

Silicon Tuning Diodes

- High Q hyperabrupt tuning diode
- Designed for low tuning voltage operation
- For VCO's in mobile communications equipment
- Pb-free (RoHS compliant) package



BBY52-02L
BBY52-02W



Type	Package	Configuration	L_S (nH)	Marking
BBY52-02L	TSLP-2-1	single, leadless	0.4	K
BBY52-02W	SCD80	single	0.6	KK

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

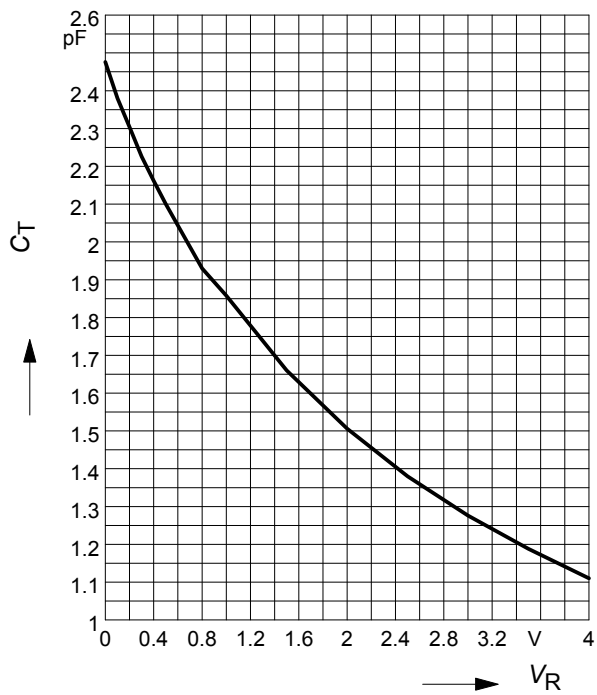
Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	7	V
Forward current	I_F	20	mA
Operating temperature range	T_{op}	-55 ... 150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ... 150	

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current	I_R				nA
$V_R = 6\text{ V}$		-	-	10	
$V_R = 6\text{ V}, T_A = 85\text{ }^{\circ}\text{C}$		-	-	200	
AC Characteristics					
Diode capacitance	C_T				pF
$V_R = 1\text{ V}, f = 1\text{ MHz}$		1.4	1.85	2.2	
$V_R = 2\text{ V}, f = 1\text{ MHz}$		0.95	1.5	2	
$V_R = 3\text{ V}, f = 1\text{ MHz}$		0.9	1.35	1.75	
$V_R = 4\text{ V}, f = 1\text{ MHz}$		0.85	1.15	1.45	
Capacitance ratio	C_{T1}/C_{T4}	1.1	1.6	2.1	
$V_R = 1\text{ V}, V_R = 4\text{ V}, f = 1\text{ MHz}$					
Series resistance	r_S	-	0.9	1.7	Ω
$V_R = 1\text{ V}, f = 1\text{ GHz}$					

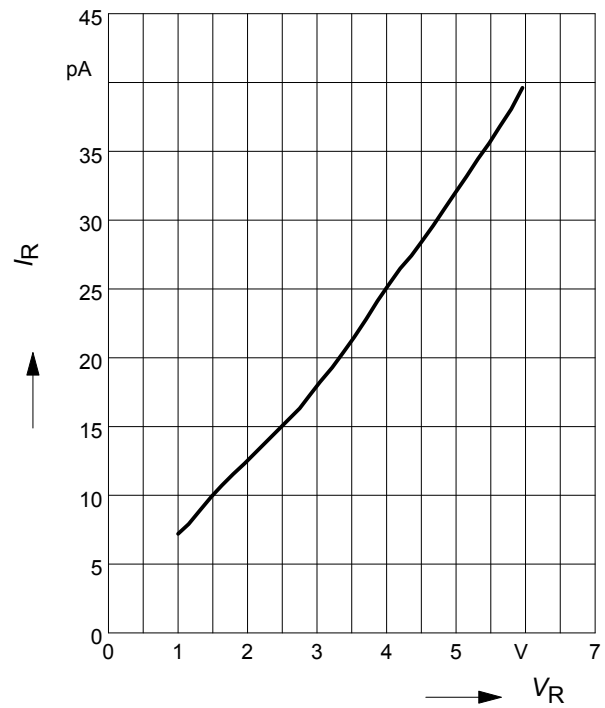
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$

