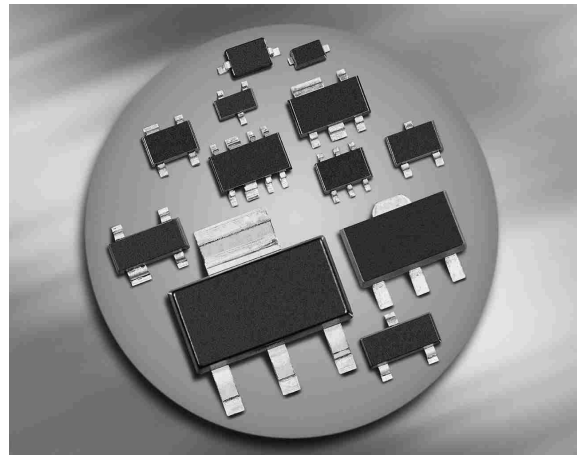
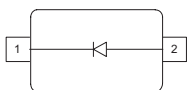


Medium Power AF Schottky Diode

- Forward current: 0.5 A
- Reverse voltage: 30 V
- Low capacitance, low reverse current
- For high efficiency DC/DC conversion, fast switching, protecting and clamping applications
- Pb-free (RoHS compliant) package
- Qualified according AEC Q101



BAS3005B-02LRH*
BAS3005B-02V



Type	Package	Configuration	Marking
BAS3005B-02LRH*	TSLP-2-17	single, leadless	5B
BAS3005B-02V	SC79	single	3

*Preliminary

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

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

¹For $T_A > 25^\circ\text{C}$ the derating of V_R and I_F has to be considered. Please refer to the attached curves.

Thermal Resistance

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

¹For 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.	

DC Characteristics

Reverse current ¹⁾	I_R				μA
$V_R = 5\text{ V}$		-	1	5	
$V_R = 10\text{ V}$		-	2	10	
$V_R = 30\text{ V}$		-	5	25	
Forward voltage ¹⁾	V_F				mV
$I_F = 1\text{ mA}$		-	200	250	
$I_F = 10\text{ mA}$		-	260	310	
$I_F = 100\text{ mA}$		-	360	410	
$I_F = 200\text{ mA}$		-	410	470	
$I_F = 500\text{ mA}$		-	550	620	

