

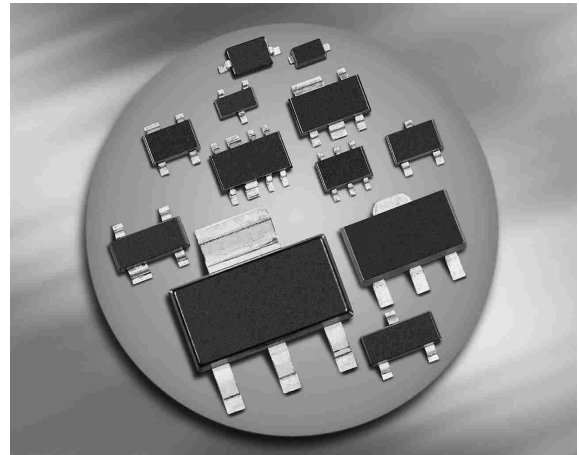
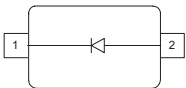


**THE DATASHEET OF
BAS3005A-02V E6327**



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	

¹For $T_A > 25$ °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

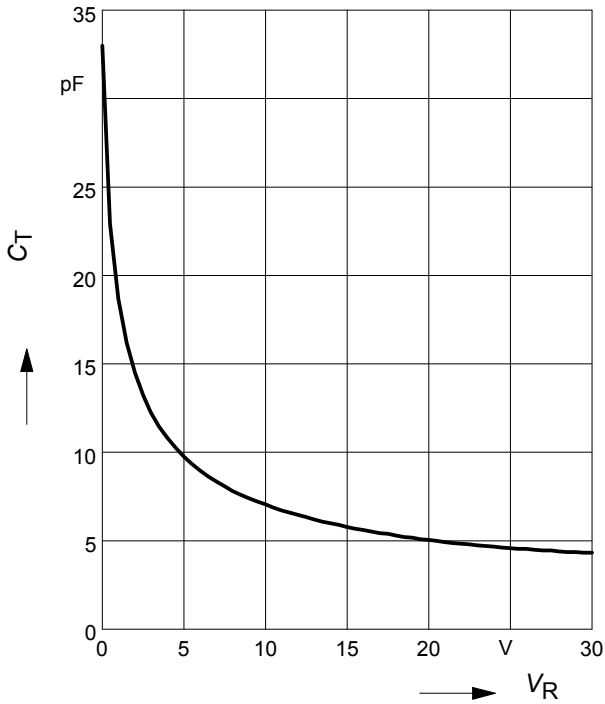
Diode capacitance	C_T	-	10	15	pF
$V_R = 5\text{ V}, f = 1\text{ MHz}$					

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

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

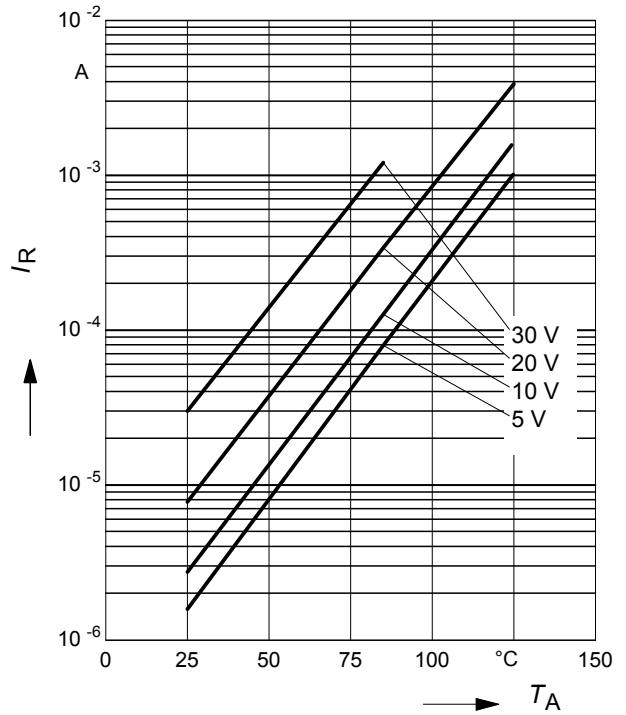
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



