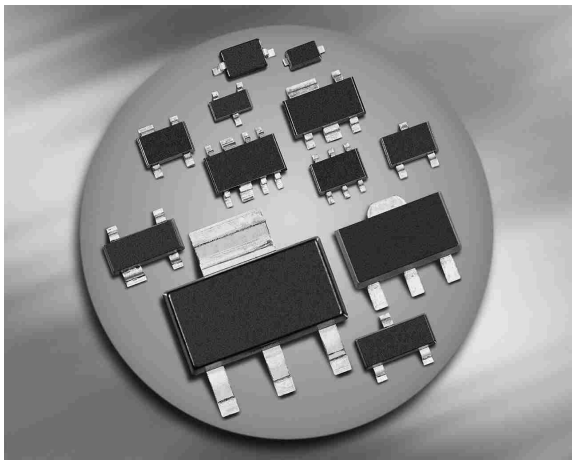
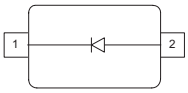
Silicon RF Switching Diode

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



AEC Qualified RoHS

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°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	°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°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current V_R = 20 V	I_R	-	-	20	nA
Forward voltage I_F = 100 mA	V_F	-	-	1	V

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

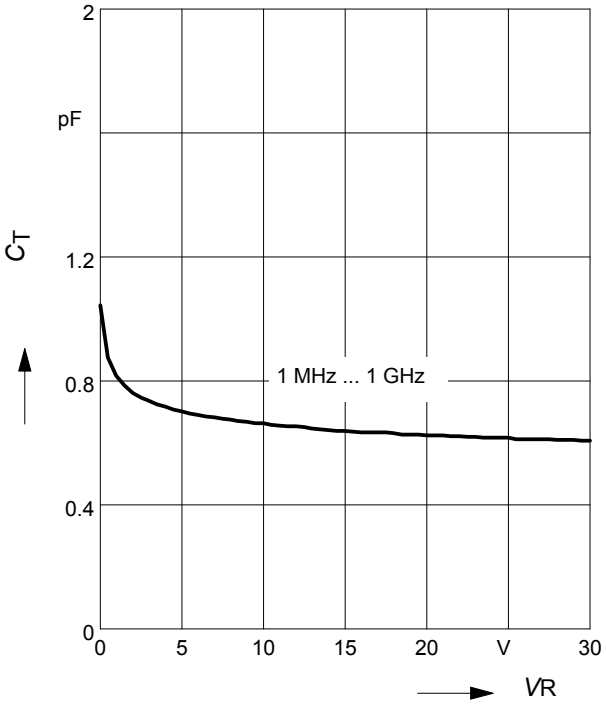
Electrical Characteristics at T_A = 25°C, unless otherwise specified

