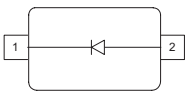


**Medium Power AF Schottky Diode**

- 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  $T_A = 25\text{ }^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage <sup>1)</sup>	$V_R$	30	V
RMS reverse voltage	$V_{R(RMS)}$	-	
Forward current <sup>1)</sup>	$I_F$	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	$^\circ\text{C}$
Operating temperature range	$T_{op}$	-55 ... 125	
Storage temperature	$T_{stg}$	-65 ... 150	

<sup>1</sup>For  $T_A > 25^\circ\text{C}$  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 <sup>1)</sup>	$R_{thJS}$	$\leq 80$	K/W

<sup>1</sup>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.	

**DC Characteristics**

Reverse current <sup>1)</sup>	$I_R$				$\mu\text{A}$
$V_R = 5\text{ V}$		-	1	5	
$V_R = 10\text{ V}$		-	2	10	
$V_R = 30\text{ V}$		-	5	25	
Forward voltage <sup>1)</sup>	$V_F$				$\text{mV}$
$I_F = 1\text{ mA}$		-	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	

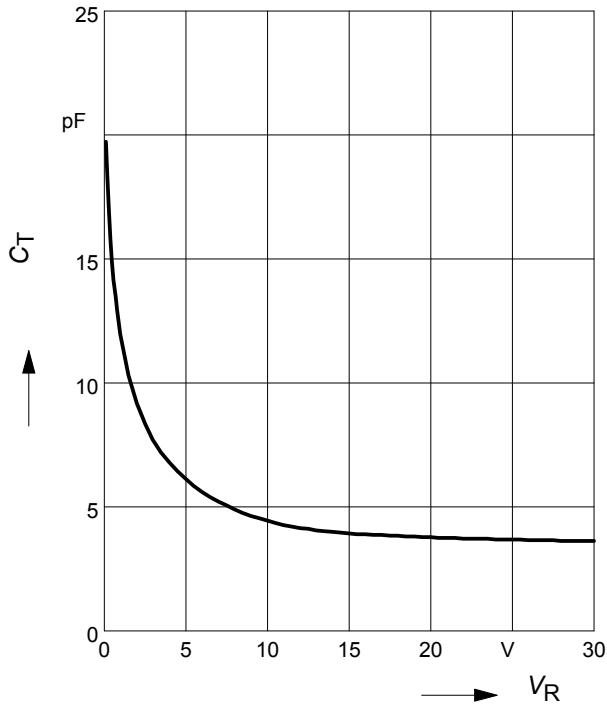
**AC Characteristics**

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

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

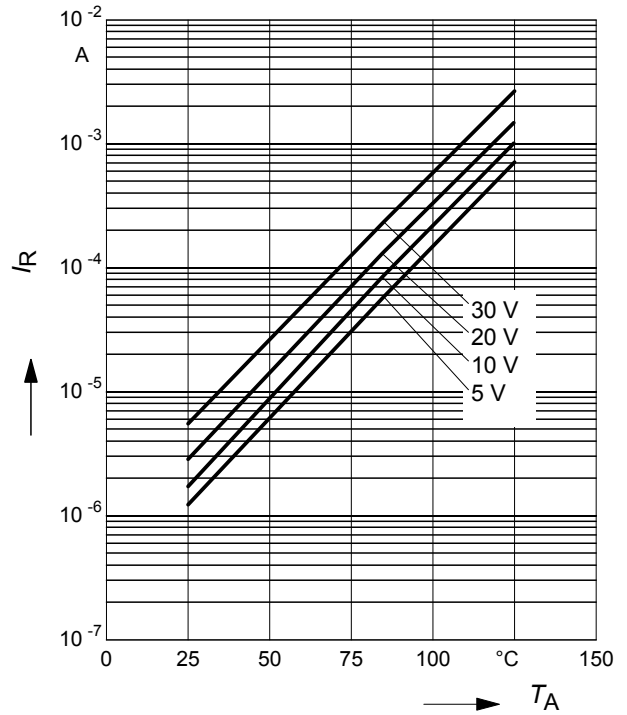
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



