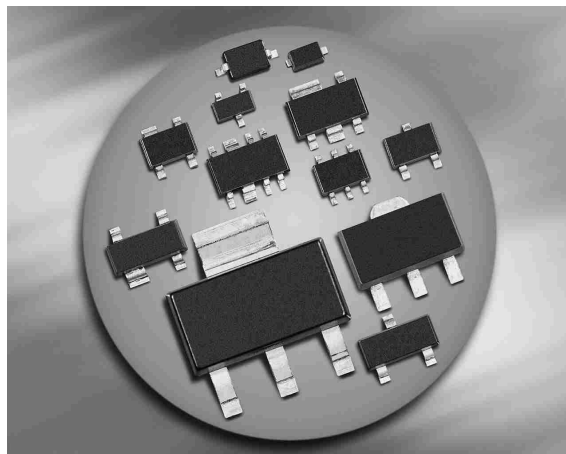
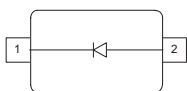


Silicon RF Switching Diode

- For band switching in TV/VTR tuners and mobile applications
- Very low forward resistance (typ. 0.45Ω @ 3 mA)
- Small capacitance
- Pb-free (RoHS compliant) package
- Qualified according AEC Q101



BA592
BA892/-02L
BA892-02V



Type	Package	Configuration	L_S (nH)	Marking
BA592	SOD323	single	1.8	blue S
BA892	SCD80	single	0.6	AA
BA892-02L	TSLP-2-1	single, leadless	0.4	AA
BA892-02V	SC79	single	0.6	A

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	35	V
Forward current	I_F	100	mA
Junction temperature	T_J	150	$^\circ\text{C}$
Operating temperature range	T_{op}	-55 ... 125	
Storage temperature	T_{Stg}	-55 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾	R_{thJS}		K/W
BA592		≤ 135	
BA892, BA892-02V		≤ 120	
BA892-02L		≤ 70	

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

DC Characteristics

Reverse current $V_R = 20\text{ V}$	I_R	-	-	20	nA
Forward voltage $I_F = 100\text{ mA}$	V_F	-	-	1	V

¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

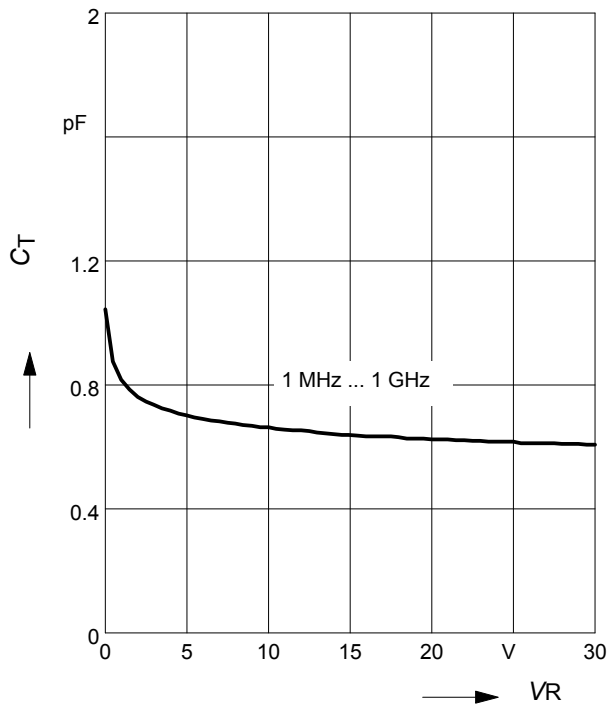
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
AC Characteristics					
Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 3\text{ V}, f = 1\text{ MHz}$ $V_R = 0\text{ V}, f = 100\text{ MHz}$	C_T	0.65 0.6 -	0.92 0.85 1	1.4 1.1 -	pF
Reverse parallel resistance $V_R = 0\text{ V}, f = 100\text{ MHz}$	R_P	-	100	-	kΩ
Forward resistance $I_F = 3\text{ mA}, f = 100\text{ MHz}$ $I_F = 10\text{ mA}, f = 100\text{ MHz}$	r_f	- -	0.45 0.36	0.7 0.5	Ω
Charge carrier life time $I_F = 10\text{ mA}, I_R = 6\text{ mA}$, measured at $I_R = 3\text{ mA}$, $R_L = 100\text{ Ω}$	τ_{rr}	-	120	-	ns
I-region width	W_I	-	3	-	μm
Insertion loss ¹⁾ $I_F = 0.1\text{ mA}, f = 1.8\text{ GHz}$ $I_F = 3\text{ mA}, f = 1.8\text{ GHz}$ $I_F = 10\text{ mA}, f = 1.8\text{ GHz}$	I_L	- - -	0.1 0.5 0.4	- - -	dB
Isolation ¹⁾ $V_R = 0\text{ V}, f = 100\text{ MHz}$ $V_R = 0\text{ V}, f = 470\text{ MHz}$ $V_R = 0\text{ V}, f = 1\text{ GHz}$	I_{SO}	- - -	23.5 10.5 5.5	- - -	

