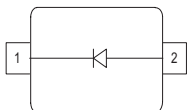
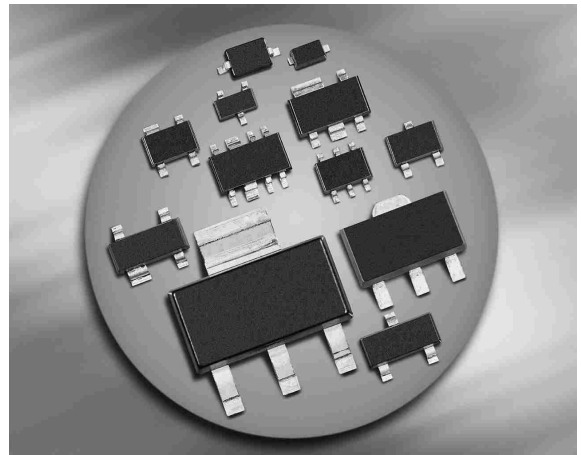


Silicon Tuning Diode

- Excellent linearity
- Low series resistance
- Designed for low tuning voltage operation for VCO's in mobile communications equipment
- Very low capacitance spread
- Pb-free (RoHS compliant) package



BBY56-02V
BBY56-02W
BBY56-03W



Type	Package	Configuration	Marking
BBY56-02V	SC79	single	9
BBY56-02W*	SCD80	single	66
BBY56-03W	SOD323	single	red 6

* Not for new design

Maximum Ratings at $T_A = 25\text{ °C}$, unless otherwise specified

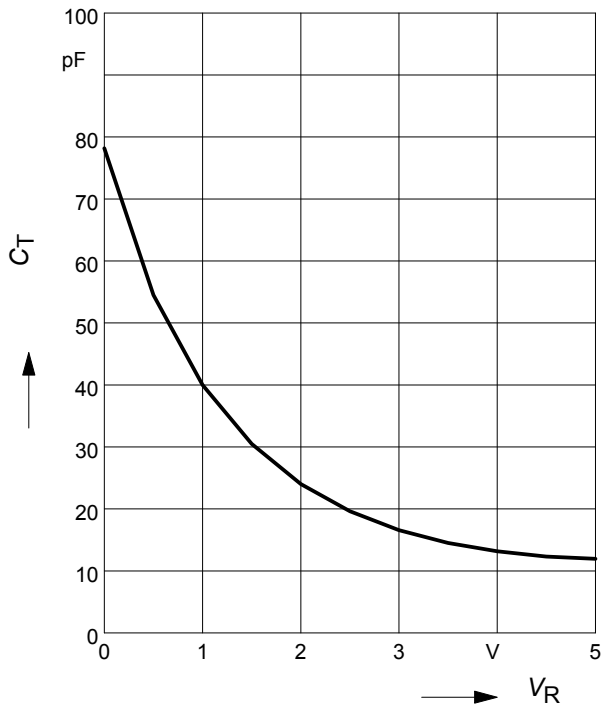
Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	10	V
Forward current	I_F	20	mA
Operating temperature range	T_{op}	-55 ... 150	°C
Storage temperature	T_{Stg}	-55 ... 150	

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current	I_R				nA
$V_R = 6\text{ V}$		-	-	5	
$V_R = 6\text{ V}, T_A = 85\text{ }^{\circ}\text{C}$		-	-	100	
AC Characteristics					
Diode capacitance	C_T				pF
$V_R = 1\text{ V}, f = 1\text{ MHz}$		37	40	43	
$V_R = 2\text{ V}, f = 1\text{ MHz}$		22	-	25	
$V_R = 3\text{ V}, f = 1\text{ MHz}$		14.8	15.8	16.8	
$V_R = 4\text{ V}, f = 1\text{ MHz}$		-	12.1	-	
Capacitance ratio	C_{T1}/C_{T3}				
$V_R = 1\text{ V}, V_R = 3\text{ V}, f = 1\text{ MHz}$		2.15	2.53	-	
$V_R = 1\text{ V}, V_R = 4\text{ V}, f = 1\text{ MHz}$		-	3.3	-	
Series resistance	r_S	-	0.25	-	Ω
$V_R = 1\text{ V}, f = 470\text{ MHz}$					

