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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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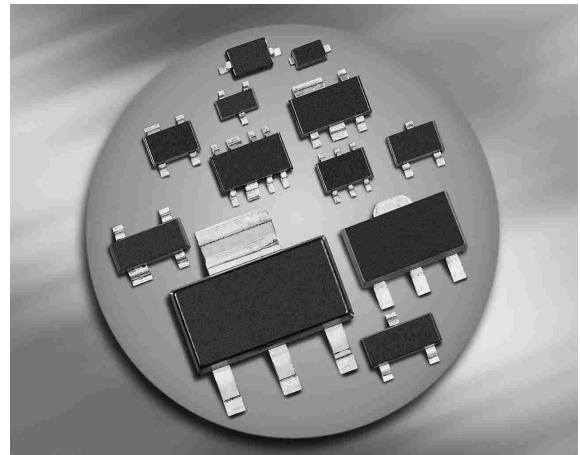
Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



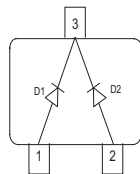
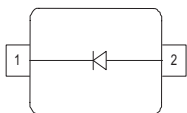
Silicon Tuning Diode

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



BBY51-02L
BBY51-02V
BBY51-02W
BBY51-03W

BBY51



Type	Package	Configuration	Marking
BBY51	SOT23	common cathode	S3s
BBY51-02L	TSLP-2-1	single, leadless	ll
BBY51-02V	SC79	single	f
BBY51-02W*	SCD80	single	ll
BBY51-03W	SOD323	single	white H

* Not for new design

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

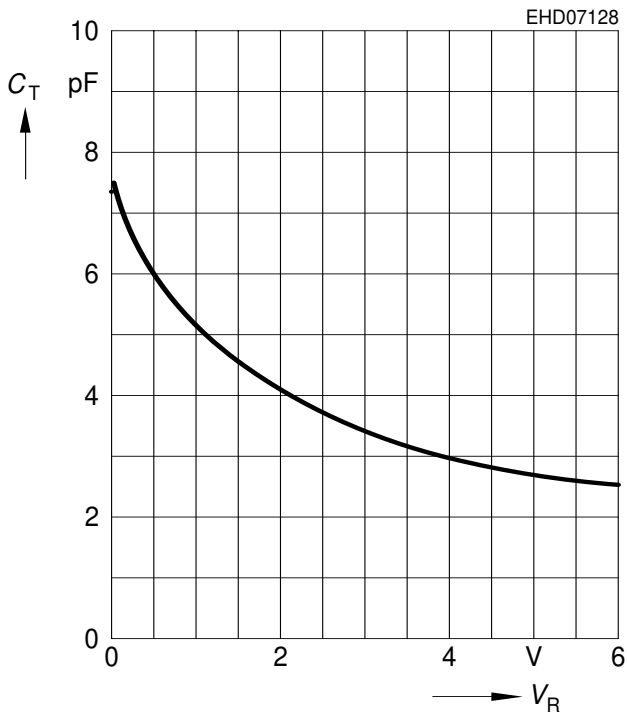
Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	7	V
Forward current	I_F	20	mA
Operating temperature range	T_{op}	-55 ... 125	°C
Storage temperature	T_{stg}	-55 ... 150	

Electrical Characteristics at $T_A = 25\text{ }^\circ\text{C}$, 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
$V_R = 1\text{ V}, f = 1\text{ MHz}$		5.05	5.4	5.75	
$V_R = 2\text{ V}, f = 1\text{ MHz}$		3.4	4.2	5.2	
$V_R = 3\text{ V}, f = 1\text{ MHz}$		2.7	3.5	4.6	
$V_R = 4\text{ V}, f = 1\text{ MHz}$		2.5	3.1	3.7	
Capacitance ratio	C_{T1}/C_{T4}	1.55	1.75	2.2	
$V_R = 1\text{ V}, V_R = 4\text{ V}, f = 1\text{ MHz}$					
Capacitance difference	$C_{1V}-C_{3V}$	1.4	1.78	2.2	pF
$V_R = 1\text{ V}, V_R = 3\text{ V}, f = 1\text{ MHz}$					
Capacitance difference	$C_{3V}-C_{4V}$	0.3	0.5	0.7	
$V_R = 3\text{ V}, V_R = 4\text{ V}, f = 1\text{ MHz}$					
Series resistance	r_S	-	0.37	-	Ω
$V_R = 1\text{ V}, f = 1\text{ GHz}$					

