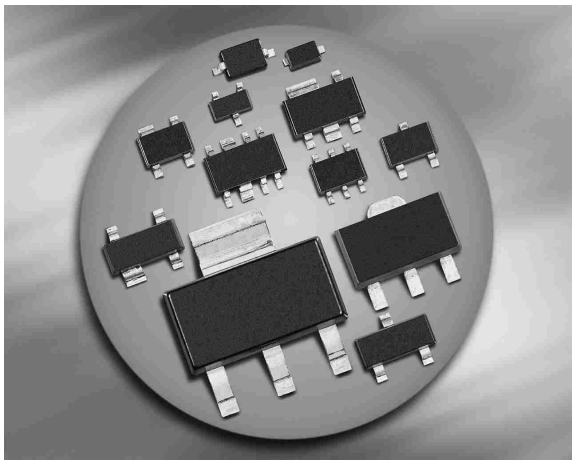
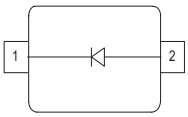
Silicon Tuning Diode

- 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



RoHS

BBY65-02V



Type	Package	Configuration	L_S(nH)	Marking
BBY65-02V	SC79	single	0.6	F

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

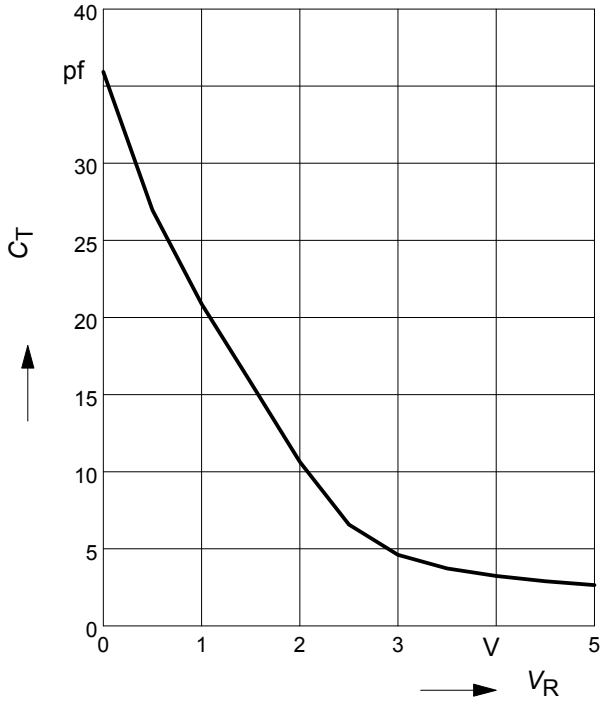
Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	15	V
Forward current	I_F	50	mA
Operating temperature range	T_{op}	-55 ... 150	°C
Storage temperature	T_{stg}	-55 ... 150	

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

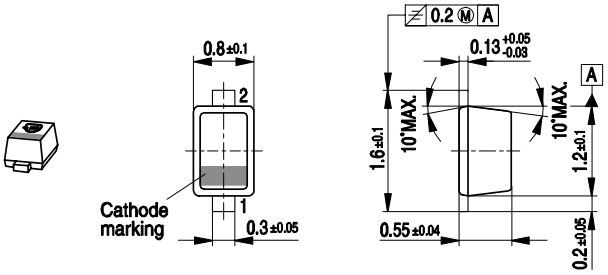
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current	I_R				nA
V_R = 10 V		-	-	10	
V_R = 10 V, T_A = 85 °C		-	-	100	
AC Characteristics					
Diode capacitance	C_T				pF
V_R = 0.3 V, f = 1 MHz		28.2	29.5	30.8	
V_R = 1 V, f = 1 MHz		-	20.25	-	
V_R = 2 V, f = 1 MHz		-	9.8	-	
V_R = 3 V, f = 1 MHz		-	4.45	-	
V_R = 4.7 V, f = 1 MHz		2.6	2.7	2.8	
Capacitance ratio	$C_{T0.3}$/	10	10.9	-	pF
V_R = 0.3 V, V_R = 4.7 V	$C_{T4.7}$				
Capacitance ratio	C_{T1}/C_{T3}	-	4.55	-	pF
V_R = 1 V, V_R = 3 V					
Series resistance	r_S	-	0.6	0.9	Ω
V_R = 1 V, f = 470 MHz					

Diode capacitance $C_T = f(V_R)$

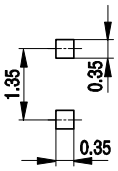
f = 1MHz



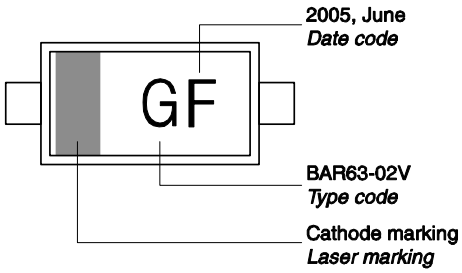
Package Outline



Foot Print

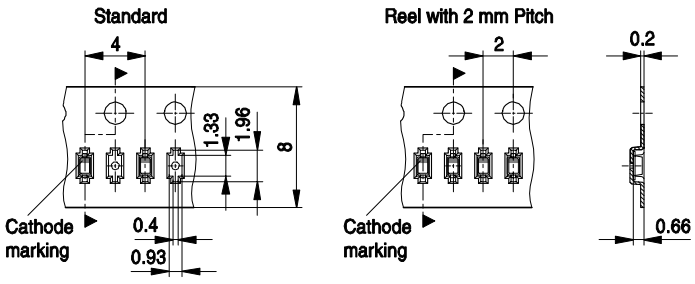


Marking Layout (Example)



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, SC75[1)]) 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.

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