

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



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	°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

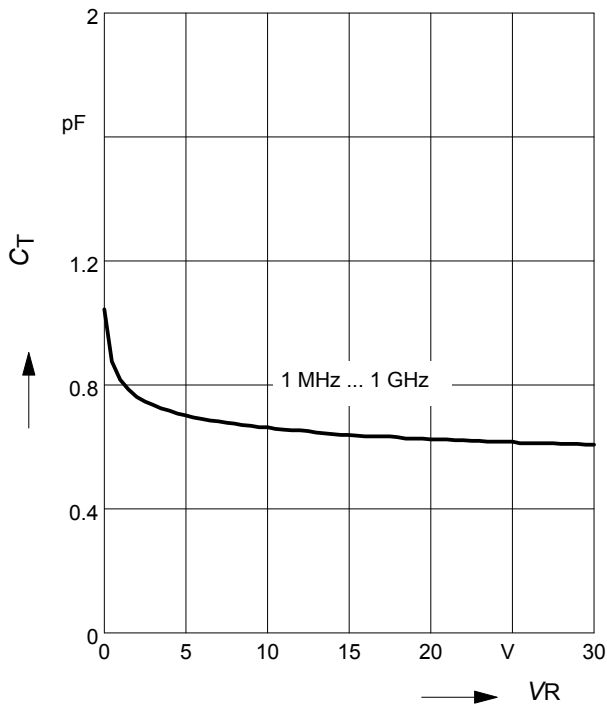
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

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	-	k Ω
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 $I_R = 3\text{ mA}$, $R_L = 100\ \Omega$	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, $Z = 50\ \Omega$

