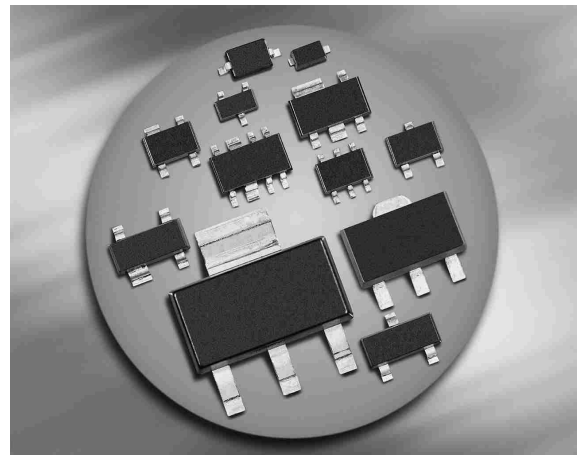
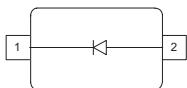


Low VF Schottky Diode

- Forward current: 0.5 A
- Reverse voltage: 30 V
- Very low forward voltage
(typ. 0.45 V @ $I_F = 0.5$ A)
- For low loss, fast-recovery protecting
and clamping applications
- Pb-free (RoHS compliant) package
- Qualified according AEC Q101


BAS3005A-02V


Type	Package	Configuration	Marking
BAS3005A-02V	SC79	single	2

Maximum Ratings at $T_A = 25$ °C, unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage ¹⁾	V_R	30	V
Forward current ¹⁾ , $T_S \leq 126$ °C, BAS3005A-02V	I_F	500	mA
Average rectified forward current (50/60Hz, sinus)	I_{FAV}	500	
Repetitive peak forward current ($t_p \leq 1$ ms, $D \leq 0.25$), BAS3005A-02V	I_{FRM}	3.5	A
Non-repetitive peak surge forward current ($t \leq 10$ ms), BAS3005A-02V	I_{FSM}	5	
Junction temperature	T_j	150	°C
Operating temperature range	T_{op}	-55 ... 125	
Storage temperature	T_{stg}	-65 ... 150	

¹⁾For $T_A > 25$ °C the derating of V_R and I_F has to be considered.

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾	R_{thJS}	≤ 80	K/W

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

DC Characteristics

Reverse current ²⁾	I_R				μA
$V_R = 5\text{ V}$		-	-	15	
$V_R = 10\text{ V}$		-	-	30	
$V_R = 30\text{ V}$		-	-	300	
Forward voltage ²⁾	V_F				mV
$I_F = 1\text{ mA}$		-	200	260	
$I_F = 10\text{ mA}$		-	260	310	
$I_F = 100\text{ mA}$		-	340	390	
$I_F = 200\text{ mA}$		-	370	420	
$I_F = 500\text{ mA}$		-	450	500	

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

AC Characteristics

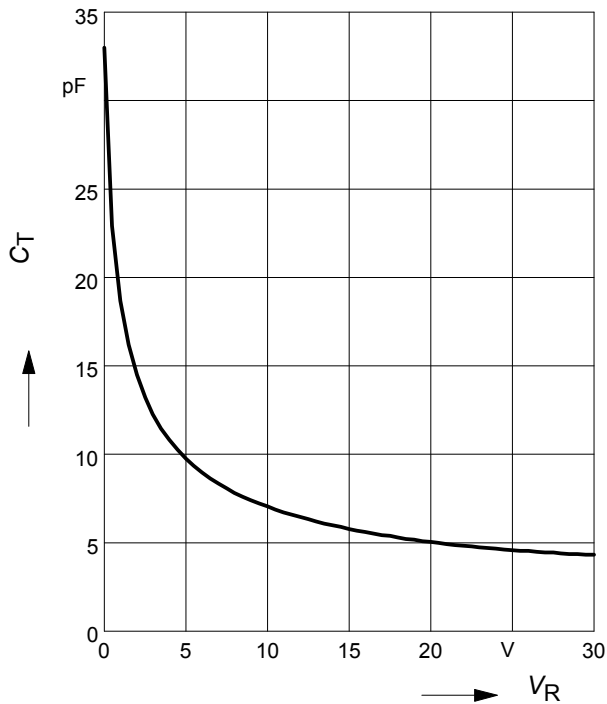
Diode capacitance	C_T	-	10	15	pF
$V_R = 5\text{ V}, f = 1\text{ MHz}$					