¹BA892-02L in series configuration, $Z = 50\text{ }\Omega$

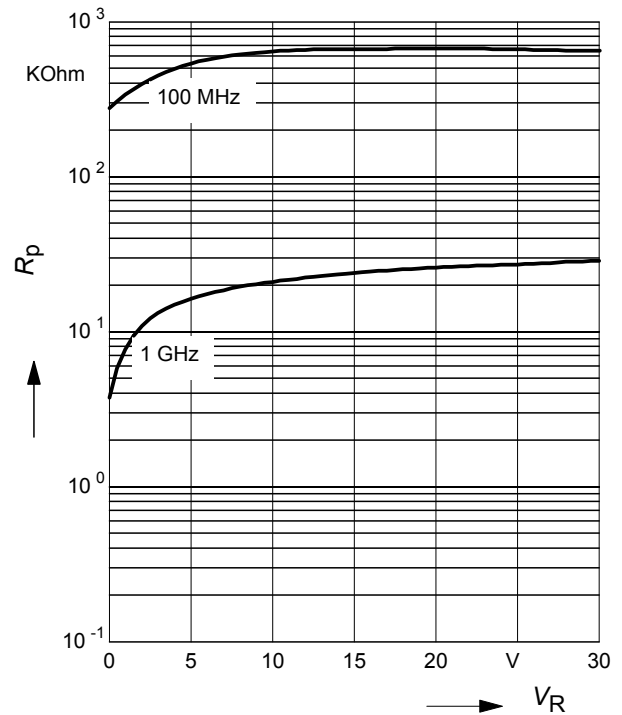
Diode capacitance $C_T = f(V_R)$

f = Parameter



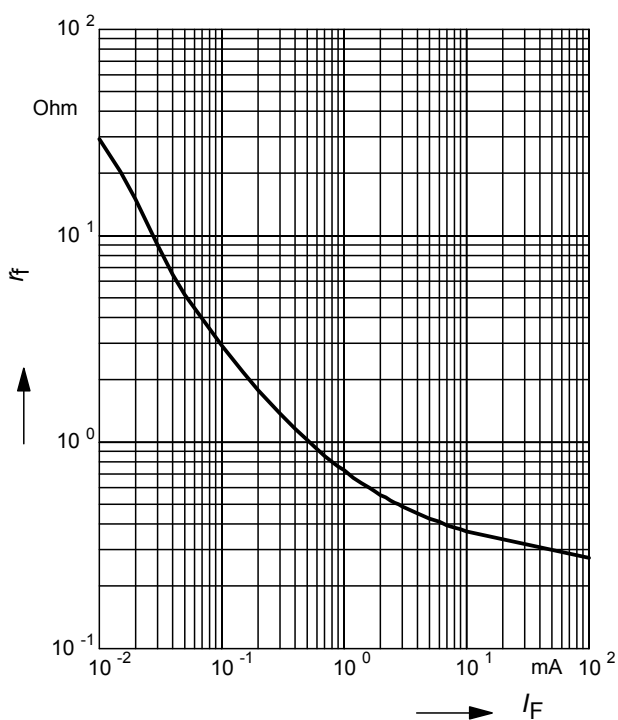
Reverse parallel resistance $R_P = f(V_R)$

