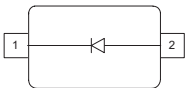


Low VF Schottky Diode

- 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

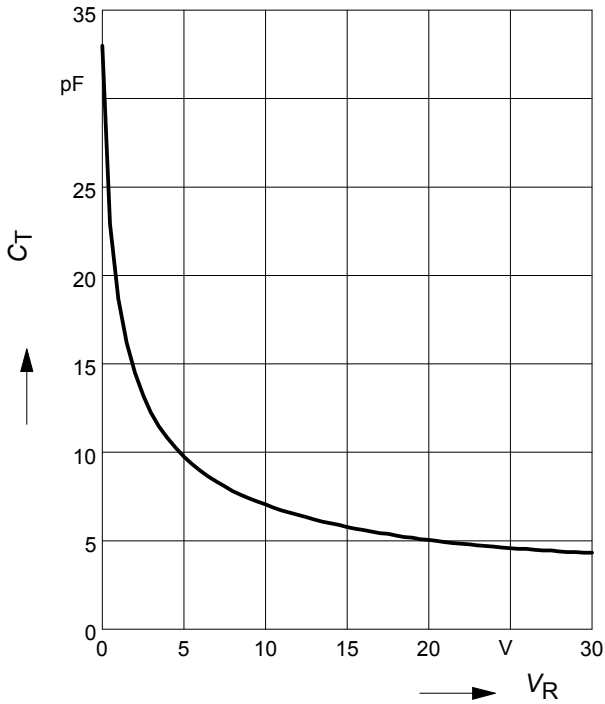
Diode capacitance	C_T	-	10	15	pF
$V_R = 5\text{ V}, f = 1\text{ MHz}$					

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

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

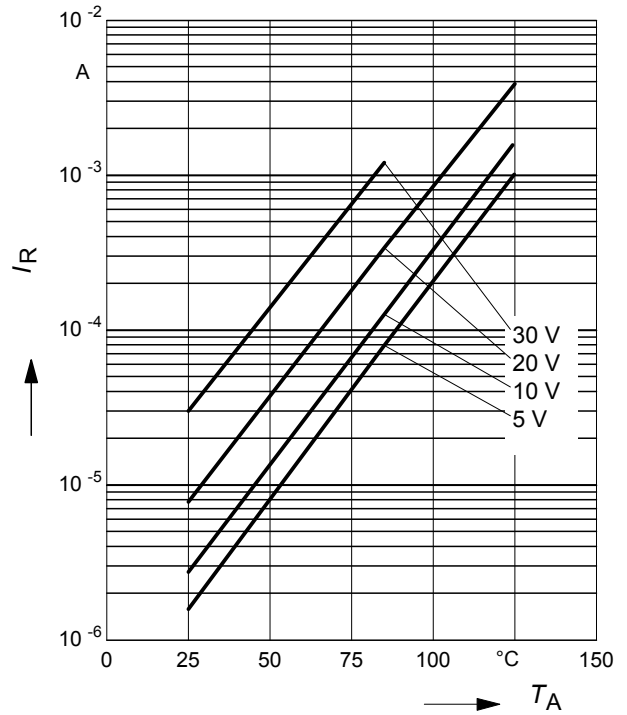
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