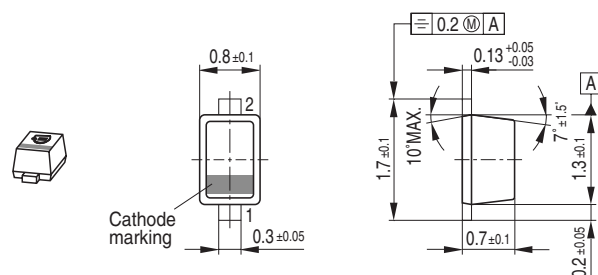


Reverse current $I_R = f(V_R)$

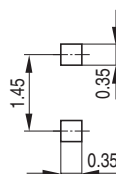
$T_A = 25^\circ\text{C}$



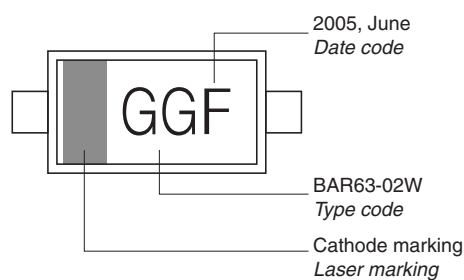
Package Outline



Foot Print

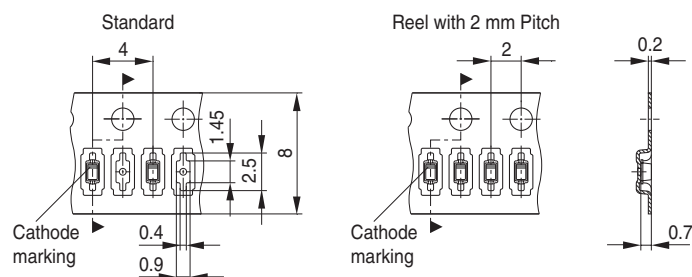


Marking Layout (Example)



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

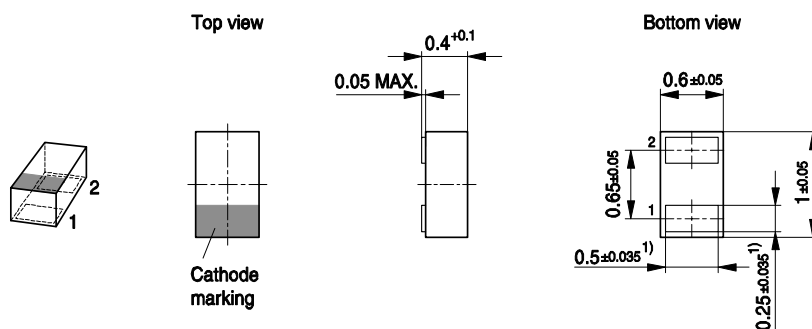


Date Code marking for discrete packages with one digit (SCD80, SC79, SC75¹⁾) CES-Code

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

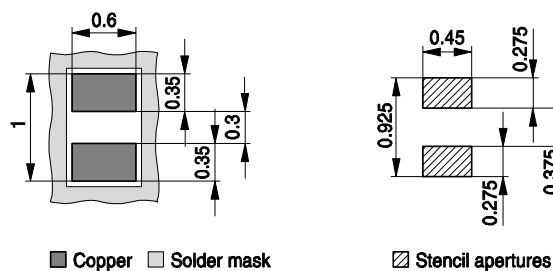
1) New Marking Layout for SC75, implemented at October 2005.

Package Outline

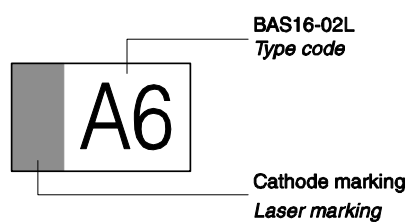


Foot Print

For board assembly information please refer to Infineon website "Packages"



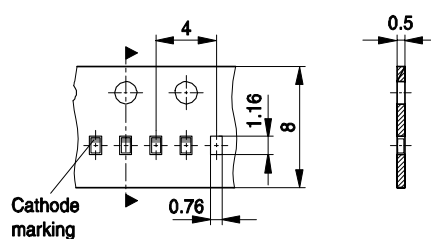
Marking Layout (Example)



Standard Packing

Reel ø180 mm = 15.000 Pieces/Reel

Reel ø330 mm = 50.000 Pieces/Reel (optional)



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