f = Parameter



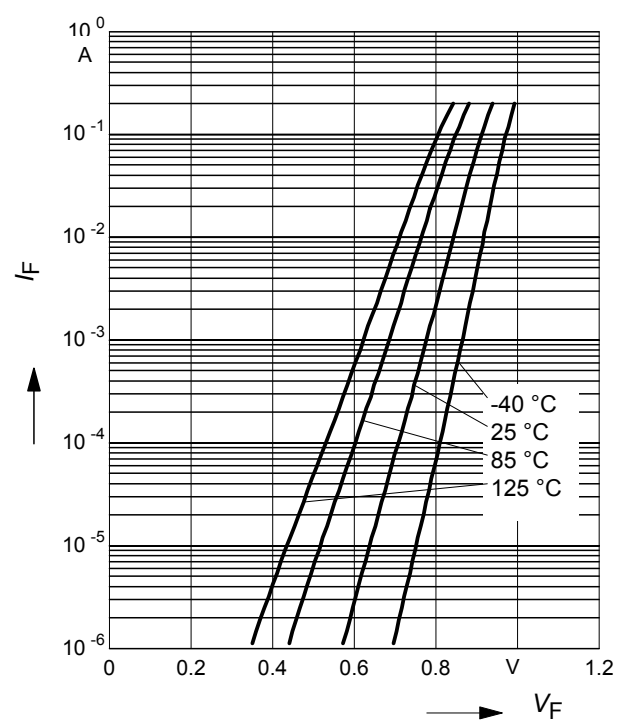
Forward resistance $r_f = f(I_F)$

f = 100MHz



Forward current $I_F = f(V_F)$

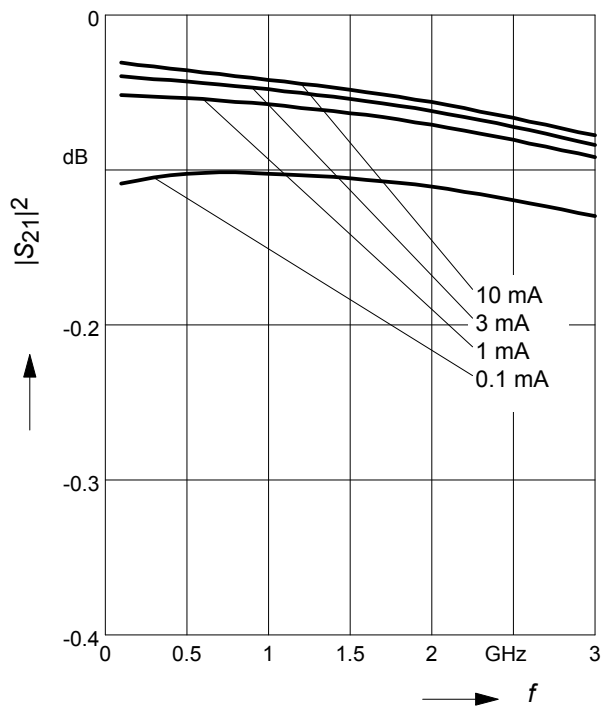
T_A = Parameter



Insertion loss $I_L = -|S_{21}|^2 = f(f)$

I_F = Parameter

BA892-02L in series configuration, $Z = 50\Omega$



Isolation $I_{SO} = -|S_{21}|^2 = f(f)$

V_R = Parameter

BA892-02L in series configuration, $Z = 50\Omega$

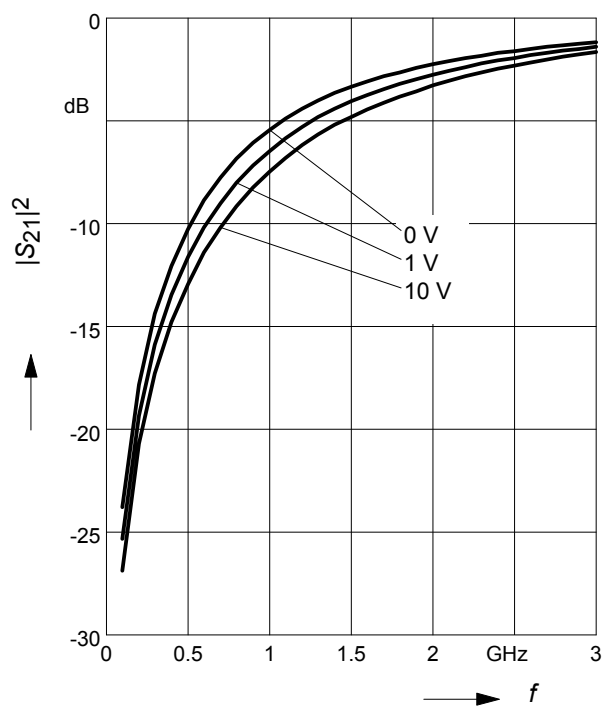


Figure 1: Dimensions of the package. The figure includes a perspective view of the package on the left and two detailed cross-sectional views on the right. The perspective view shows a rectangular package with a circular feature on top. The cross-sectional views show the internal structure and dimensions. Key dimensions include: overall width 0.8 ± 0.1 , overall height 1.6 ± 0.1 , base width 0.3 ± 0.05 , and various internal features like the cathode marking and the 0.2 M A marking.

1.35
0.35

2005, June
Date code

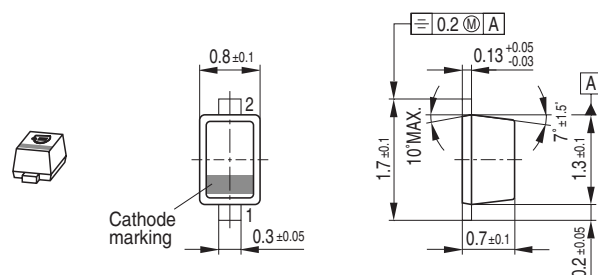
