

Silicon Tuning Diode

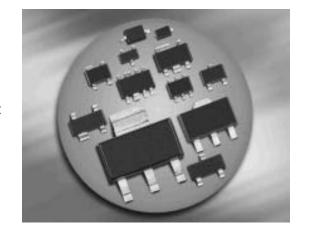
- High Q hyperabrupt tuning diode
- Very low capacitance spread
- Designed for low tuning voltage operation for VCO's in mobile communications equipment
- For low frequency control elements such as TCXOS and VCXOS
- High capacitance ratio and good C-V linearity
- Pb-free (RoHS compliant) package 1)
- Qualified according AEC Q101





BBY65-02V





Туре	Package	Configuration	$L_{\mathbf{S}}(nH)$	Marking
BBY65-02V	SC79	single	0.6	F

Maximum Ratings at $T_A = 25$ °C, unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_{R}	15	V
Forward current	<i>I</i> _F	50	mA
Operating temperature range	T_{op}	-55 150	°C
Storage temperature	$T_{\rm stg}$	-55 150	

¹Pb-containing package may be available upon special request



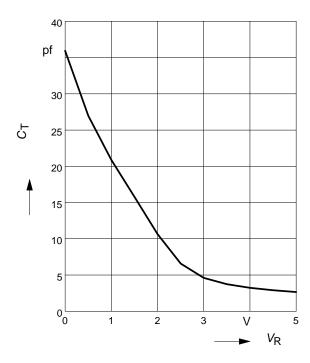
Electrical Characteristics at $T_A = 25$ °C, unless otherwise specified

Parameter	Symbol		Values		
		min.	typ.	max.	
DC Characteristics		•			
Reverse current	I _R				nA
<i>V</i> _R = 10 V		-	-	10	
$V_{R} = 10 \text{ V}, T_{A} = 85 ^{\circ}\text{C}$		-	-	100	
AC Characteristics					
Diode capacitance	C _T				pF
$V_{R} = 0.3 \text{ V}, f = 1 \text{ MHz}$		28.2	29.5	30.8	
V_{R} = 1 V, f = 1 MHz		-	20.25	-	
$V_{R} = 2 \text{ V}, f = 1 \text{ MHz}$		-	9.8	-	
$V_{R} = 3 \text{ V}, f = 1 \text{ MHz}$		-	4.45	-	
$V_{R} = 4.7 \text{ V}, f = 1 \text{ MHz}$		2.6	2.7	2.8	
Capacitance ratio	C _{T0.3} /	10	10.9	-	pF
$V_{R} = 0.3 \text{ V}, \ V_{R} = 4.7 \text{ V}$	C _{T4.7}				
Capacitance ratio	C _{T1} /C _{T3}	-	4.55	-	pF
$V_{R} = 1 \text{ V}, \ V_{R} = 3 \text{ V}$					
Series resistance	r _S	-	0.6	0.9	Ω
$V_{R} = 1 \text{ V}, f = 470 \text{ MHz}$					



Diode capacitance $C_T = f(V_R)$

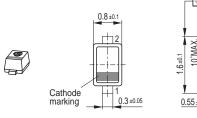
f = 1MHz

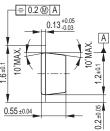


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Package Outline

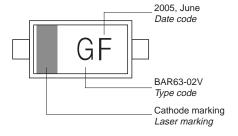




Foot Print



Marking Layout (Example)

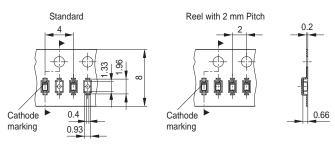


Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel

Reel ø180 mm = 8.000 Pieces/Reel (2 mm Pitch)

Reel ø330 mm = 10.000 Pieces/Reel



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2007-04-20



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	а	р	Α	Р	а	р	Α	Р	а	р	Α	Р
02	b	q	В	Q	b	q	В	Q	b	q	В	Q
03	С	r	С	R	С	r	С	R	С	r	С	R
04	d	S	D	S	d	S	D	S	d	S	D	S
05	е	t	Е	T	е	t	Е	Т	е	t	Е	Т
06	f	u	F	J	f	u	F	U	f	u	F	U
07	g	٧	G	٧	g	٧	G	V	g	٧	G	V
08	h	Х	Н	Х	h	Х	Н	Х	h	Х	Н	Х
09	j	У	J	Υ	j	у	J	Υ	j	У	J	Υ
10	k	z	K	Z	k	Z	K	Z	k	Z	K	Z
11	I	2	L	4	I	2	L	4	I	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.

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