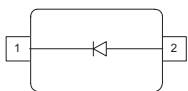


### Silicon Schottky Diode

- Medium current rectifier Schottky diode
- Low forward voltage at 200mA
- High reverse voltage
- Pb-free (RoHS compliant) package<sup>1)</sup>
- Qualified according AEC Q101



### BAS52-02V



**ESD (Electrostatic discharge) sensitive device, observe handling precaution!**

Type	Package	Configuration	Marking
BAS52-02V	SC79	single	y

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	45	V
Forward current	$I_F$	750	mA
Average rectified forward current (50/60Hz, sinus)	$I_{FAV}$	500	mA
Non-repetitive peak surge forward current $t = 100 \mu\text{s}$	$I_{FSM}$	2000	
Total power dissipation $T_S \leq 110^\circ\text{C}$	$P_{tot}$	500	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-65 ... 150	

### Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>2)</sup>	$R_{thJS}$	$\leq 60$	K/W

<sup>1</sup>Pb-containing package may be available upon special request

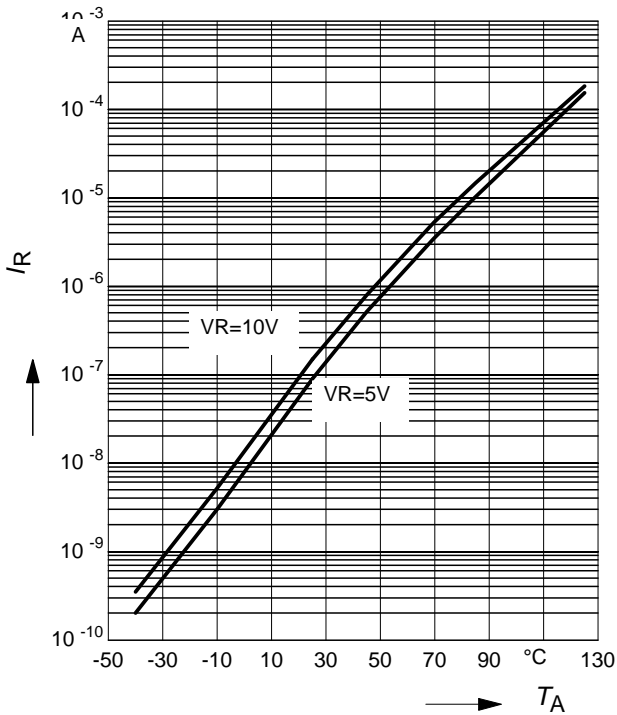
<sup>2</sup>For calculation of  $R_{thJA}$  please refer to Application Note Thermal Resistance

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>DC Characteristics</b>					
Reverse current	$I_R$	-	-	10	$\mu\text{A}$
$V_R = 45\text{ V}$		-	-	30	
$V_R = 5\text{ V}, T_A = 70^\circ\text{C}$		-	-	1	
$V_R = 10\text{ V}, T_A = 85^\circ\text{C}$		-	-	80	
Forward voltage	$V_F$	-	335	420	mV
$I_F = 10\text{ mA}$		-	430	530	
$I_F = 100\text{ mA}$		400	500	600	
$I_F = 200\text{ mA}$					
<b>AC Characteristics</b>					
Diode capacitance	$C_T$	-	5	10	$\text{pF}$
$V_R = 10\text{ V}, f = 1\text{ MHz}$					