GF

BAR63-02V
Type code

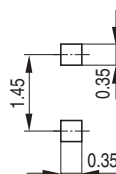
Cathode marking
Laser marking

The image contains three technical drawings of cathode marking components. The first drawing, labeled 'Standard', shows a component with a width of 4, a height of 8, and a pitch of 1.33. It features two circular cathode markings and two rectangular markings. The second drawing, labeled 'Reel with 2 mm Pitch', shows a component with a width of 2, a height of 0.66, and a pitch of 1.96. It features two circular cathode markings and two rectangular markings. The third drawing shows a side view of the component with a width of 0.2 and a height of 0.66. Arrows indicate the cathode marking direction.

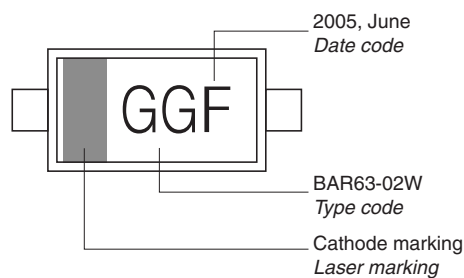
Package Outline



Foot Print

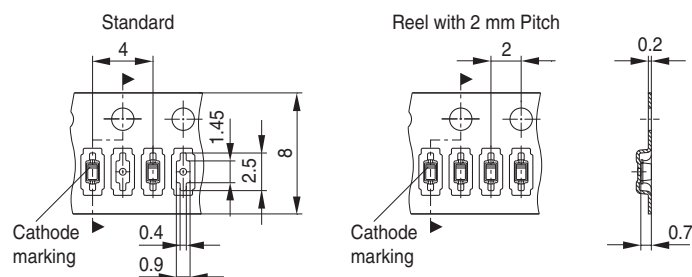


Marking Layout (Example)



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

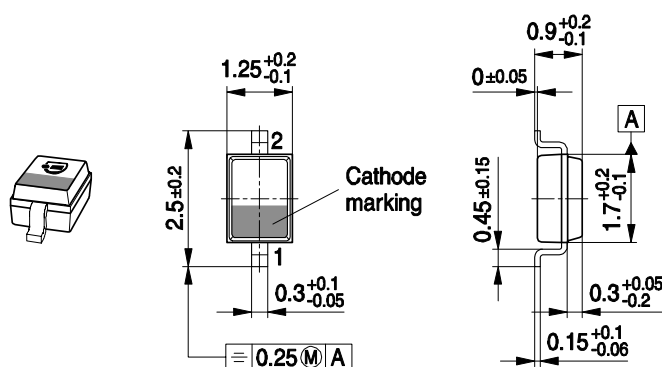


Date Code marking for discrete packages with one digit (SCD80, SC79, SC75¹⁾) CES-Code

