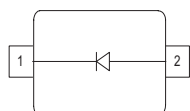


Silicon Tuning Diodes

- Excellent linearity
- High Q hyperabrupt tuning diode
- 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



BBY55-02V
BBY55-02W
BBY55-03W



Type	Package	Configuration	L_S (nH)	Marking
BBY55-02V	SC79	single	0.6	7
BBY55-02W	SCD80	single	0.6	77
BBY55-03W	SOD323	single	1.8	white 7

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

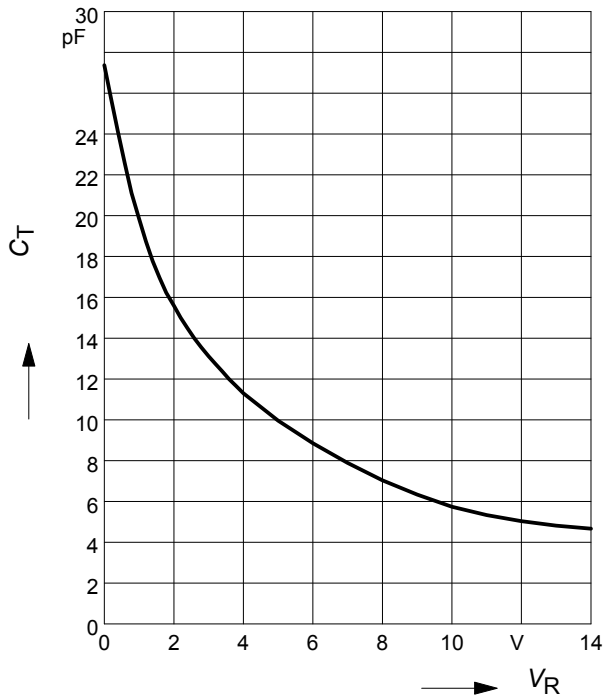
Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	16	V
Forward current	I_F	20	mA
Operating temperature range	T_{op}	-55 ... 150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ... 150	

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current $V_R = 15\text{ V}$ $V_R = 15\text{ V}, T_A = 85\text{ }^{\circ}\text{C}$	I_R	- - -	- - -	3 100	nA
AC Characteristics					
Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 2\text{ V}, f = 1\text{ MHz}$ $V_R = 3\text{ V}, f = 1\text{ MHz}$ $V_R = 4\text{ V}, f = 1\text{ MHz}$ $V_R = 10\text{ V}, f = 1\text{ MHz}$	C_T	17.5 14 11.6 10 5.5	18.6 15 12.6 11 6	19.6 16 13.6 12 6.5	pF
Capacitance ratio $V_R = 2\text{ V}, V_R = 10\text{ V}, f = 1\text{ MHz}$	C_{T2}/C_{T10}	2	2.5	3	
Series resistance $V_R = 5\text{ V}, f = 470\text{ MHz}$	r_S	-	0.15	0.4	Ω