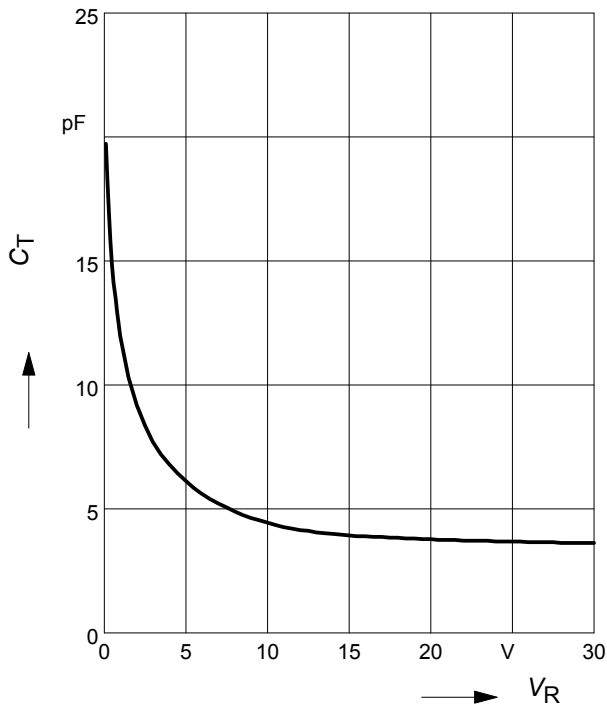
AC Characteristics

Diode capacitance	C_T	-	6	10	pF
$V_R = 5\text{ V}, f = 1\text{ MHz}$					

¹Pulsed test: $t_p = 300\text{ }\mu\text{s}$; $D = 0.01$

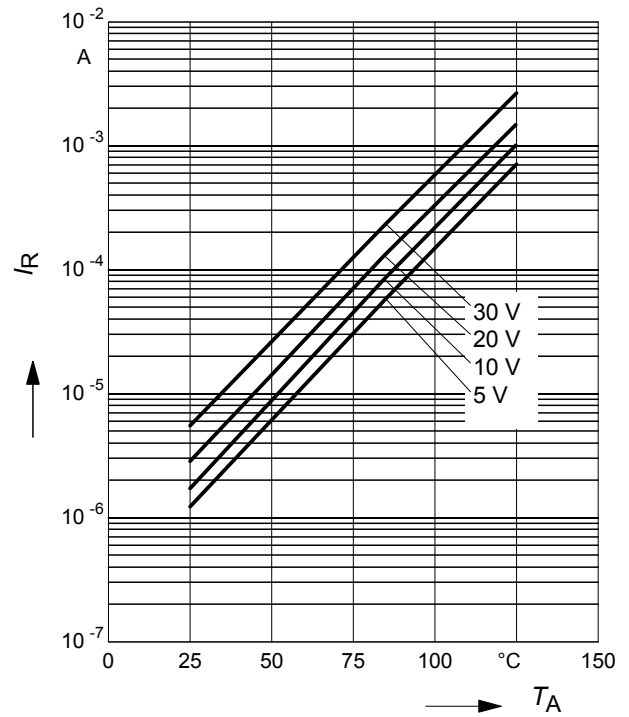
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



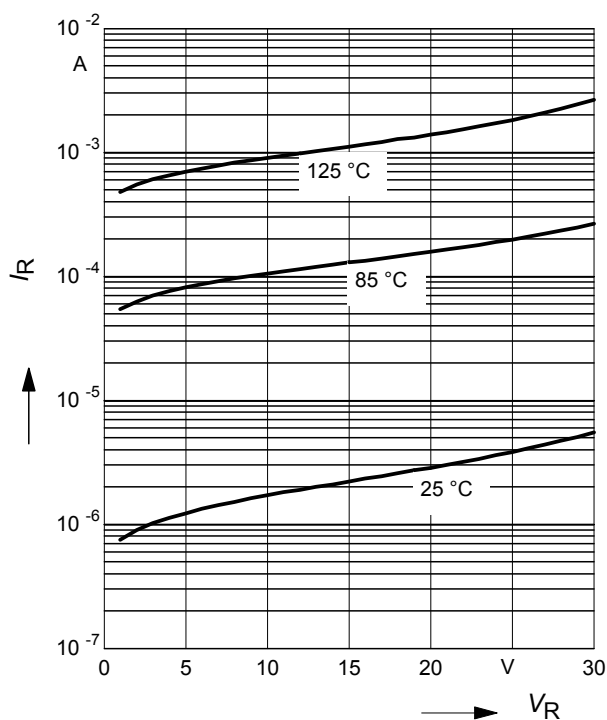
Reverse current $I_R = f(T_A)$

$V_R = \text{Parameter}$



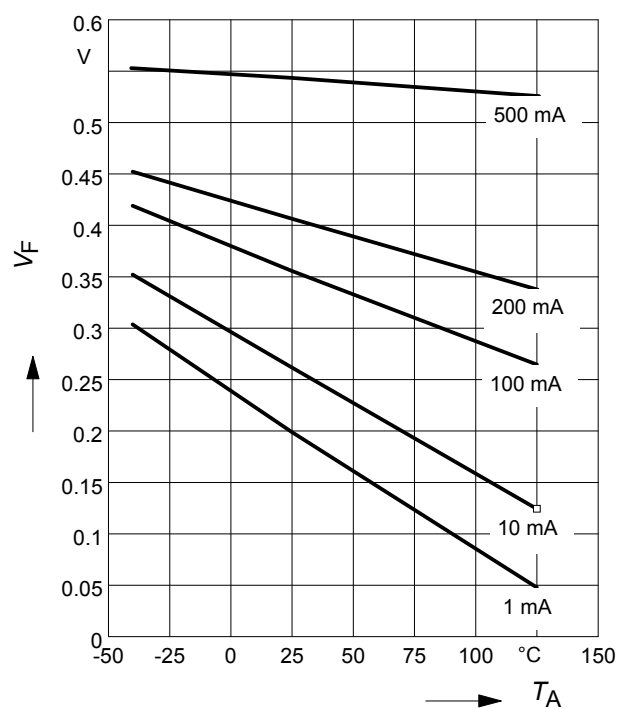
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