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

[1]BA892-02L in series configuration, Z = 50Ω

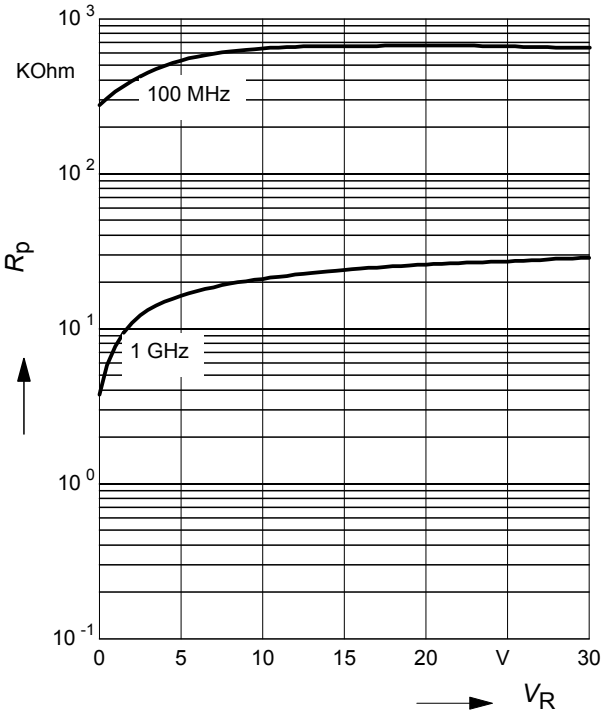
Diode capacitance $C_T = f(V_R)$

f = Parameter



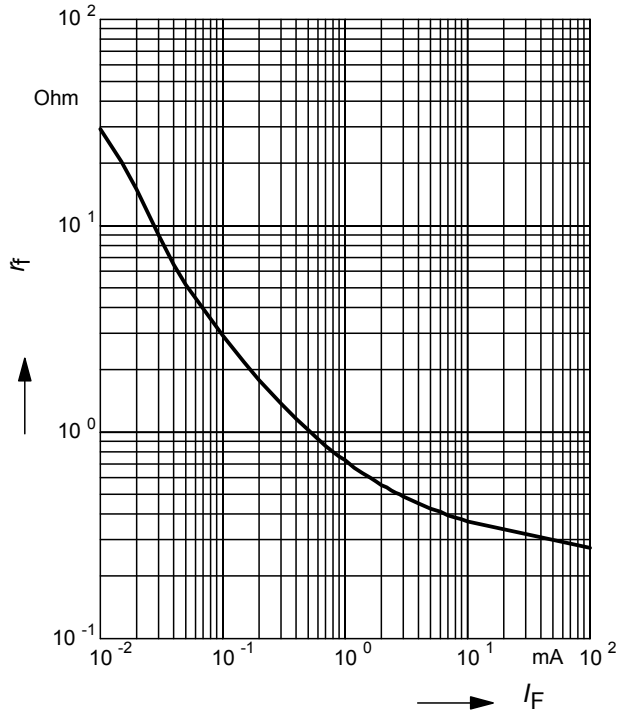
Reverse parallel resistance $R_P = f(V_R)$