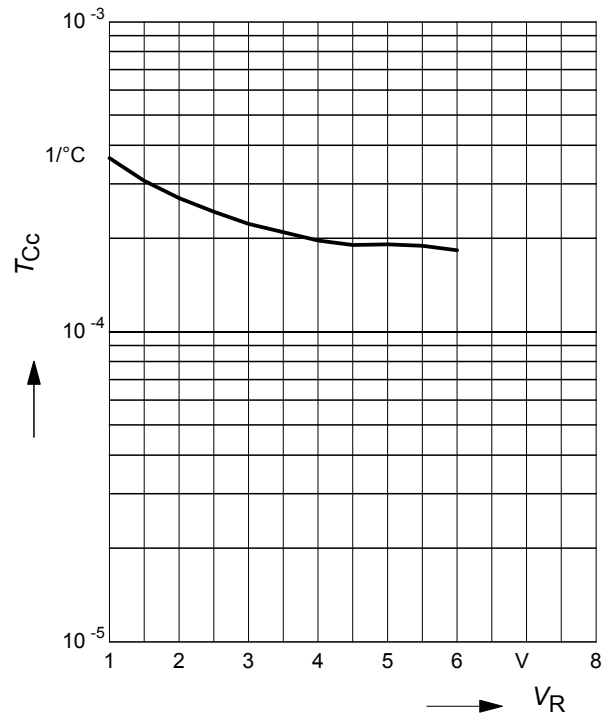
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$

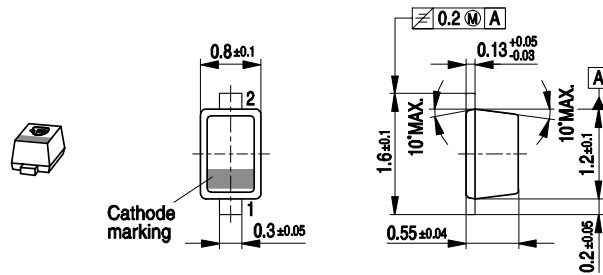


Temperature coefficient of the diode

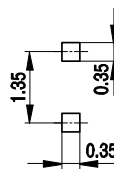
capacitance $T_{Cc} = f(V_R)$



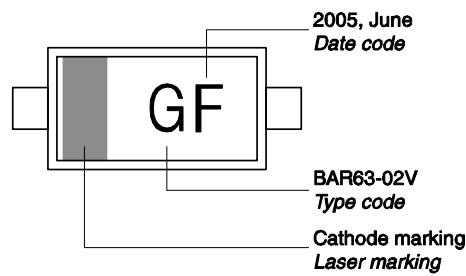
Package Outline



Foot Print

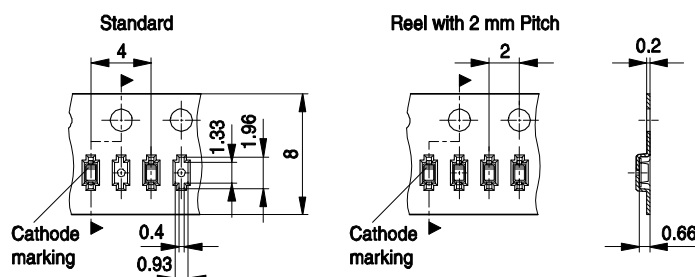


Marking Layout (Example)

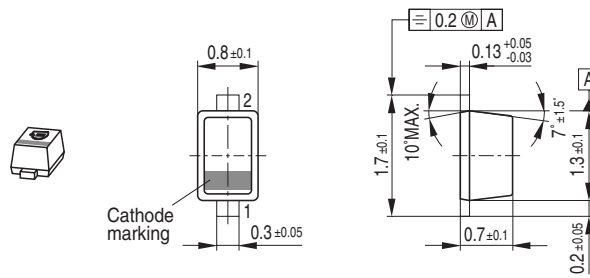


Standard Packing

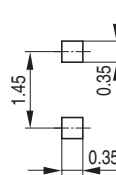
- Reel \varnothing 180 mm = 3.000 Pieces/Reel
- Reel \varnothing 180 mm = 8.000 Pieces/Reel (2 mm Pitch)
- Reel \varnothing 330 mm = 10.000 Pieces/Reel