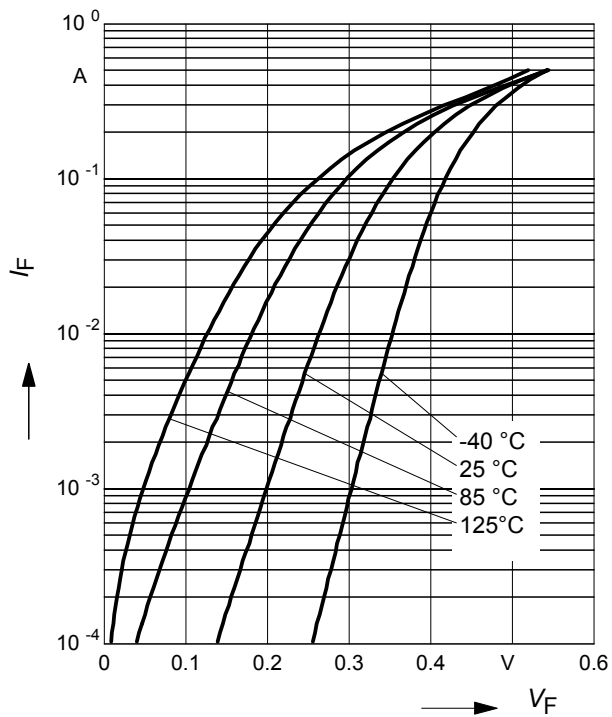
Forward Voltage $V_F = f(T_A)$

$I_F = \text{Parameter}$



Forward current $I_F = f(V_F)$

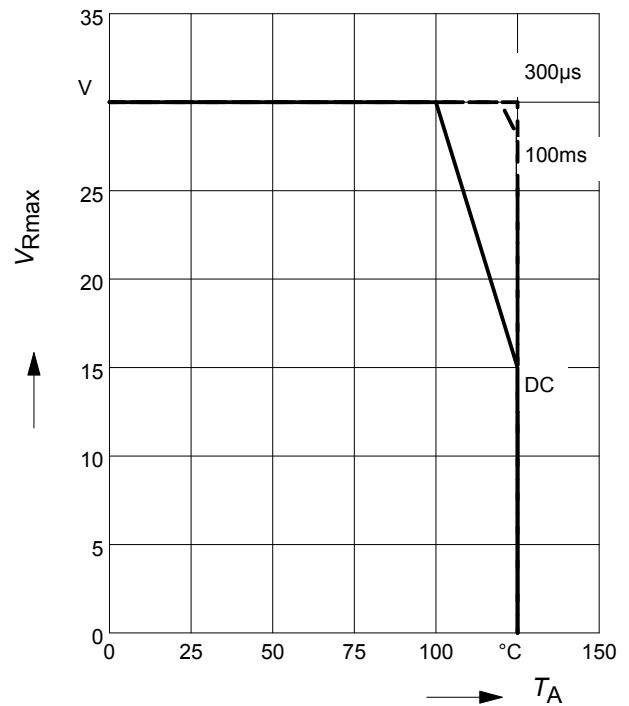
T_A = Parameter



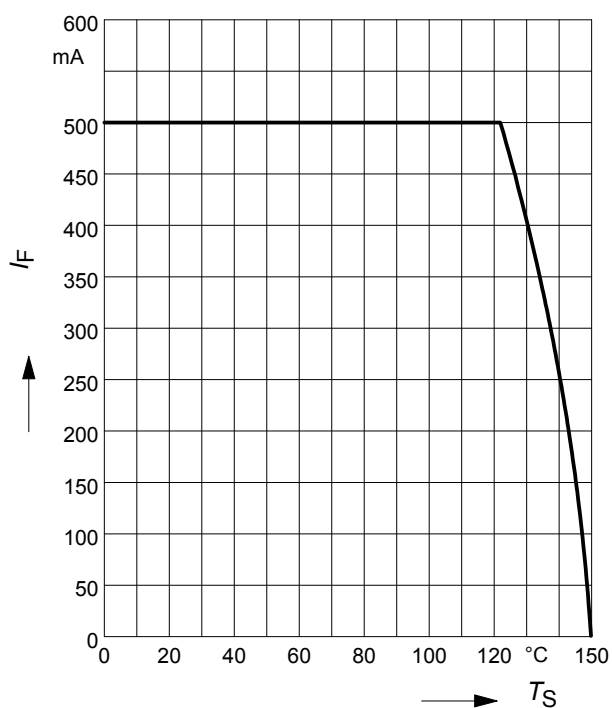
Permissible Reverse voltage $V_R = f(T_A)$

t_p = Parameter, Duty cycle < 0.01

Device mounted on PCB with $R_{th} = 160 \text{ k/W}$



Forward current $I_F = f(T_S)$



The mechanical drawing shows two views of the component:

- Top View:** A rectangular package with a width of 0.8 ± 0.1 . It features a central square pad labeled "2" and a shaded rectangular area at the bottom labeled "Cathode marking". The distance from the bottom edge to the center of the cathode marking is 0.3 ± 0.05 .
- Side View:** Shows the profile of the package. The total height is 1.6 ± 0.1 . The base thickness is 0.55 ± 0.04 . The top surface has a flat section with a width of $0.13^{+0.05}_{-0.03}$ and a maximum slope angle of 10° MAX. . The side wall also has a maximum slope angle of 10° MAX. . The distance from the base to the start of the sloped top surface is 1.2 ± 0.1 , and the total height from the base to the top surface is 0.2 ± 0.05 .

A reference marker symbol is shown in the top right corner of the side view.

2005, June
Date code

BAR63-02V
Type code

Cathode marking
Laser marking

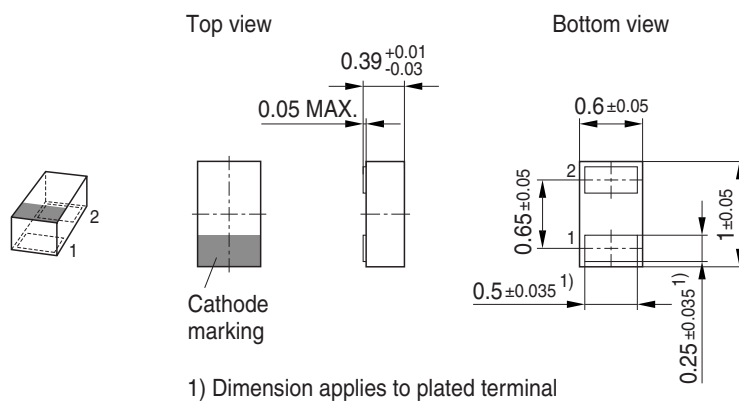
The image contains three technical drawings of cathode marking components. The first drawing, labeled 'Standard', shows a top view of a component with a width of 8 and a height of 4. It features two circular cathode markings with a diameter of 1.33 and a center-to-center distance of 1.96. The distance from the left edge to the first marking is 0.4, and the distance from the second marking to the right edge is 0.93. The second drawing, labeled 'Reel with 2 mm Pitch', shows a top view of a component with a width of 2 and a height of 0.66. It features two circular cathode markings with a diameter of 1.33 and a center-to-center distance of 1.96. The distance from the left edge to the first marking is 0.4, and the distance from the second marking to the right edge is 0.93. The third drawing is a side view of the component, showing a height of 0.66 and a width of 0.2.

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

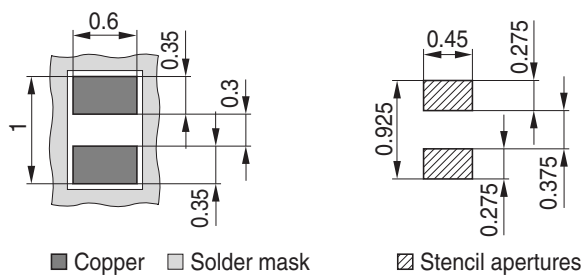
1) New Marking Layout for SC75, implemented at October 2005.

Package Outline

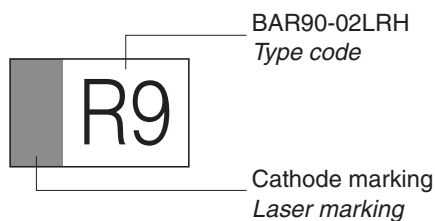


Foot Print

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



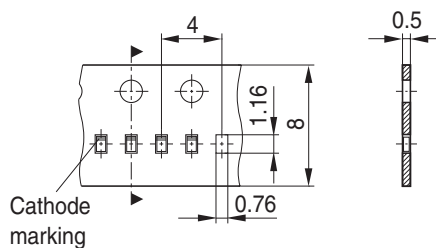
Marking Layout (Example)



Standard Packing

Reel ø180 mm = 15.000 Pieces/Reel

Reel ø330 mm = 50.000 Pieces/Reel (optional)



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