f = Parameter



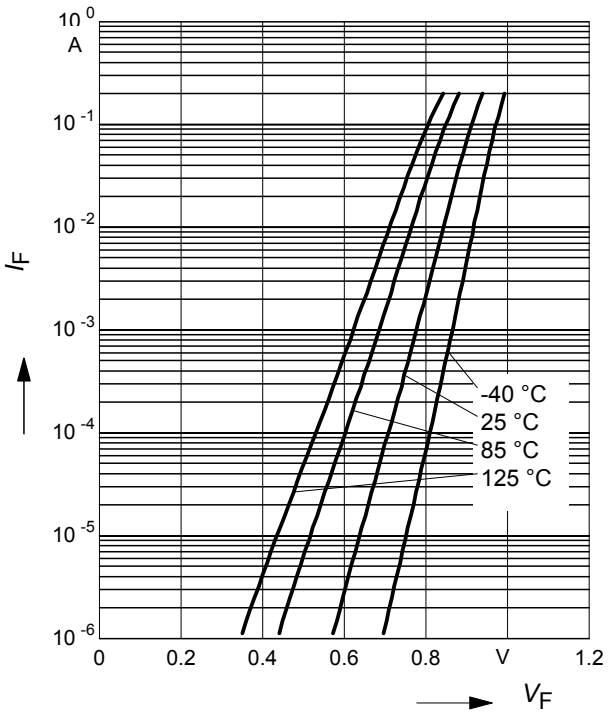
Forward resistance $r_f = f(I_F)$

f = 100MHz



Forward current $I_F = f(V_F)$

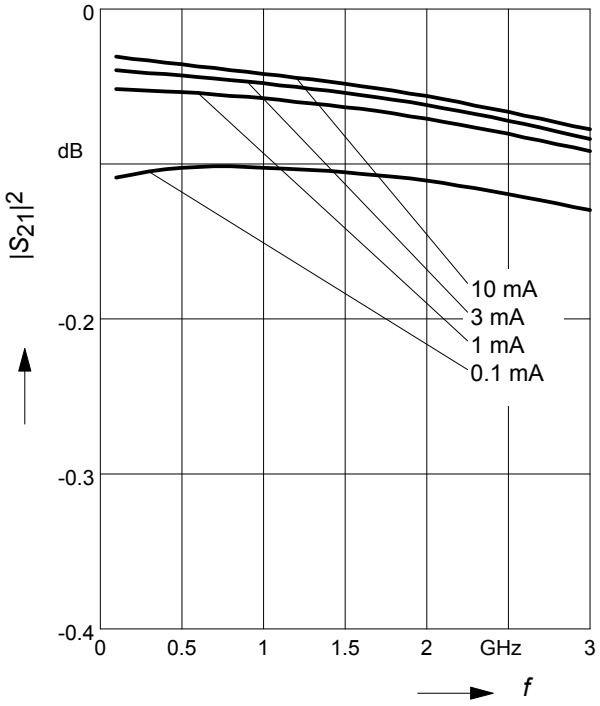
T_A = Parameter



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

I_F = Parameter

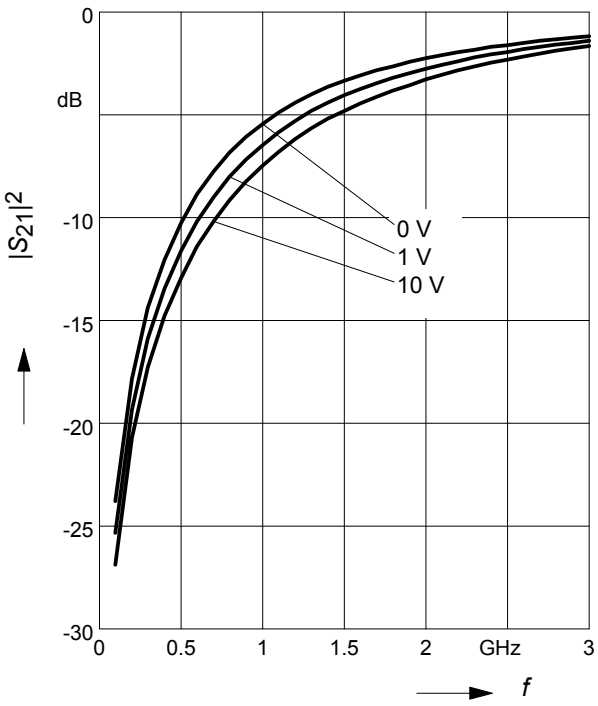
BA892-02L in series configuration, $Z = 50\Omega$



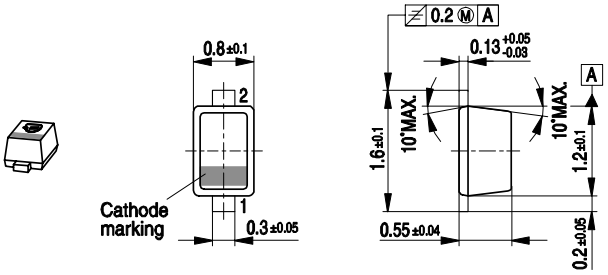
Isolation $I_{SO} = -|S_{21}|^2 = f(f)$

V_R = Paramter

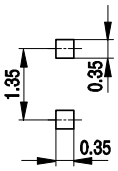
BA892-02L in series configuration, $Z = 50\Omega$



