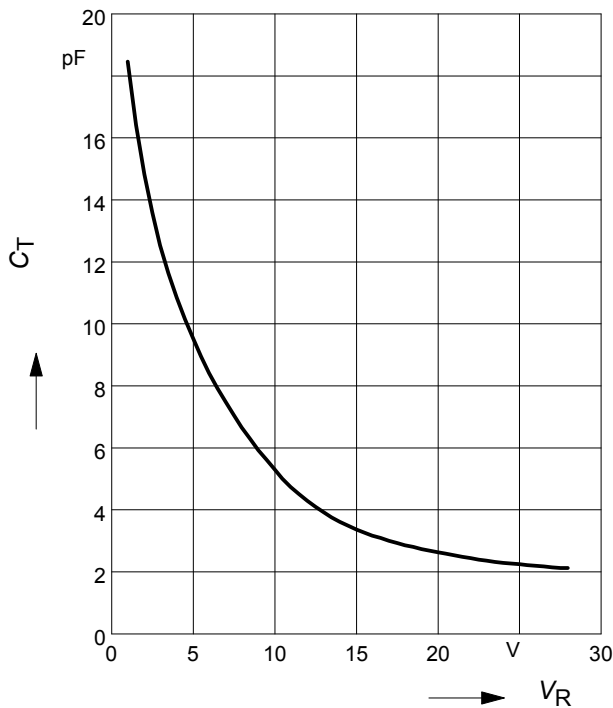
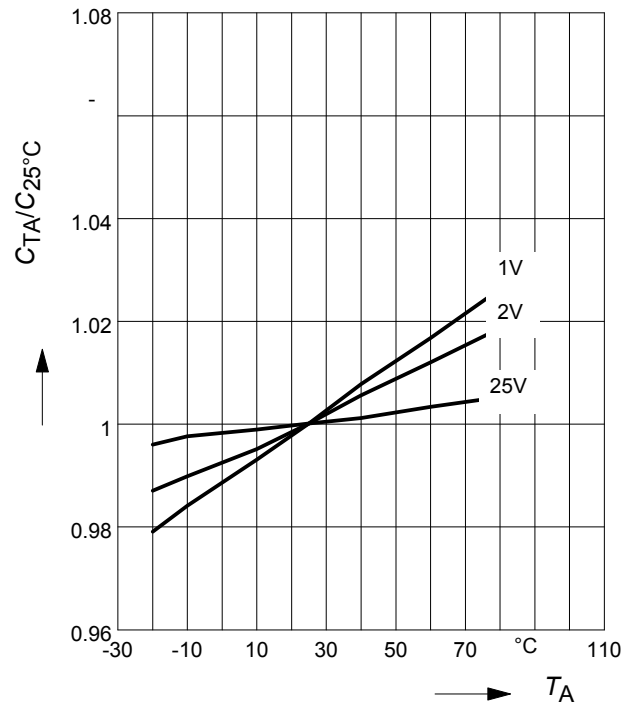
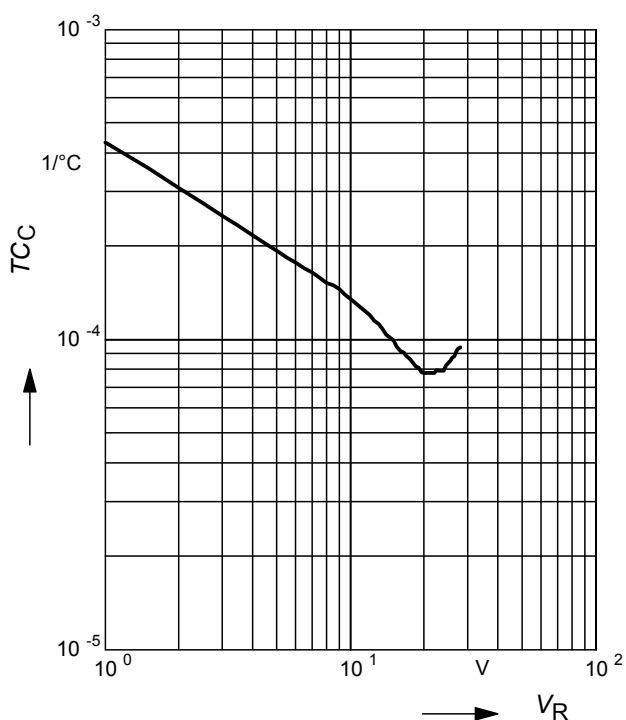
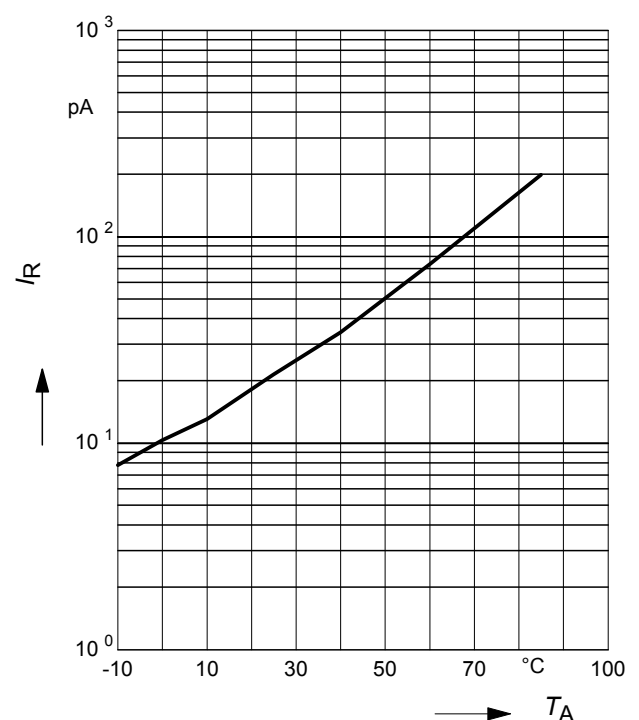
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current	I_R				nA
$V_R = 30\text{ V}$		-	-	10	
$V_R = 30\text{ V}, T_A = 85\text{ }^{\circ}\text{C}$		-	-	200	