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

²⁾Pulsed test: $t_p = 300\text{ }\mu\text{s}$; $D = 0.01$

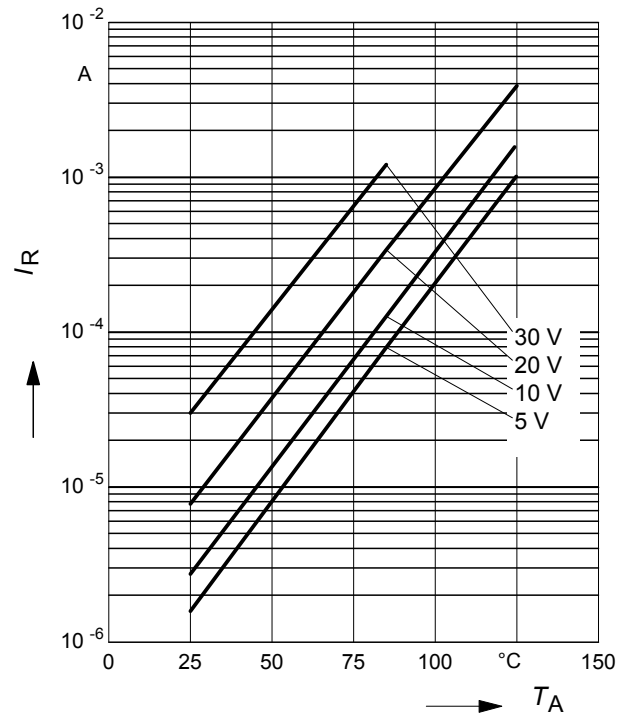
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



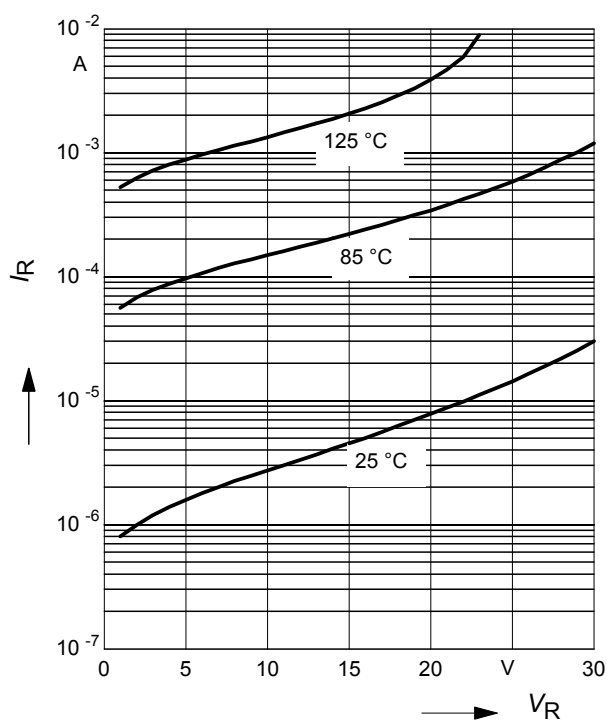
Reverse current $I_R = f(T_A)$

$V_R = \text{Parameter}$



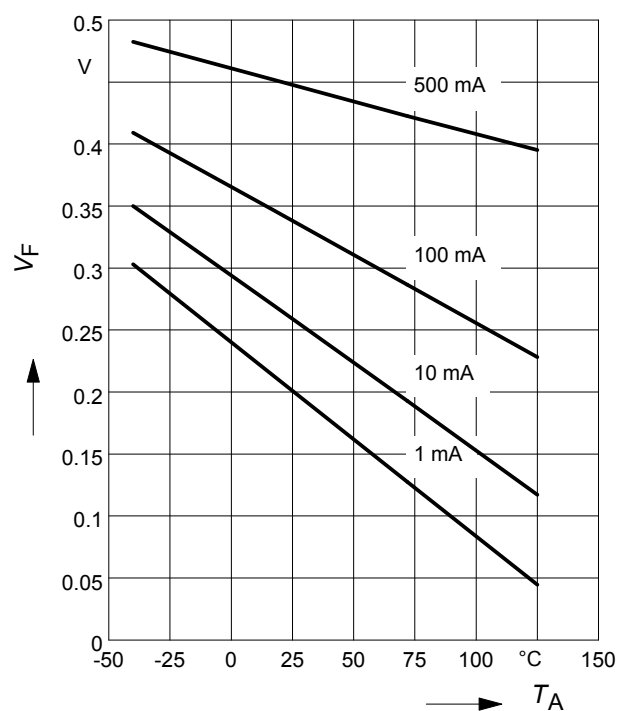
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



