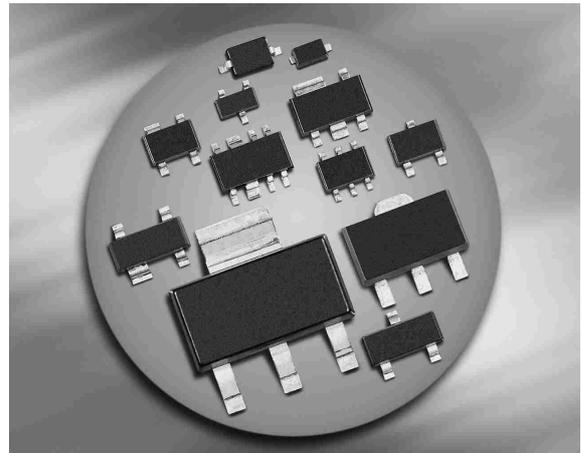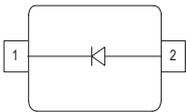**Silicon Tuning Diode**

• 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	

2011-06-15

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

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

2011-06-15

Diode capacitance $C_T = f\,(V_R)$

f = 1MHz

Package Outline

Cathode marking

0.8±0.1

0.3±0.05

0.13 $^{+0.05}_{-0.03}$

0.2 Ⓜ A

1.6±0.1

10°MAX.

10°MAX.

A

1.2±0.1

0.55±0.04

0.2±0.05

Foot Print

1.35

0.35

0.35

Marking Layout (Example)

GF

2005, June
Date code

BAR63-02V
Type code
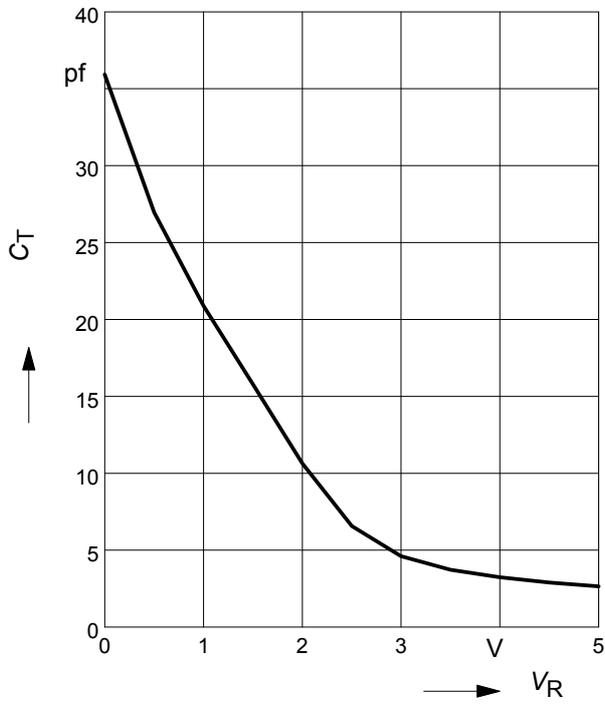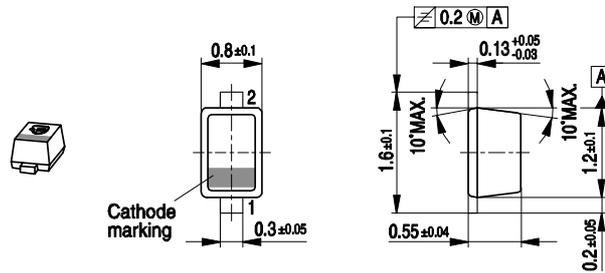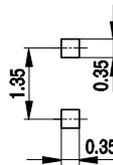
Cathode marking
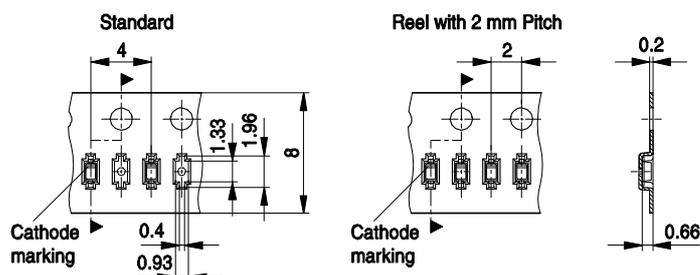*Laser marking*
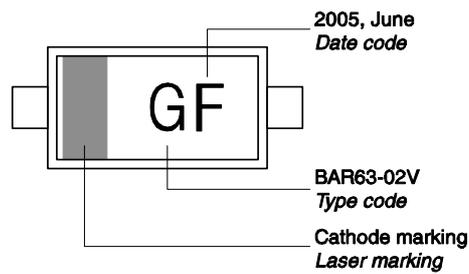
Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø180 mm = 8.000 Pieces/Reel (2 mm Pitch)
Reel ø330 mm = 10.000 Pieces/Reel

Standard

4

1.33

1.96

8

Cathode marking

0.4

0.93

Reel with 2 mm Pitch

2

Cathode marking

0.2

0.66

2011-06-15

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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2011-06-15

Edition 2009-11-16

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2011-06-15

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