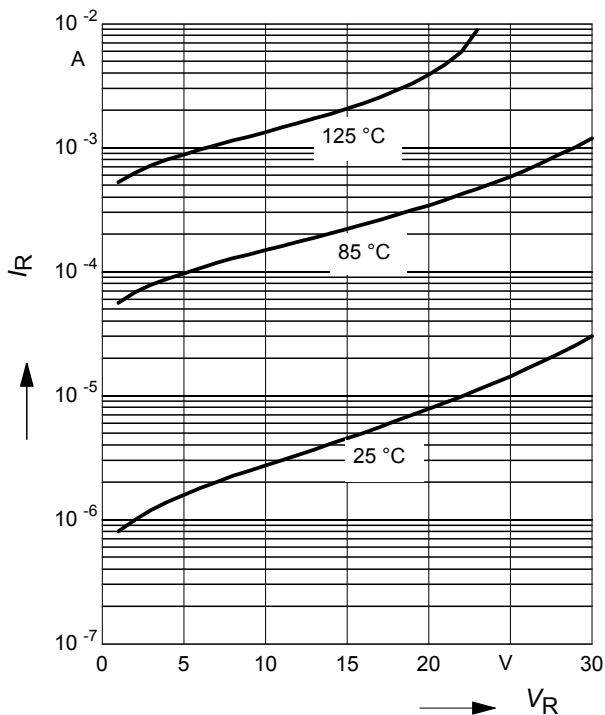
Reverse current $I_R = f(T_A)$

$V_R = \text{Parameter}$



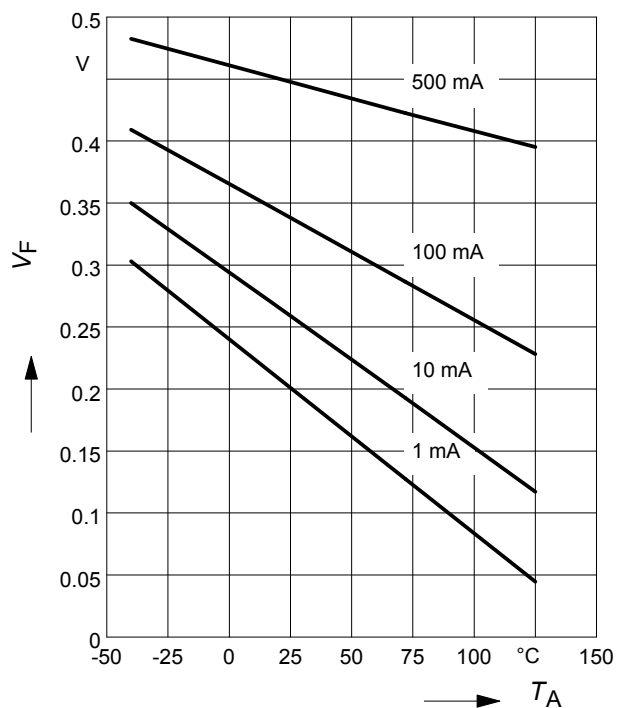
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