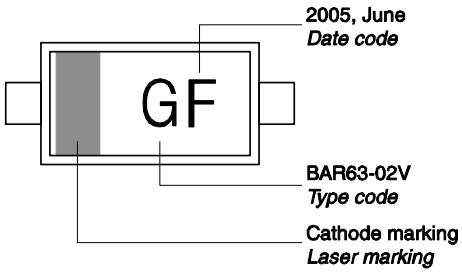
Package Outline



Foot Print

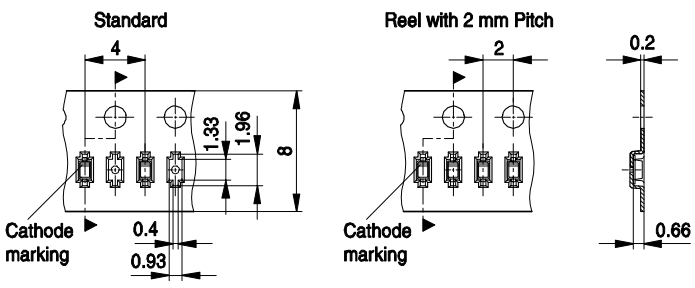


Marking Layout (Example)

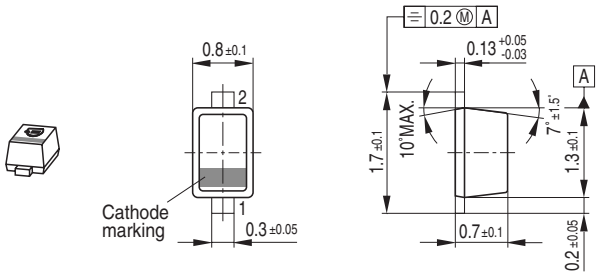


Standard Packing

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



Package Outline



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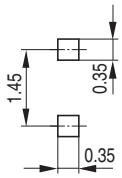
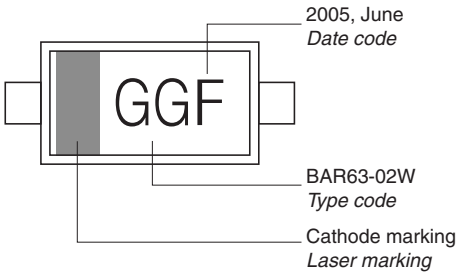
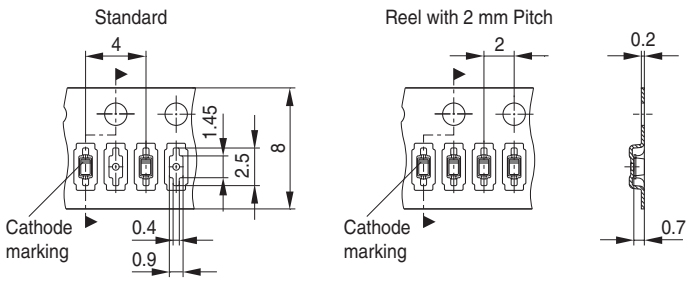


Marking Layout (Example)



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

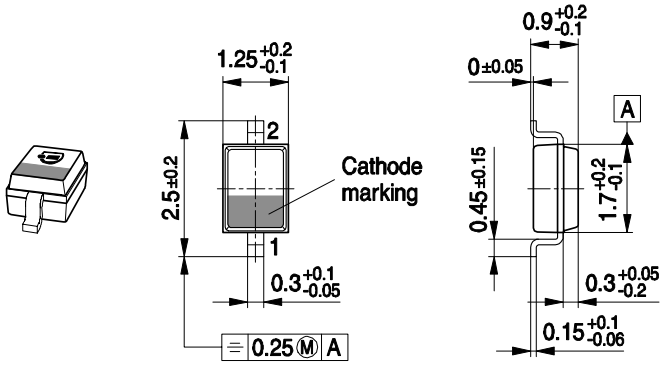


Date Code marking for discrete packages with one digit (SCD80, SC79, SC75[1)]) CES-Code