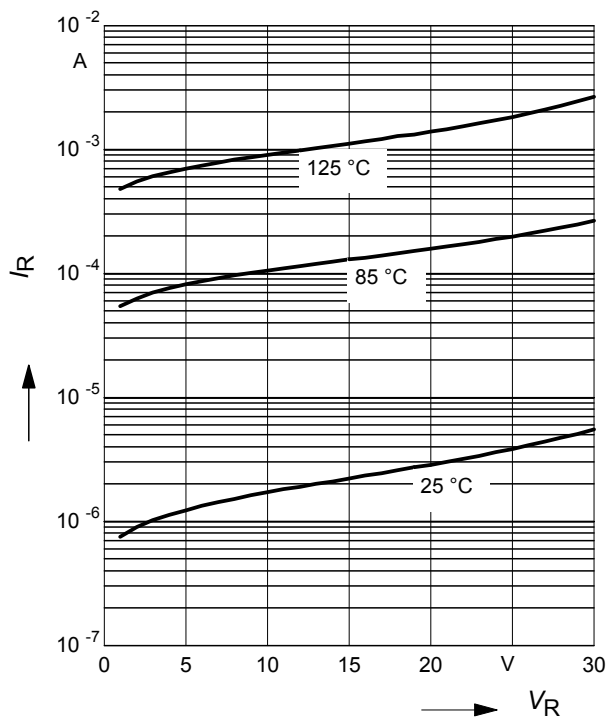
**Reverse current  $I_R = f(T_A)$**

$V_R = \text{Parameter}$



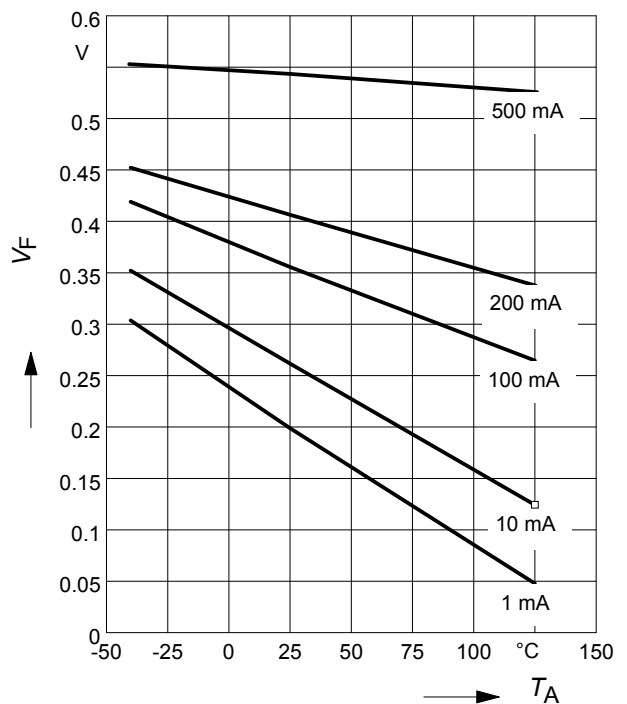
**Reverse current  $I_R = f(V_R)$**

$T_A = \text{Parameter}$



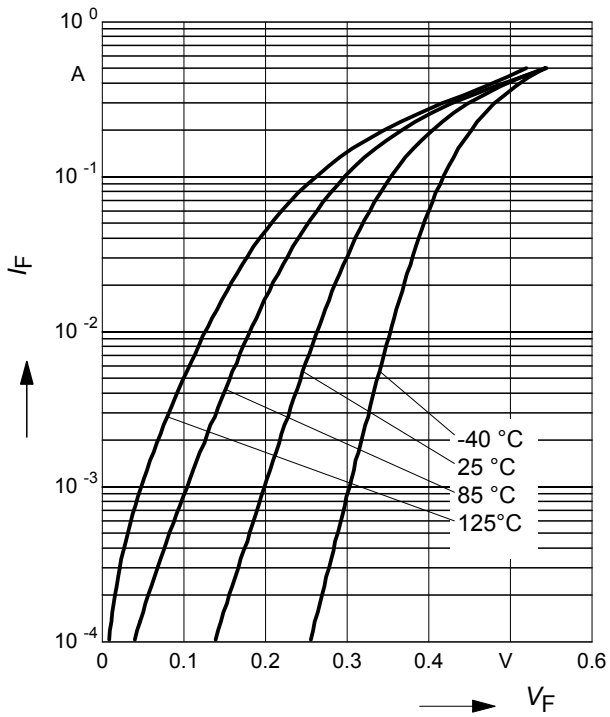