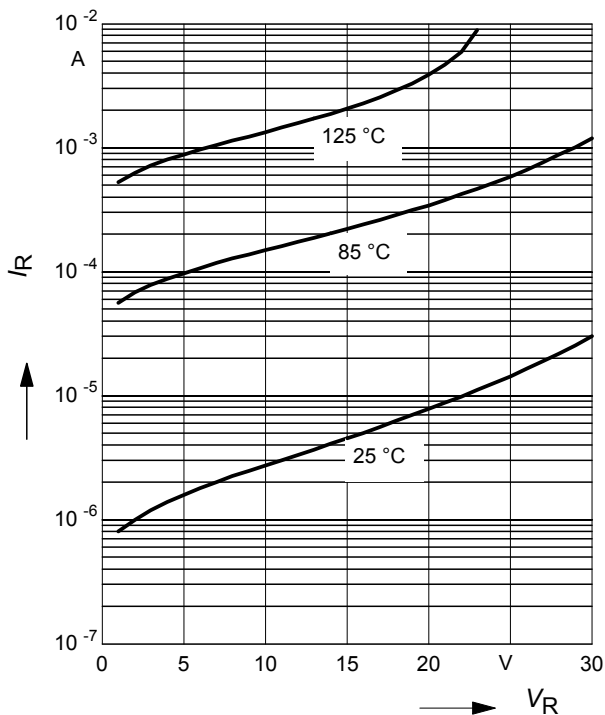
Reverse current $I_R = f(T_A)$

$V_R = \text{Parameter}$



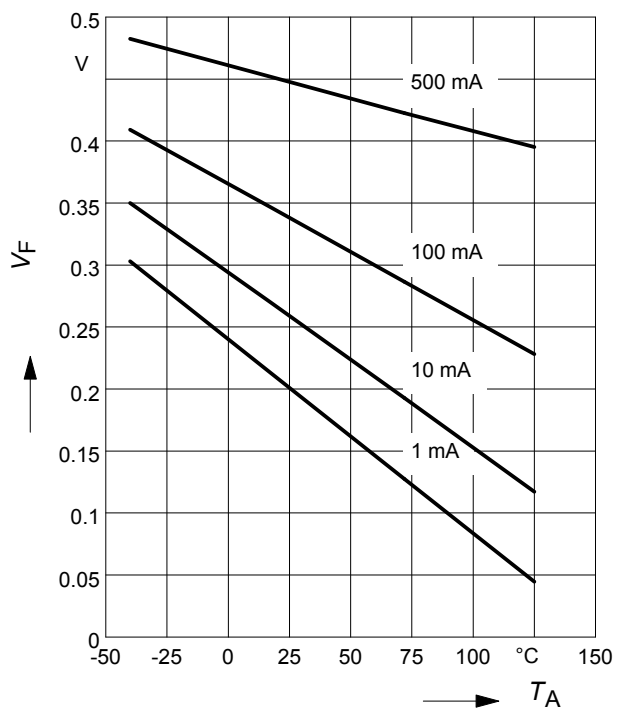
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