Electrical Characteristics

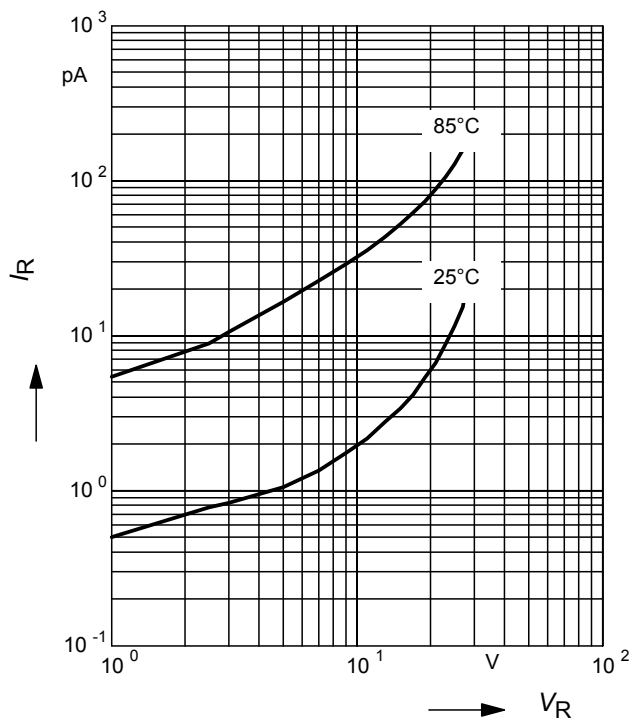
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
AC Characteristics					
Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 2\text{ V}, f = 1\text{ MHz}$ $V_R = 25\text{ V}, f = 1\text{ MHz}$ $V_R = 28\text{ V}, f = 1\text{ MHz}$	C_T	17.5 14.01 2.05 1.9	18.7 15 2.24 2.1	20 16.1 2.4 2.3	pF
Capacitance ratio $V_R = 1\text{ V}, V_R = 28\text{ V}, f = 1\text{ MHz}$	C_{T1}/C_{T28}	8.2	8.9	9.8	-
Capacitance ratio $V_R = 2\text{ V}, V_R = 25\text{ V}, f = 1\text{ MHz}$	C_{T2}/C_{T25}	6	6.7	7.5	
Capacitance matching ¹⁾ $V_R = 1\text{V to } 28\text{V}, f = 1\text{ MHz}, \mathbf{7}$ diodes sequence, BB535 $V_R = 1\text{V to } 28\text{V}, f = 1\text{ MHz}, \mathbf{4}$ diodes sequence, BB555/-02V $V_R = 1\text{V to } 28\text{V}, f = 1\text{ MHz}, \mathbf{7}$ diodes sequence, BB555/-02V	$\Delta C_T/C_T$	- - -	- 0.15 0.25	2.5 1 2	%
Series resistance $V_R = 3\text{ V}, f = 470\text{ MHz}$	r_S	-	0.58	0.75	Ω