**Forward Voltage  $V_F = f(T_A)$**

$I_F = \text{Parameter}$



**Forward current  $I_F = f(V_F)$**

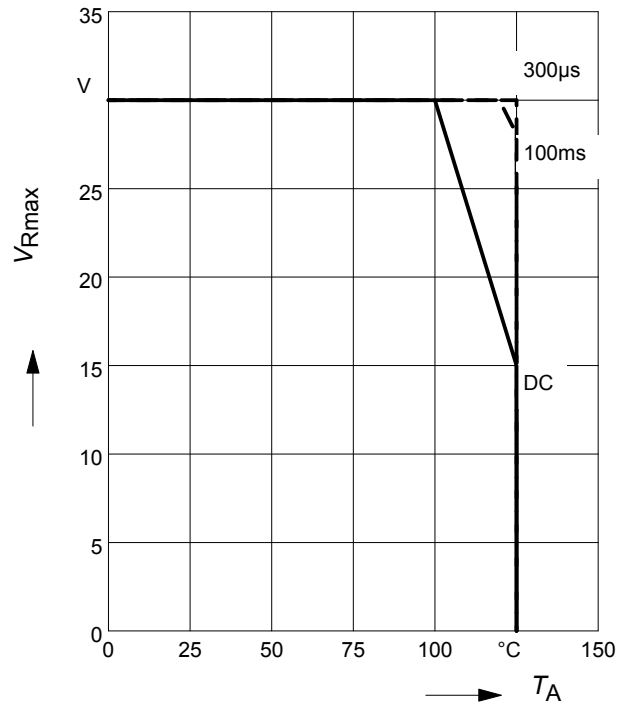
$T_A$  = Parameter



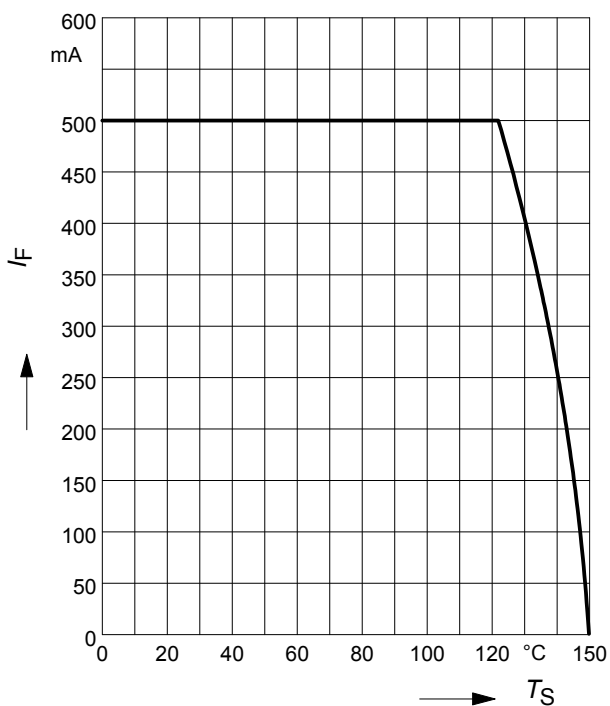
**Permissible Reverse voltage  $V_R = f(T_A)$**