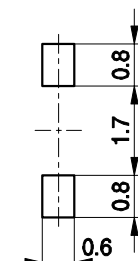
Month	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
01	a	p	A	P	a	p	A	P	a	p	A	P
02	b	q	B	Q	b	q	B	Q	b	q	B	Q
03	c	r	C	R	c	r	C	R	c	r	C	R
04	d	s	D	S	d	s	D	S	d	s	D	S
05	e	t	E	T	e	t	E	T	e	t	E	T
06	f	u	F	U	f	u	F	U	f	u	F	U
07	g	v	G	V	g	v	G	V	g	v	G	V
08	h	x	H	X	h	x	H	X	h	x	H	X
09	j	y	J	Y	j	y	J	Y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

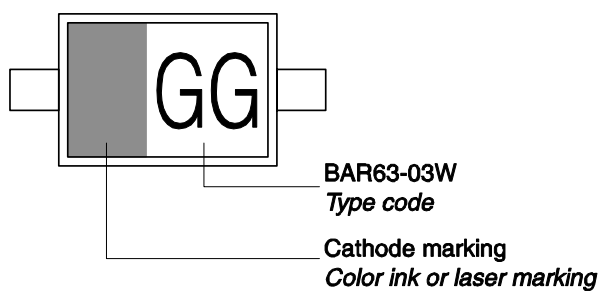
Package Outline



Foot Print

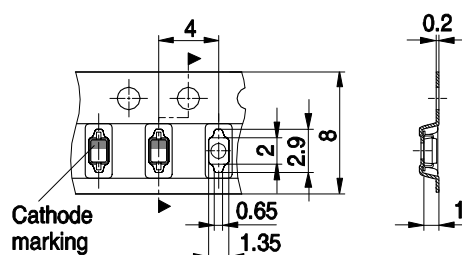


Marking Layout (Example)

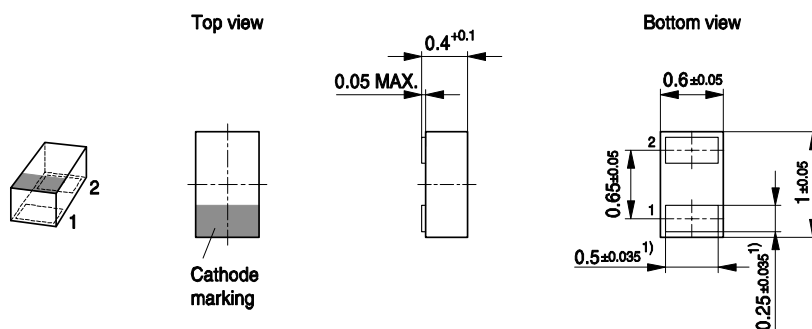


Standard Packing

Reel $\varnothing 180$ mm = 3.000 Pieces/Reel
 Reel $\varnothing 330$ mm = 10.000 Pieces/Reel



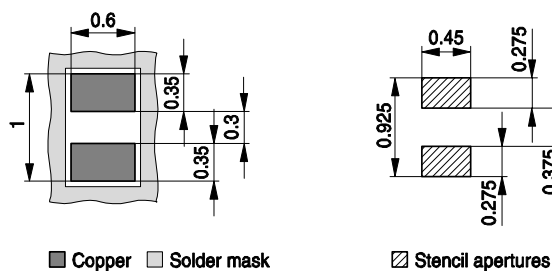
Package Outline



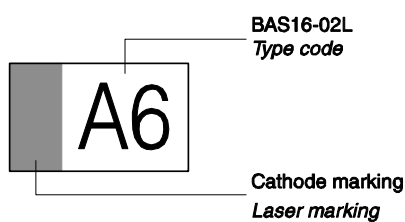
1) Dimension applies to plated terminal

Foot Print

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



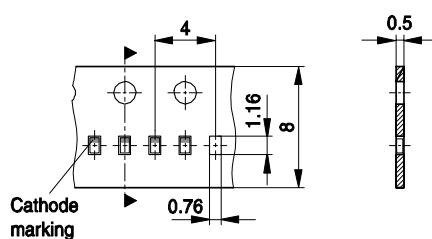
Marking Layout (Example)



Standard Packing

Reel ø180 mm = 15.000 Pieces/Reel

Reel ø330 mm = 50.000 Pieces/Reel (optional)



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