¹For details please refer to Application Note 047

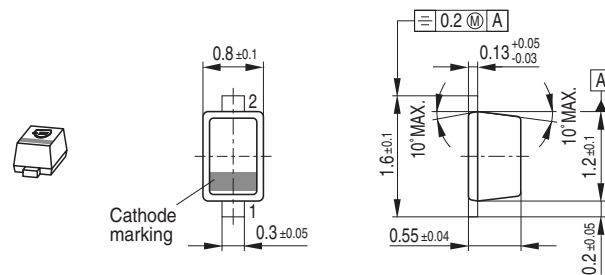
Diode capacitance $C_T = f(V_R)$
 $f = 1\text{MHz}$

Normalized diode capacitance
 $C_{(T_A)}/C_{(25^\circ\text{C})} = f(T_A); f = 1\text{MHz}$
 $V_R = \text{Parameter}$

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

Reverse current $I_R = f(T_A)$
 $V_R = 28\text{ V}$


Reverse current $I_R = f(V_R)$

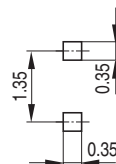
T_A = Parameter



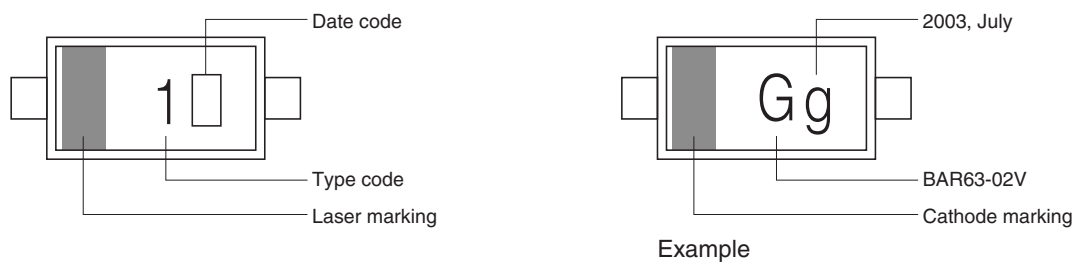
Package Outline



Foot Print



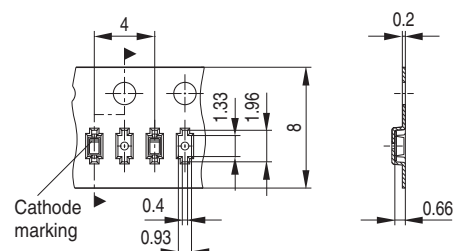
Marking Layout



Packing

Code E6327: Reel $\varnothing 180$ mm = 3.000 Pieces/Reel

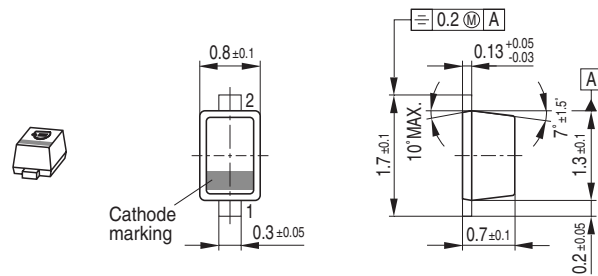
Code E6433: Reel $\varnothing 330$ mm = 10.000 Pieces/Reel