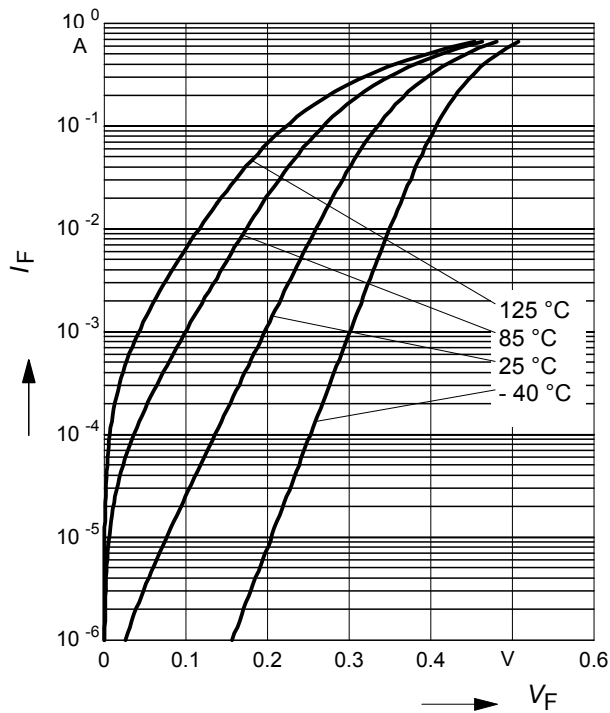
Forward Voltage $V_F = f(T_A)$

$I_F = \text{Parameter}$



Forward current $I_F = f(V_F)$

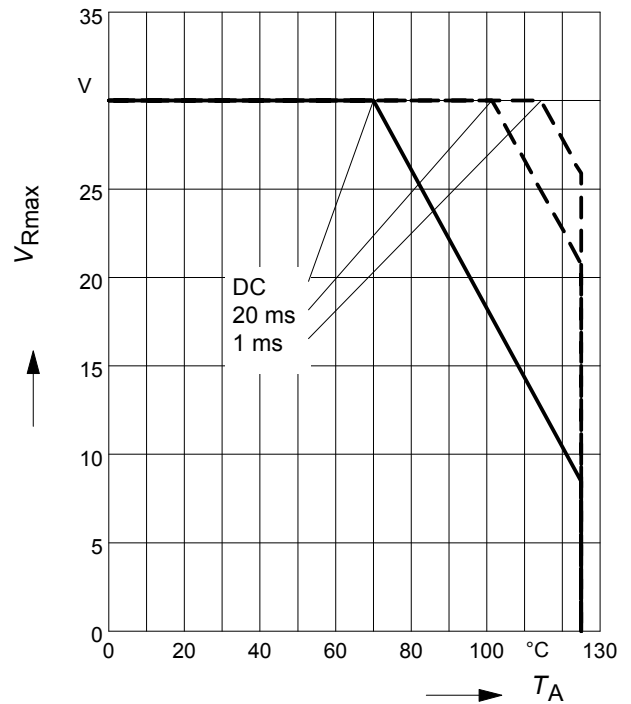
T_A = Parameter



Permissible Reverse voltage $V_R = f(T_A)$

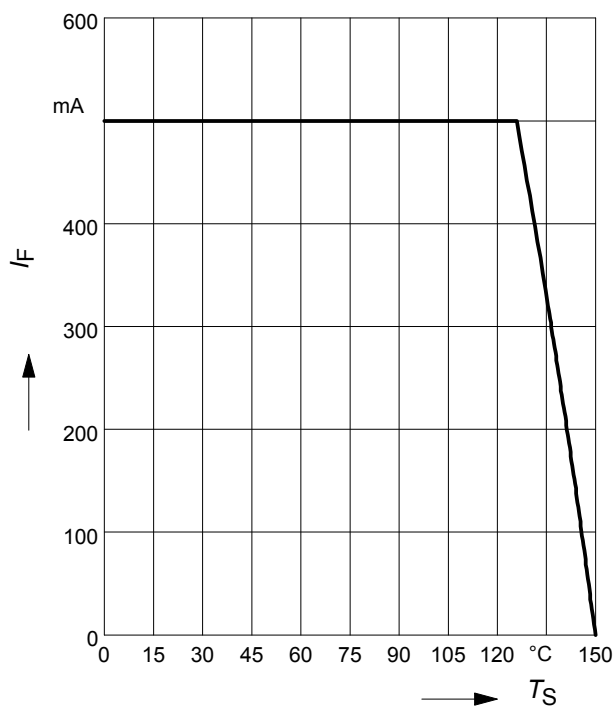
t_p = Parameter, Duty cycle < 0.01

Device mounted on PCB with $R_{th} = 160$ K/W

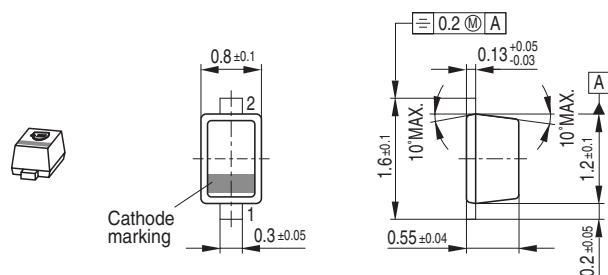


Forward current $I_F = f(T_S)$

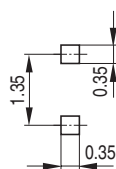
BAS3005A-02V



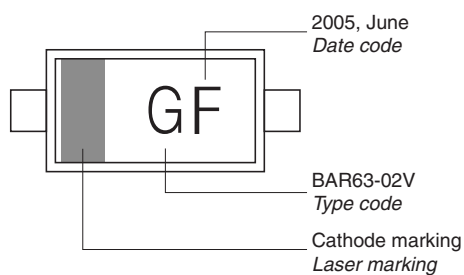
Package Outline



Foot Print

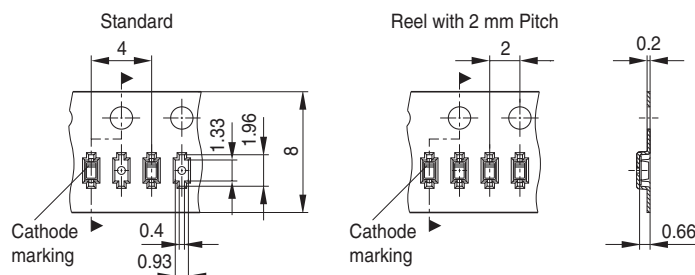


Marking Layout (Example)



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

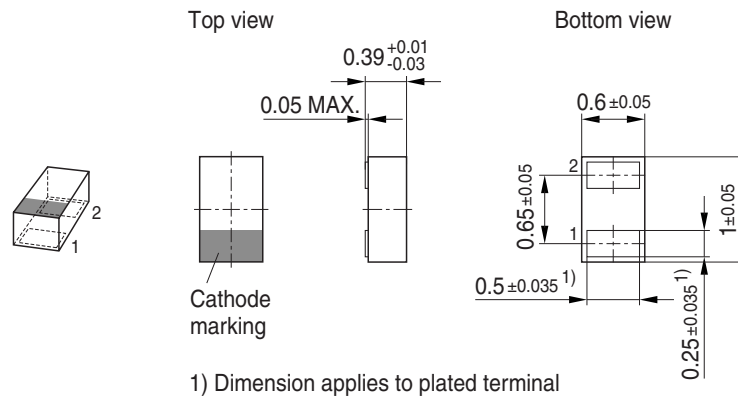


Date Code marking for discrete packages with one digit (SCD80, SC79, SC75¹⁾) CES-Code

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

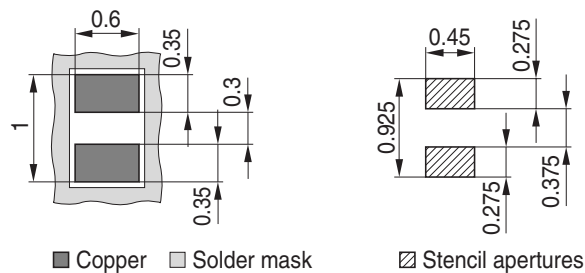