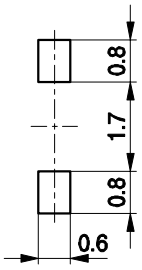
Month	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
01	a	p	A	P	a	p	A	P	a	p	A	P
02	b	q	B	Q	b	q	B	Q	b	q	B	Q
03	c	r	C	R	c	r	C	R	c	r	C	R
04	d	s	D	S	d	s	D	S	d	s	D	S
05	e	t	E	T	e	t	E	T	e	t	E	T
06	f	u	F	U	f	u	F	U	f	u	F	U
07	g	v	G	V	g	v	G	V	g	v	G	V
08	h	x	H	X	h	x	H	X	h	x	H	X
09	j	y	J	Y	j	y	J	Y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

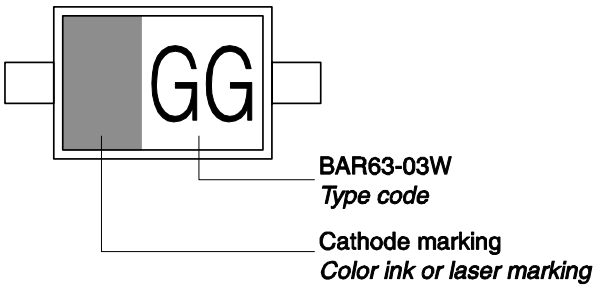
Package Outline



Foot Print

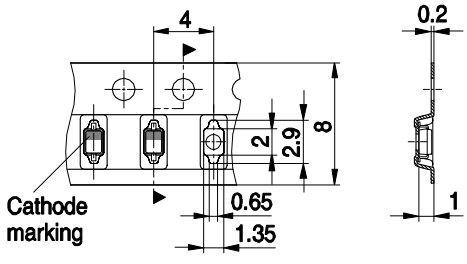


Marking Layout (Example)

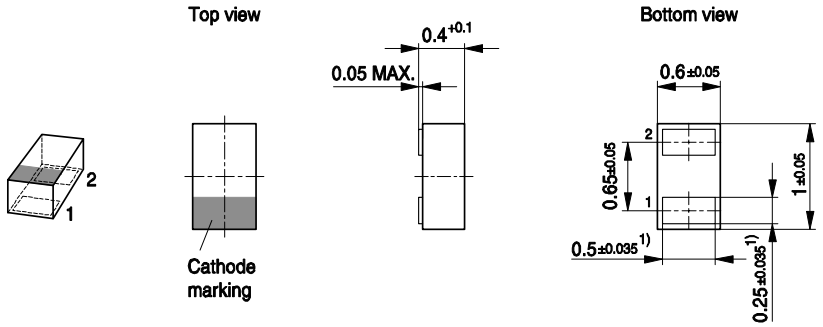


Standard Packing

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



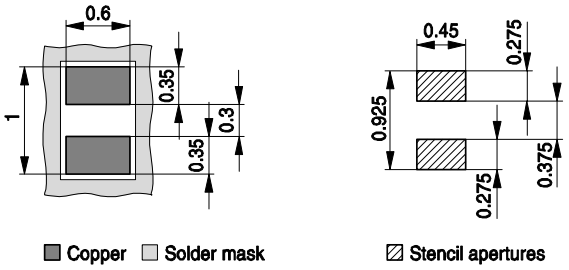
Package Outline



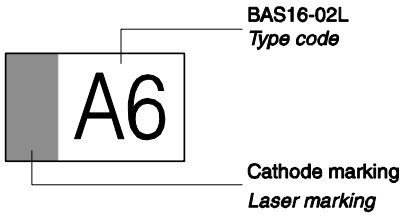
1) Dimension applies to plated terminal

Foot Print

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

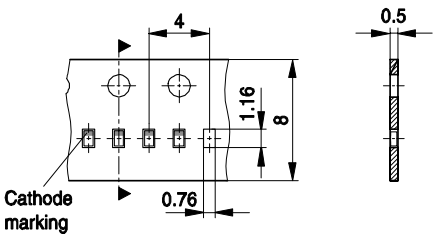


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 15.000 Pieces/Reel
Reel ø330 mm = 50.000 Pieces/Reel (optional)



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