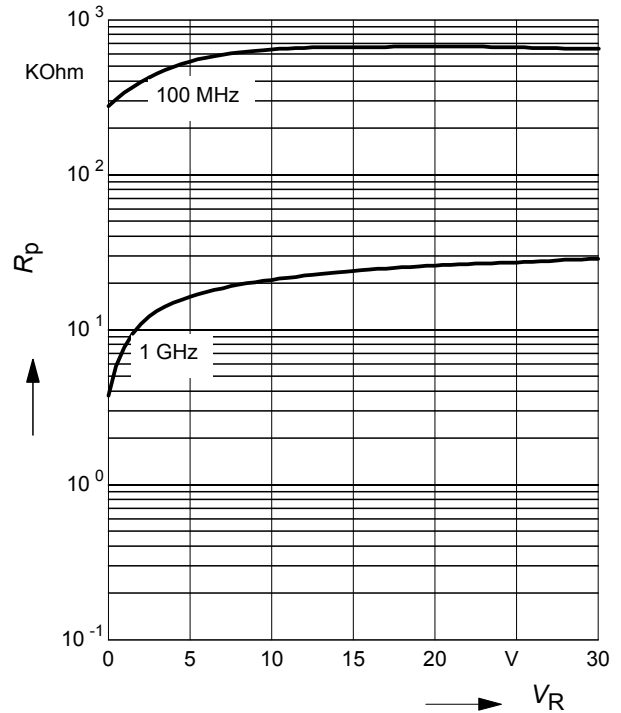
Diode capacitance $C_T = f(V_R)$

$f = \text{Parameter}$



Reverse parallel resistance $R_P = f(V_R)$

$f = \text{Parameter}$



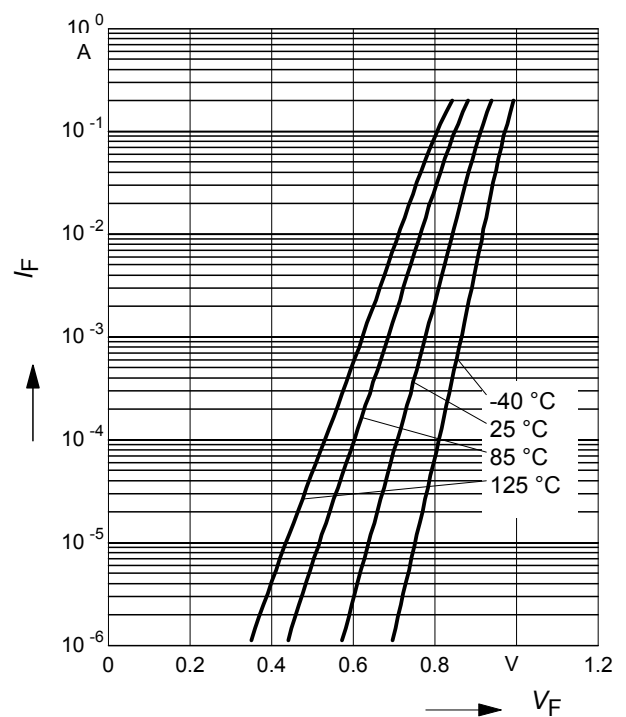
Forward resistance $r_f = f(I_F)$

$f = 100\text{MHz}$



Forward current $I_F = f(V_F)$

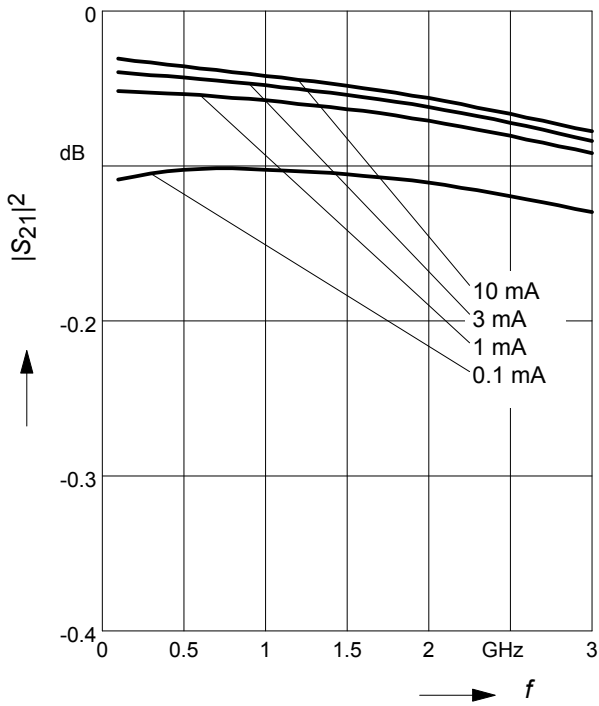
$T_A = \text{Parameter}$



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

$I_F =$ Parameter

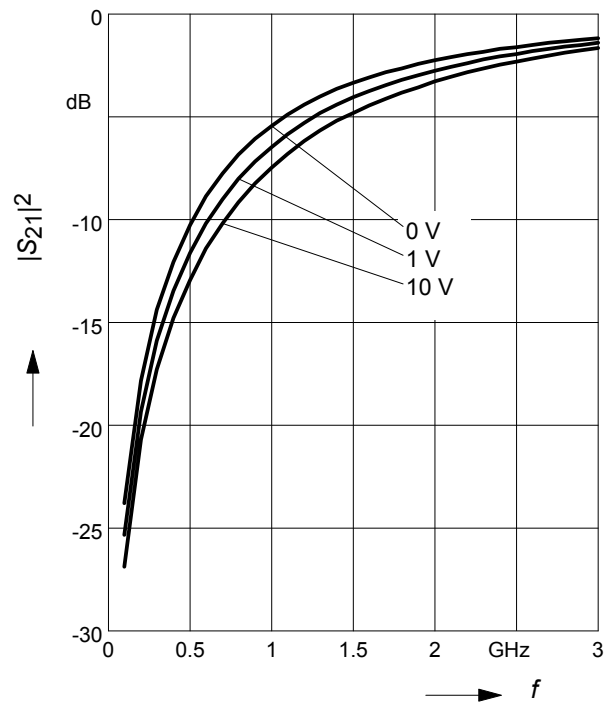
BA892-02L in series configuration, $Z = 50\Omega$