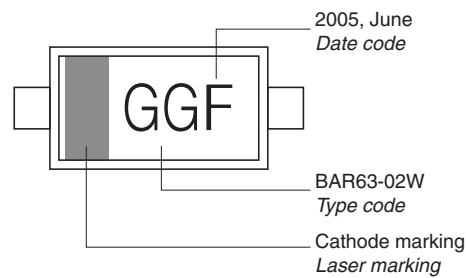
Package Outline



Foot Print

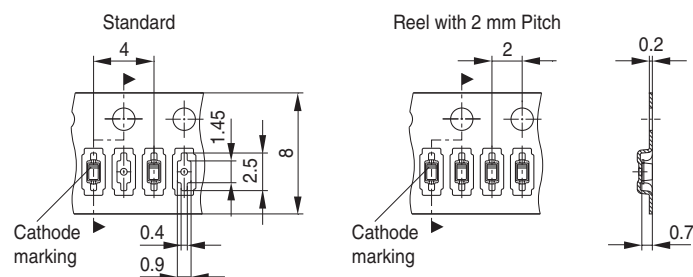


Marking Layout (Example)



Standard Packing

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

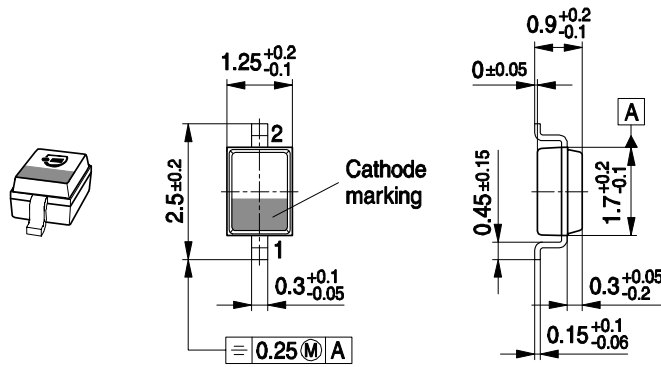


Date Code marking for discrete packages with one digit (SCD80, SC79, SC75¹⁾) CES-Code

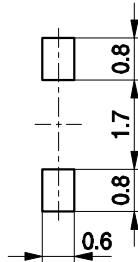
Month	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
01	a	p	A	P	a	p	A	P	a	p	A	P
02	b	q	B	Q	b	q	B	Q	b	q	B	Q
03	c	r	C	R	c	r	C	R	c	r	C	R
04	d	s	D	S	d	s	D	S	d	s	D	S
05	e	t	E	T	e	t	E	T	e	t	E	T
06	f	u	F	U	f	u	F	U	f	u	F	U
07	g	v	G	V	g	v	G	V	g	v	G	V
08	h	x	H	X	h	x	H	X	h	x	H	X
09	j	y	J	Y	j	y	J	Y	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.

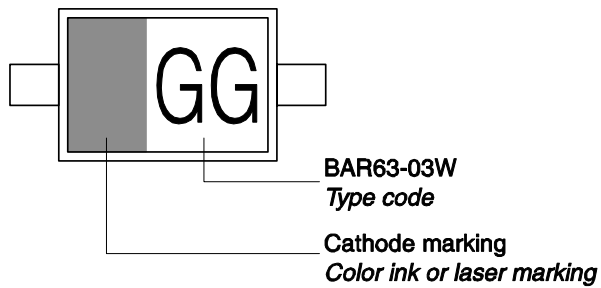
Package Outline



Foot Print

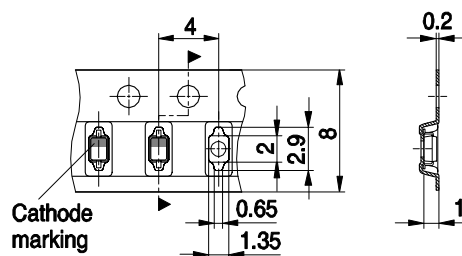


Marking Layout (Example)

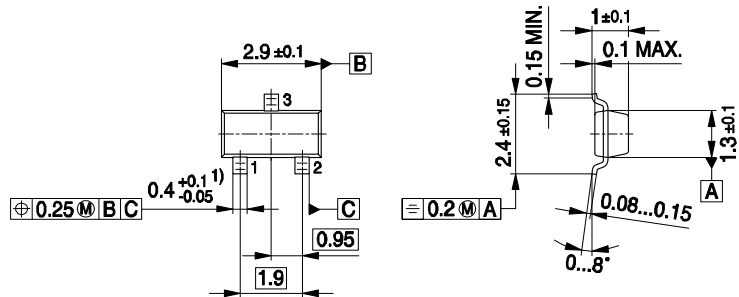
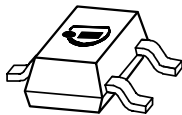


Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
 Reel ø330 mm = 10.000 Pieces/Reel



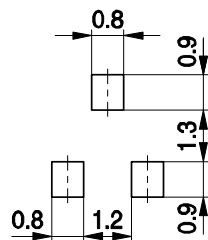
Package Outline



1) Lead width can be 0.6 max. in dambar area

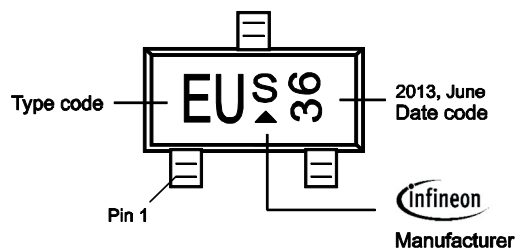
SOT23-PO V08

Foot Print



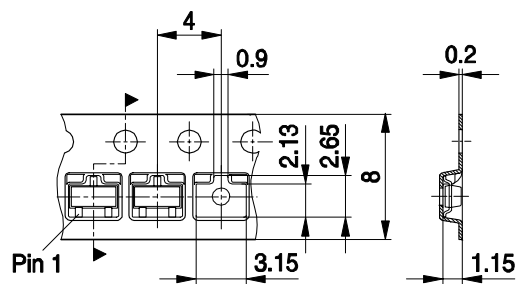
SOT23-FPR V08

Marking Layout



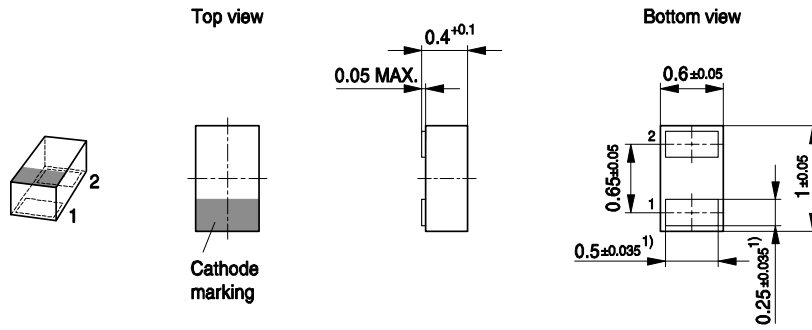
Standard Packing

Reel o 180 mm: 3.000 Pieces / Reel
 Reel o 330 mm = 10.000 Pieces / Reel



SOT23-TP V02

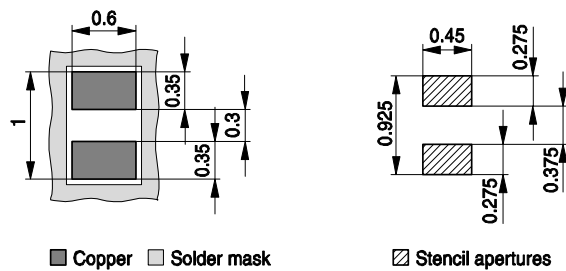
Package Outline



1) Dimension applies to plated terminal

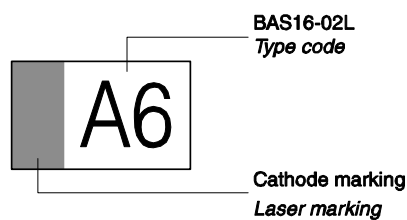
Foot Print

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



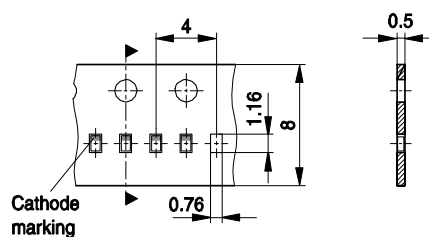
■ Copper □ Solder mask ▨ Stencil apertures

Marking Layout (Example)



Standard Packing

Reel \varnothing 180 mm = 15.000 Pieces/Reel
 Reel \varnothing 330 mm = 50.000 Pieces/Reel (optional)



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