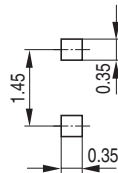
Data Code marking for discrete packages with
one digit (SCD80, SC79) CES-Code

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

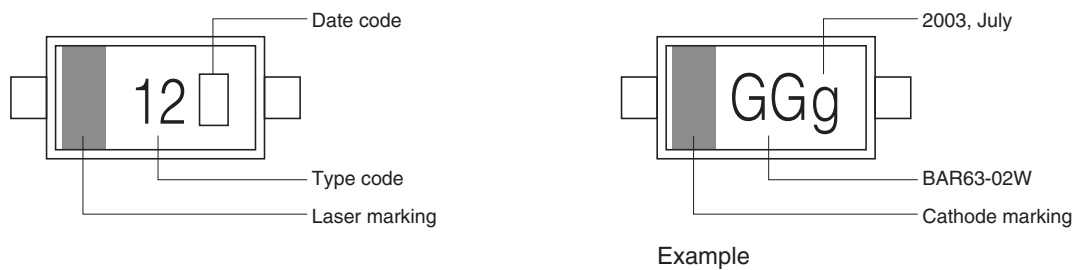
Package Outline



Foot Print

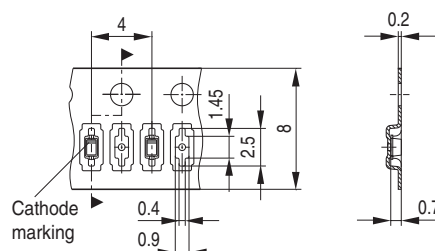


Marking Layout



Packing

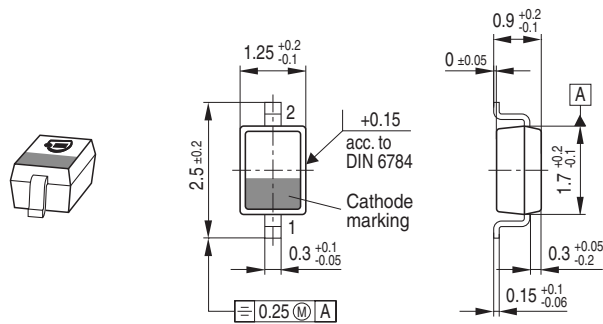
Code E6327: Reel ø180 mm = 3.000 Pieces/Reel
Code E6433: Reel ø330 mm = 10.000 Pieces/Reel



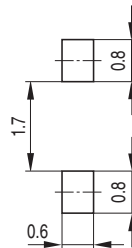
Data Code marking for discrete packages with one digit (SCD80, SC79) CES-Code

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

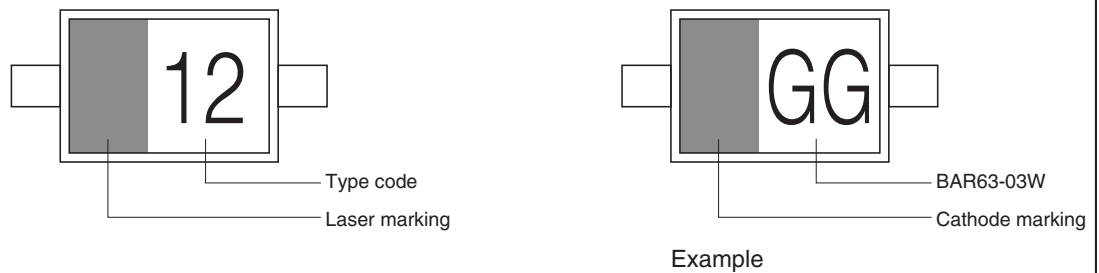
Package Outline



Foot Print



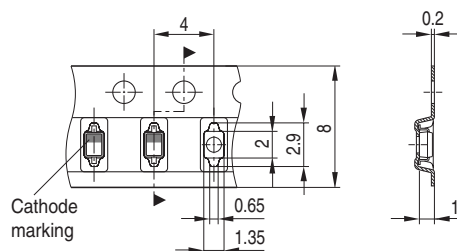
Marking Layout



Packing

Code E6327: Reel ø180 mm = 3.000 Pieces/Reel

Code E6433: Reel ø330 mm = 10.000 Pieces/Reel



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