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

$V_R =$ Parameter

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



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



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

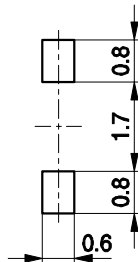
Month	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
01	a	p	A	P	a	p	A	P	a	p	A	P
02	b	q	B	Q	b	q	B	Q	b	q	B	Q
03	c	r	C	R	c	r	C	R	c	r	C	R
04	d	s	D	S	d	s	D	S	d	s	D	S
05	e	t	E	T	e	t	E	T	e	t	E	T
06	f	u	F	U	f	u	F	U	f	u	F	U
07	g	v	G	V	g	v	G	V	g	v	G	V
08	h	x	H	X	h	x	H	X	h	x	H	X
09	j	y	J	Y	j	y	J	Y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

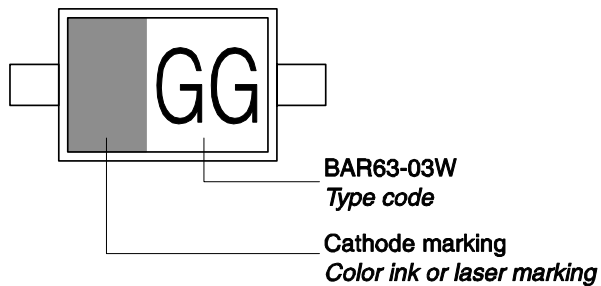
Package Outline



Foot Print

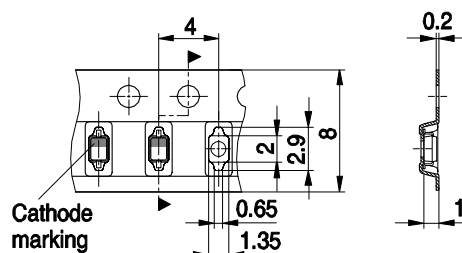


Marking Layout (Example)



Standard Packing

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



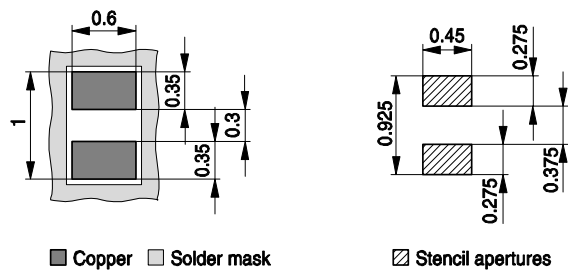
Package Outline



1) Dimension applies to plated terminal

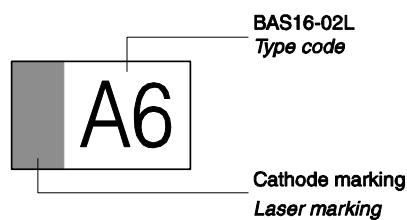
Foot Print

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



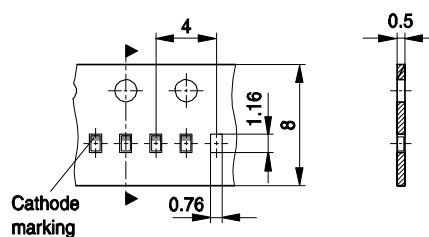
■ Copper □ Solder mask ▨ Stencil apertures

Marking Layout (Example)



Standard Packing

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



Edition 2009-11-16

**Published by
Infineon Technologies AG
81726 Munich, Germany**

**© 2009 Infineon Technologies AG
All Rights Reserved.**

Legal Disclaimer

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics. With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation, warranties of non-infringement of intellectual property rights of any third party.

Information

For further information on technology, delivery terms and conditions and prices, please contact the nearest Infineon Technologies Office (www.infineon.com).

Warnings

Due to technical requirements, components may contain dangerous substances. For information on the types in question, please contact the nearest Infineon Technologies Office.

Infineon Technologies components may be used in life-support devices or systems only with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.