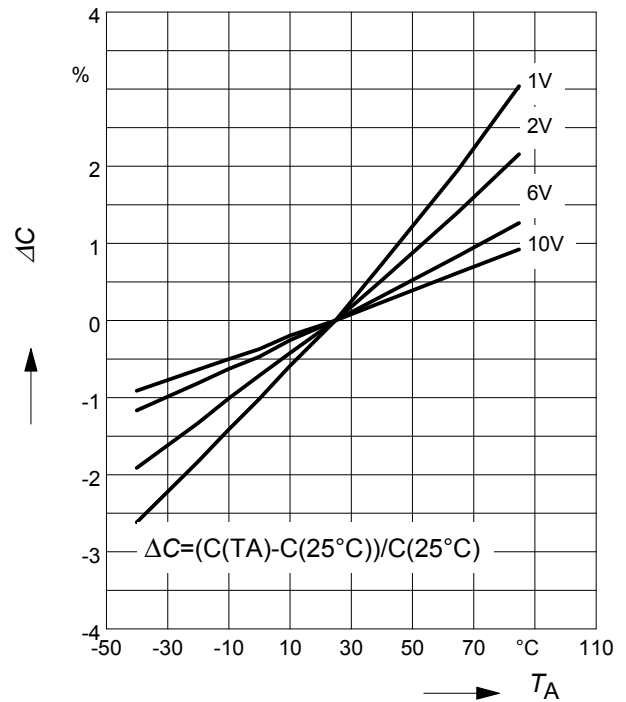
Diode capacitance $C_T = f(V_R)$

$f = 1\text{ MHz}$



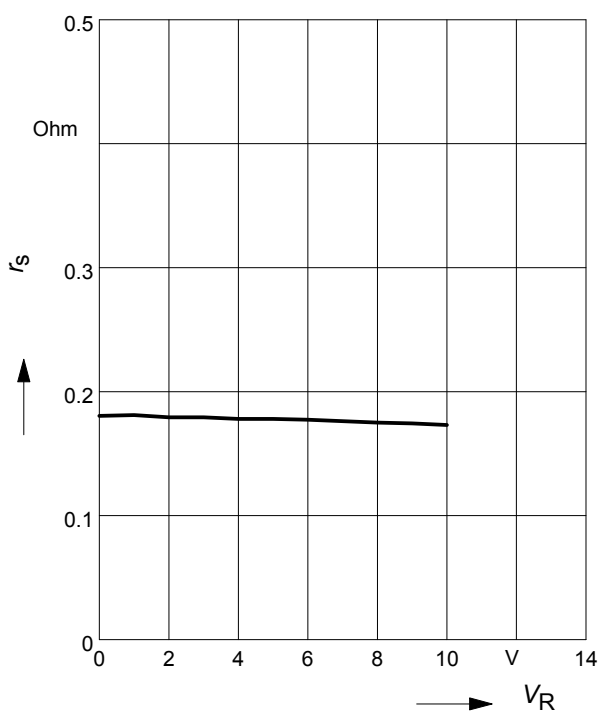
Capacitance change $\Delta C = f(T_A)$

$f = 1\text{ MHz}$



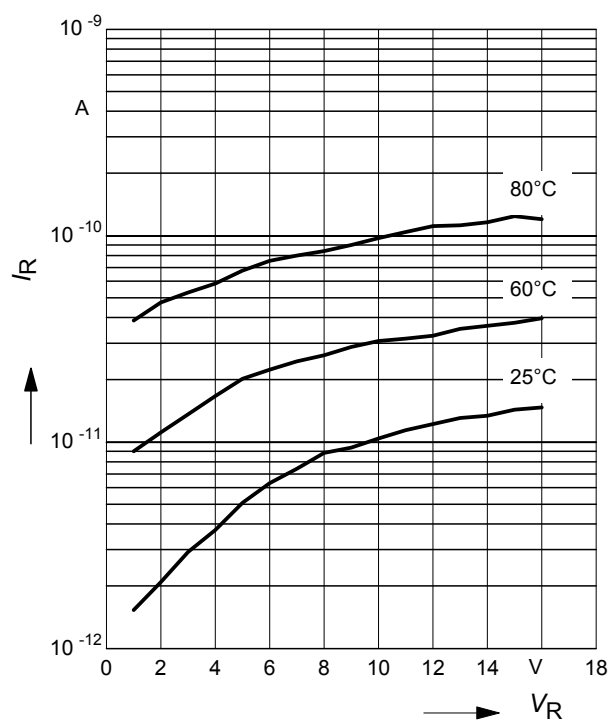
Series resistance $r_S = f(V_R)$

$f = 470\text{ MHz}$

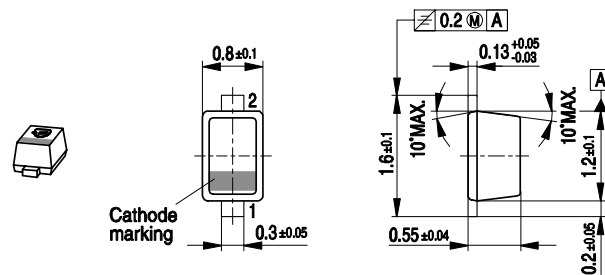


Reverse current $I_R = f(V_R)$

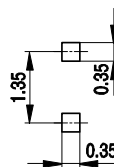
$T_A = \text{Parameter}$



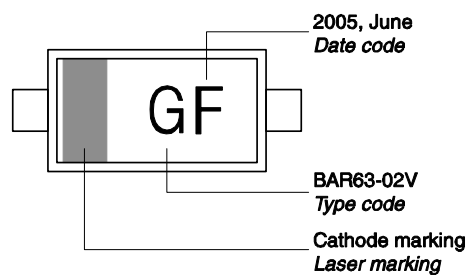
Package Outline



Foot Print

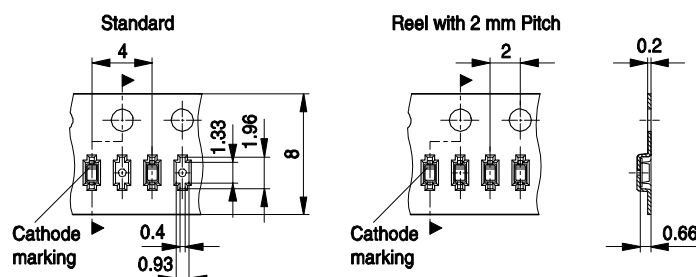


Marking Layout (Example)

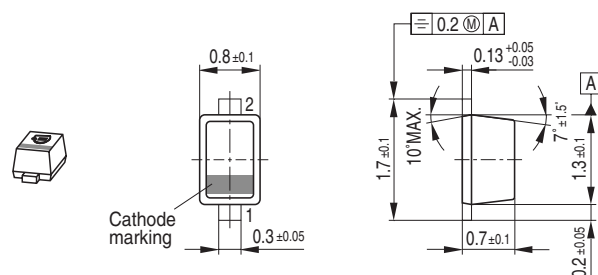


Standard Packing

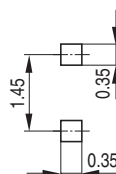
Reel $\varnothing 180 \text{ mm}$ = 3.000 Pieces/Reel
 Reel $\varnothing 180 \text{ mm}$ = 8.000 Pieces/Reel (2 mm Pitch)
 Reel $\varnothing 330 \text{ mm}$ = 10.000 Pieces/Reel



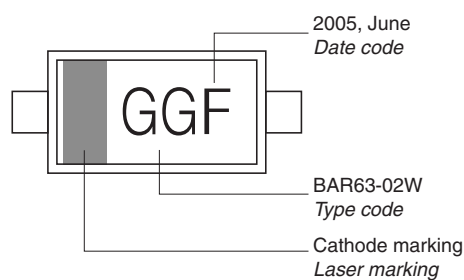
Package Outline



Foot Print

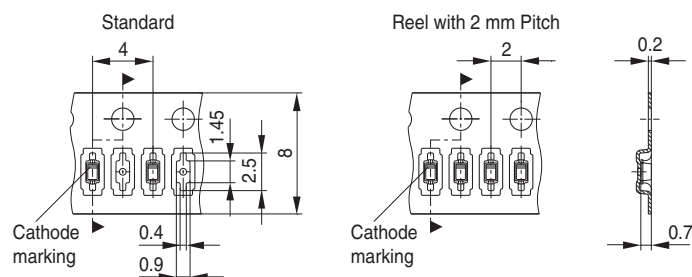


Marking Layout (Example)



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, 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.

Technical drawing of the 025A tube pin, showing dimensions in millimeters (mm) and tolerances.