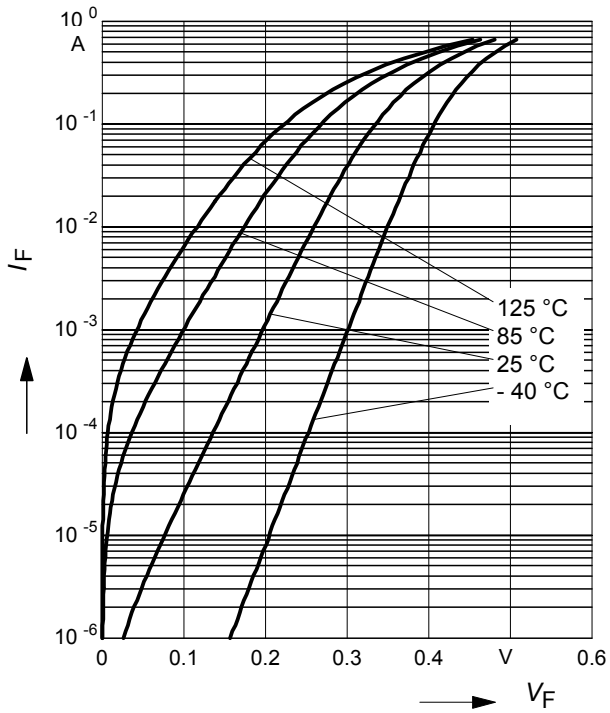
Forward Voltage $V_F = f(T_A)$

$I_F = \text{Parameter}$



Forward current $I_F = f(V_F)$

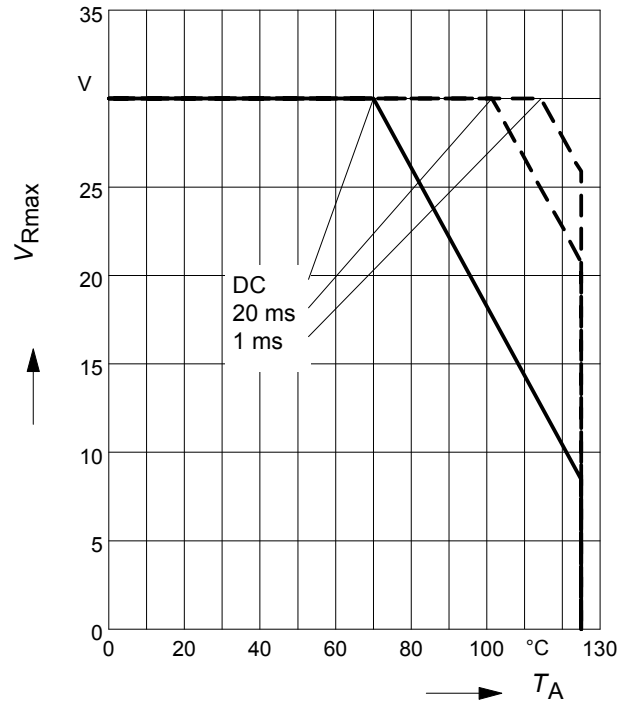
T_A = Parameter



Permissible Reverse voltage $V_R = f(T_A)$

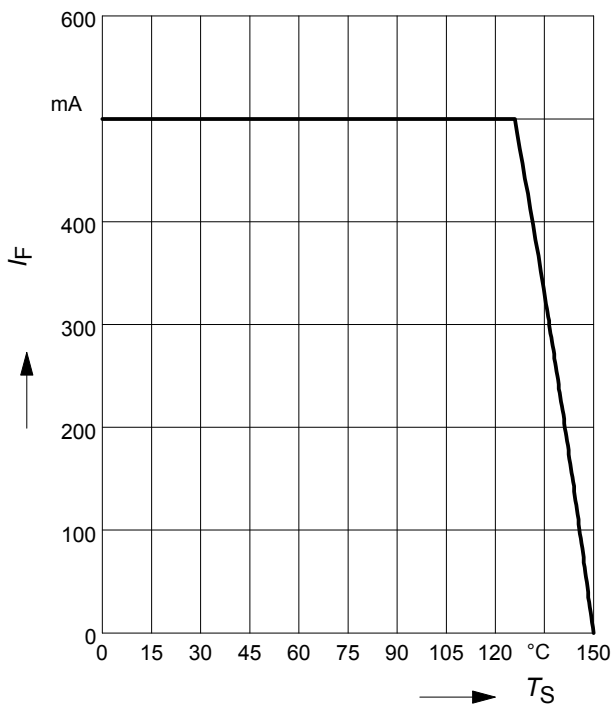
t_p = Parameter, Duty cycle < 0.01

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

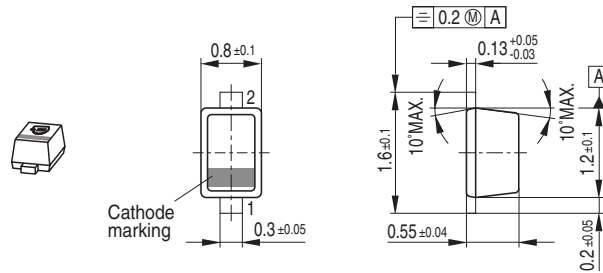


Forward current $I_F = f(T_S)$

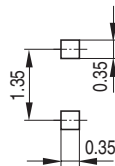
BAS3005A-02V



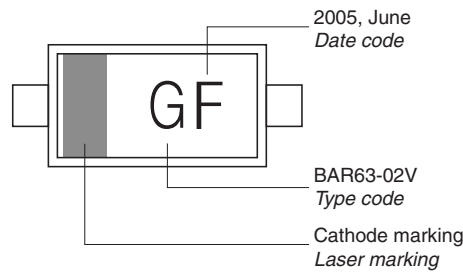
Package Outline



Foot Print

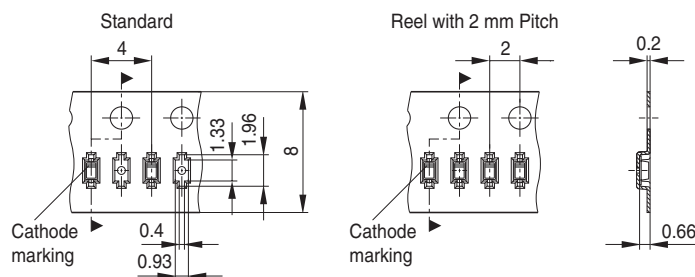


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