1) New Marking Layout for SC75, implemented at October 2005.

Package Outline

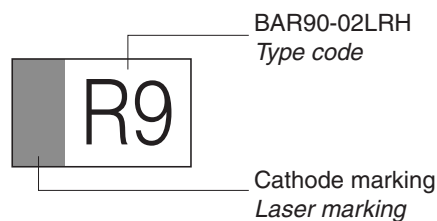


Foot Print

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



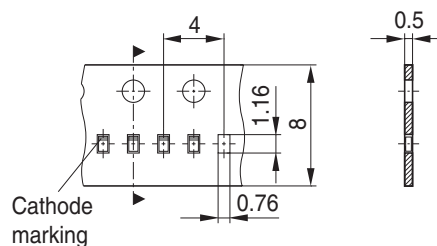
Marking Layout (Example)



Standard Packing

Reel ø180 mm = 15.000 Pieces/Reel

Reel ø330 mm = 50.000 Pieces/Reel (optional)



Edition 2006-02-01

Published by

Infineon Technologies AG

81726 München, Germany

© Infineon Technologies AG 2007.

All Rights Reserved.

Attention please!

The information given in this dokument shall in no event be regarded as a guarantee of conditions or characteristics ("Beschaffenheitsgarantie"). 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 your 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 your nearest Infineon Technologies Office.

Infineon Technologies Components may only be used in life-support devices or systems 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.