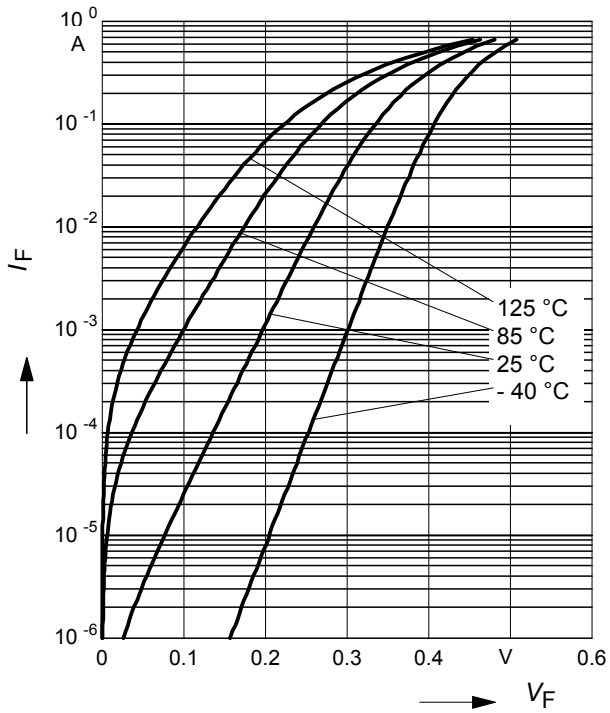
Forward Voltage $V_F = f(T_A)$

$I_F = \text{Parameter}$



Forward current $I_F = f(V_F)$

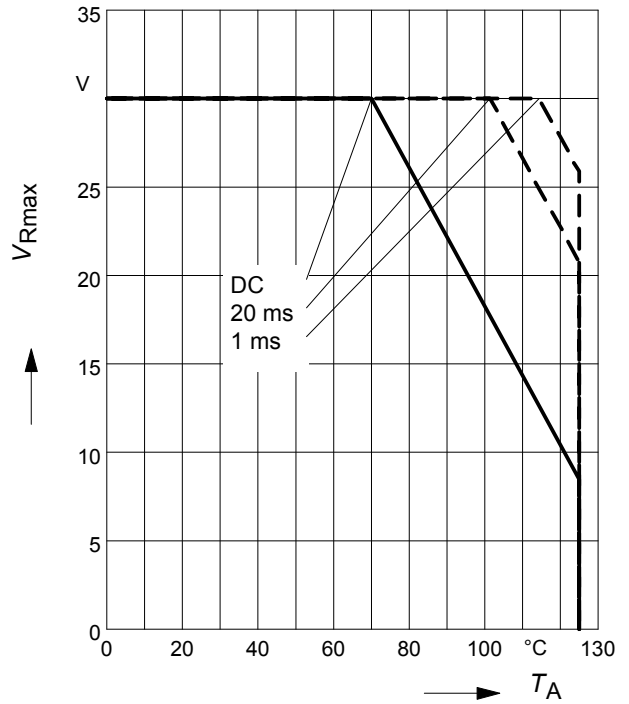
T_A = Parameter



Permissible Reverse voltage $V_R = f(T_A)$

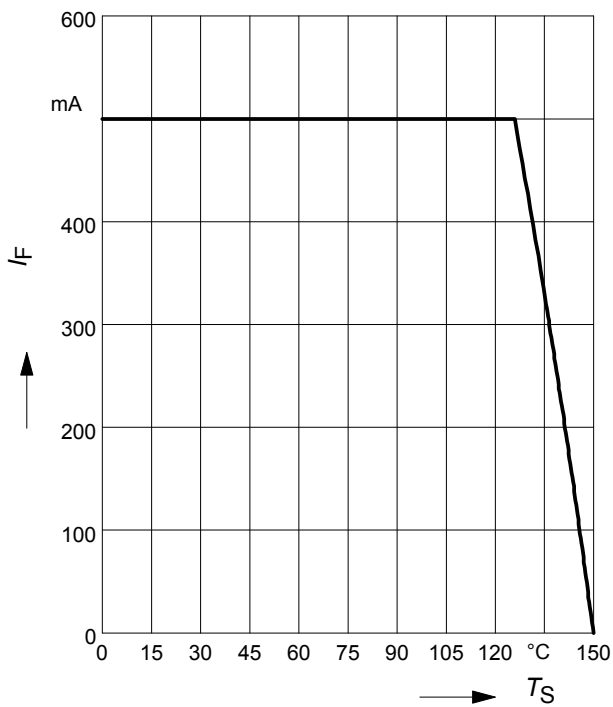
t_p = Parameter, Duty cycle < 0.01

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

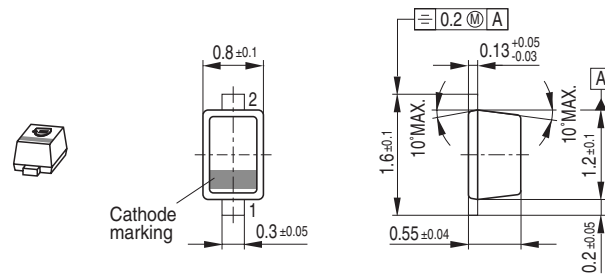


Forward current $I_F = f(T_S)$

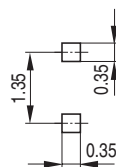
BAS3005A-02V



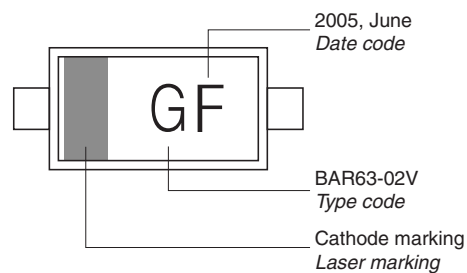
Package Outline



Foot Print

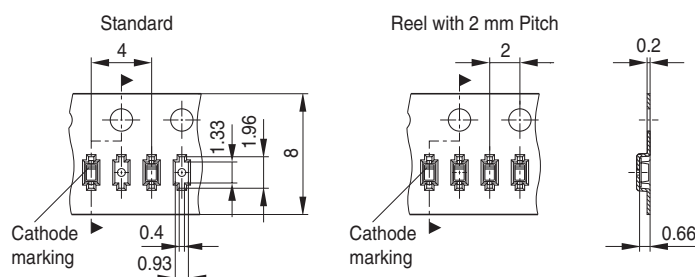


Marking Layout (Example)



Standard Packing

Reel \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

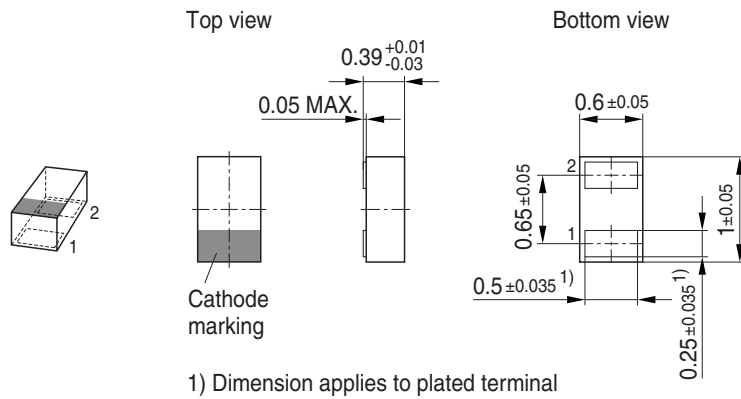


Date Code marking for discrete packages with one digit (SCD80, SC79, SC75¹⁾) CES-Code

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

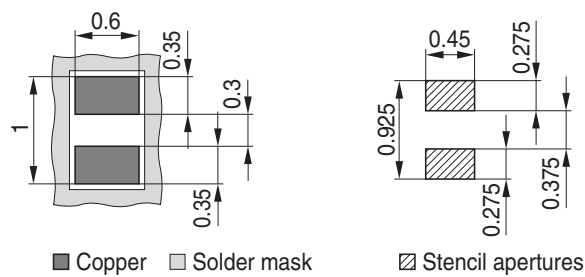
1) New Marking Layout for SC75, implemented at October 2005.

Package Outline

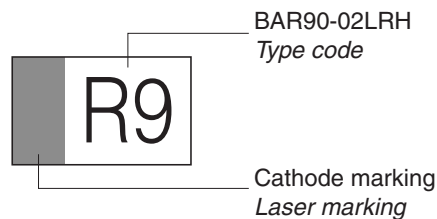


Foot Print

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

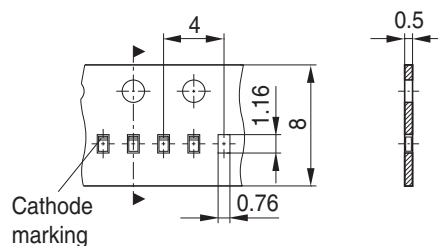


Marking Layout (Example)



Standard Packing

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



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