 Reel ø180 mm = 8.000 Pieces/Reel (2 mm Pitch)
 Reel ø330 mm = 10.000 Pieces/Reel

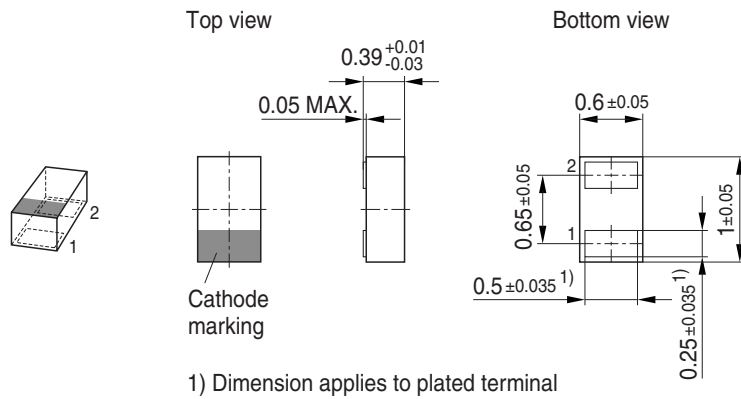


Date Code marking for discrete packages with one digit (SCD80, SC79, SC75¹⁾) CES-Code

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

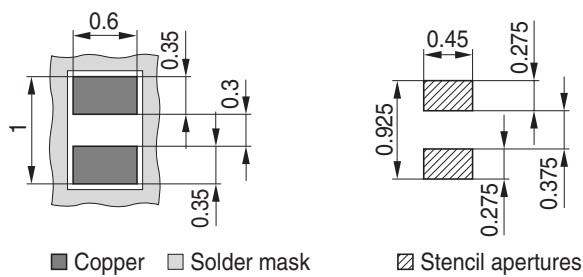
1) New Marking Layout for SC75, implemented at October 2005.

Package Outline

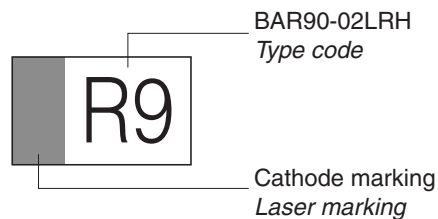


Foot Print

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

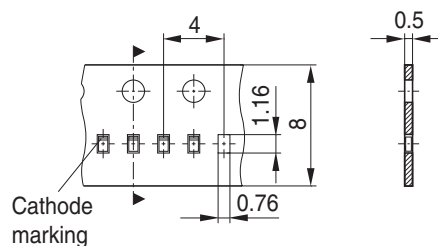


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 15.000 Pieces/Reel
 Reel ø330 mm = 50.000 Pieces/Reel (optional)



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