$t_p$  = Parameter, Duty cycle < 0.01

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



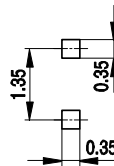
**Forward current  $I_F = f(T_S)$**



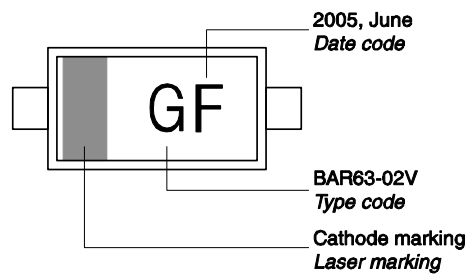
### Package Outline



### Foot Print

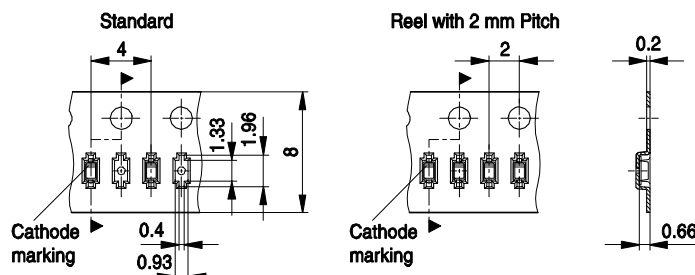


### Marking Layout (Example)



### 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

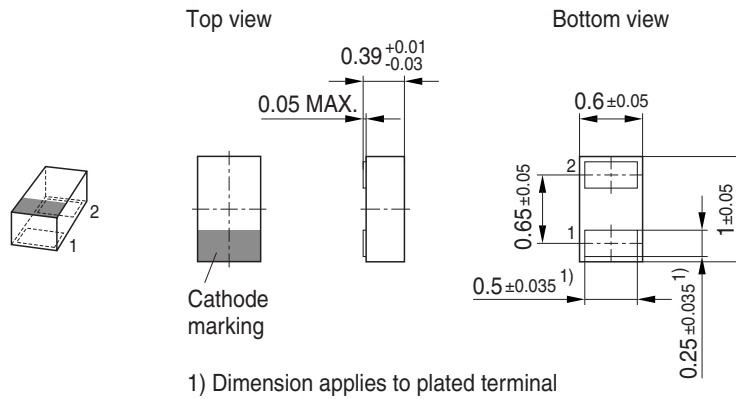


Date Code marking for discrete packages with one digit (SCD80, SC79, SC75<sup>1)</sup>) CES-Code

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

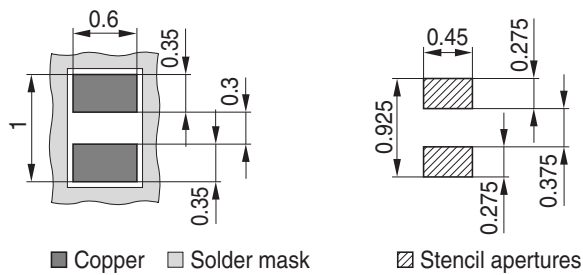
1) New Marking Layout for SC75, implemented at October 2005.

### Package Outline

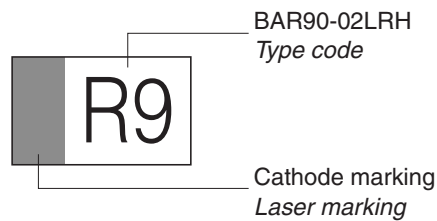


### Foot Print

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

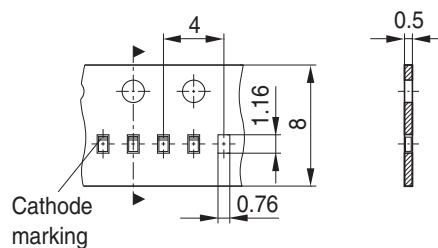


### Marking Layout (Example)



### Standard Packing

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



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