Diode capacitance $C_T = f(V_R)$

$f = 1\text{ MHz}$



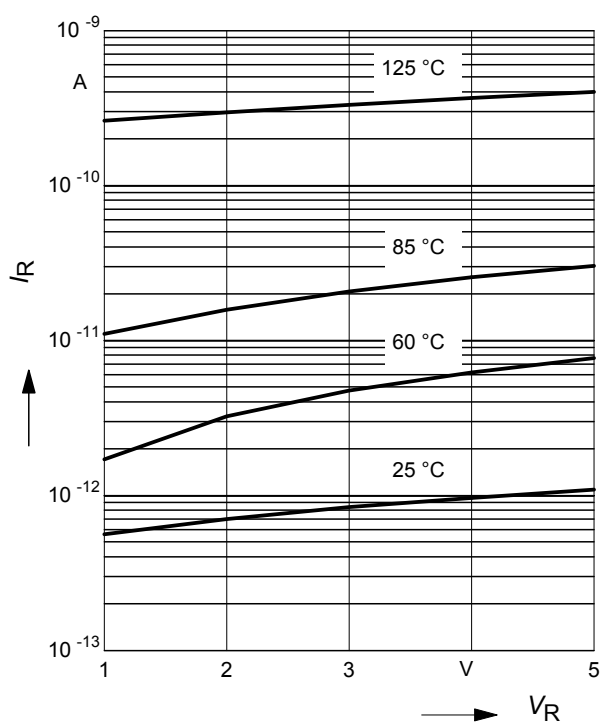
Temperature coefficient of the diode capacitance $T_{Cc} = f(V_R)$

$f = 1\text{ MHz}$



Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



[illegible]

2005, June
Date code

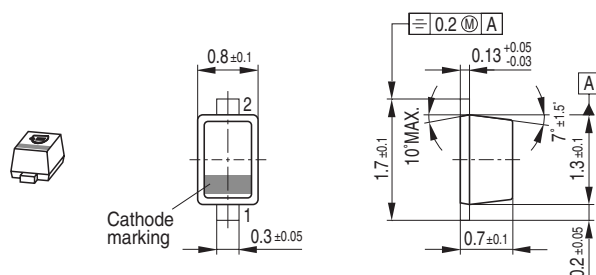
GF

BAR63-02V
Type code

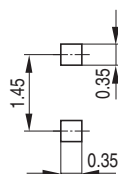
Cathode marking
Laser marking

The image contains three technical drawings of cathode marking components. The first drawing, labeled 'Standard', shows a component with a width of 4, a height of 8, and a pitch of 1.33. It features two circular cathode markings and two rectangular cathode marking areas. The distance between the cathode markings is 1.96, and the distance between the cathode marking areas is 0.4. The distance from the cathode marking to the edge is 0.93. The second drawing, labeled 'Reel with 2 mm Pitch', shows a component with a width of 2 and a height of 8. It features two circular cathode markings and two rectangular cathode marking areas. The distance between the cathode markings is 1.96, and the distance between the cathode marking areas is 0.4. The distance from the cathode marking to the edge is 0.93. The third drawing shows a side view of the component with a thickness of 0.2 and a height of 0.66. It includes a label 'Cathode marking' pointing to the circular marking.

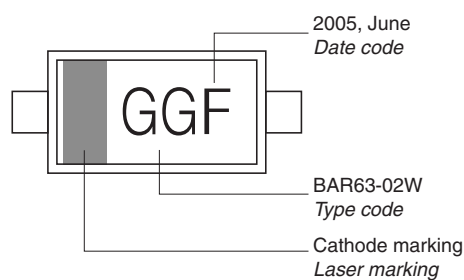
Package Outline



Foot Print

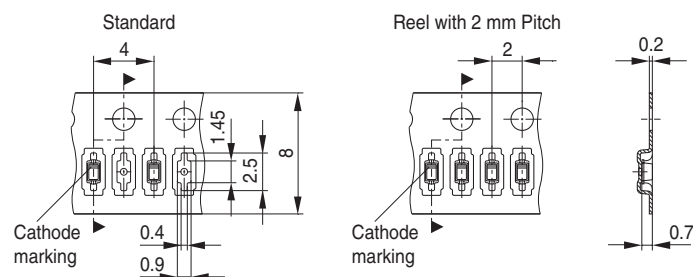


Marking Layout (Example)



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, SC75¹⁾) CES-Code

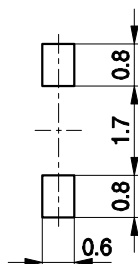
Month	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
01	a	p	A	P	a	p	A	P	a	p	A	P
02	b	q	B	Q	b	q	B	Q	b	q	B	Q
03	c	r	C	R	c	r	C	R	c	r	C	R
04	d	s	D	S	d	s	D	S	d	s	D	S
05	e	t	E	T	e	t	E	T	e	t	E	T
06	f	u	F	U	f	u	F	U	f	u	F	U
07	g	v	G	V	g	v	G	V	g	v	G	V
08	h	x	H	X	h	x	H	X	h	x	H	X
09	j	y	J	Y	j	y	J	Y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

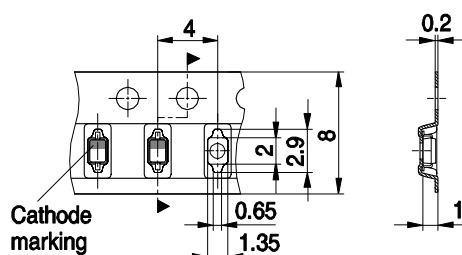


Marking Layout (Example)



Standard Packing

Reel $\varnothing 180 \text{ mm}$ = 3.000 Pieces/Reel
 Reel $\varnothing 330 \text{ mm}$ = 10.000 Pieces/Reel



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