Top View Dimensions:

- Overall width: 2.5 ± 0.2
- Central pin diameter: 0.3 ± 0.05
- Cathode marking width: $1.25 \begin{smallmatrix} +0.2 \\ -0.1 \end{smallmatrix}$
- Pin diameter: 0.25 (M) A

Side View Dimensions:

- Base height: 0.45 ± 0.15
- Pin height: $1.7 \begin{smallmatrix} +0.2 \\ -0.1 \end{smallmatrix}$
- Total height: $0.9 \begin{smallmatrix} +0.2 \\ -0.1 \end{smallmatrix}$
- Base width: 0.3 ± 0.05
- Pin width: $0.15 \begin{smallmatrix} +0.1 \\ -0.06 \end{smallmatrix}$

Technical drawing of a stepped shaft. The shaft has a total length of 1.7. It consists of a central section with a diameter of 0.8 and two end sections with a diameter of 0.6. The end sections have a length of 0.8 each. A dashed line indicates the center of the shaft.

BAR63-03W
Type code

Cathode marking
Color ink or laser marking

Technical drawing of a cathode marking. The drawing shows a side view and a cross-section. The side view has a total width of 4, a total height of 8, and a central hole with a diameter of 2.9. The cross-section shows a total width of 0.2 and a central hole with a diameter of 1.35. The text "Cathode marking" is written below the side view.

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