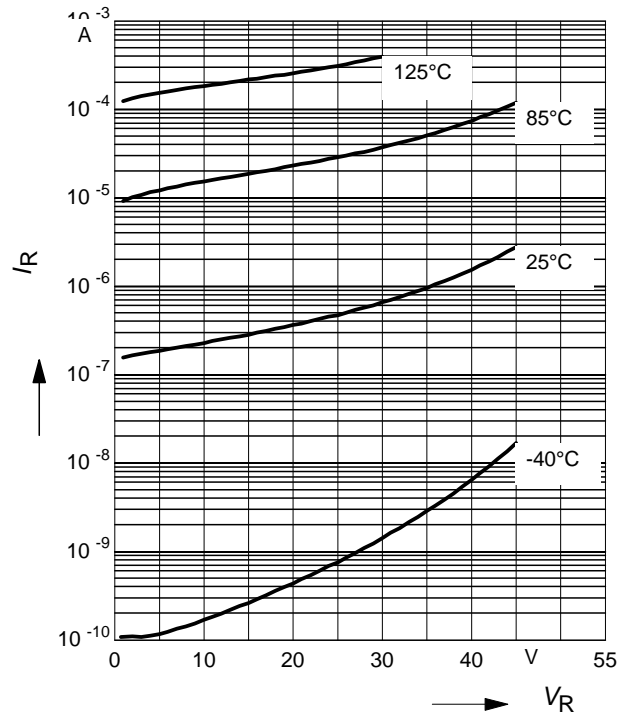
**Reverse current  $I_R = f(T_A)$**

$V_R = \text{Parameter}$



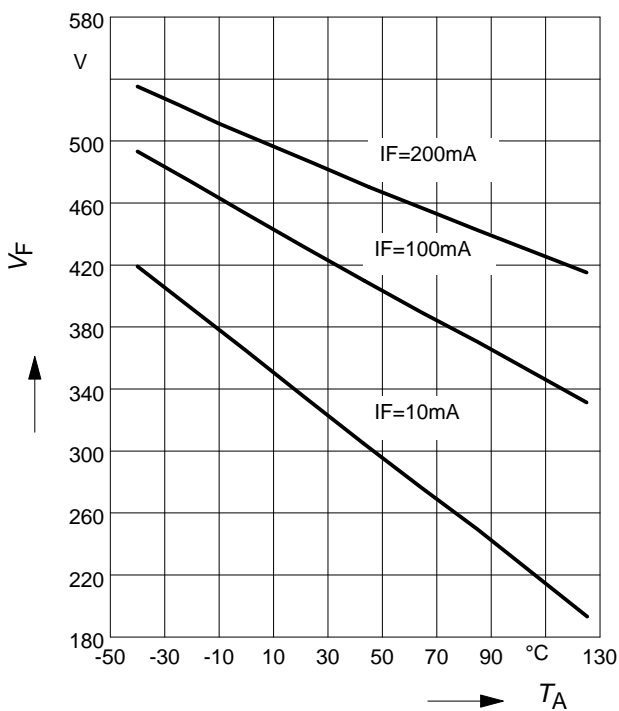
**Reverse current  $I_R = f(V_R)$**

$T_A = \text{Parameter}$



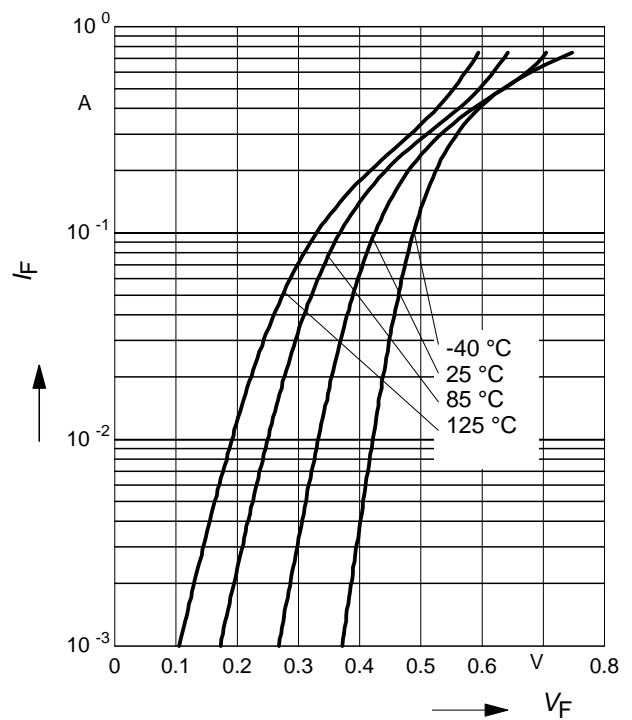
**Forward Voltage  $V_F = f(T_A)$**

$I_F = \text{Parameter}$



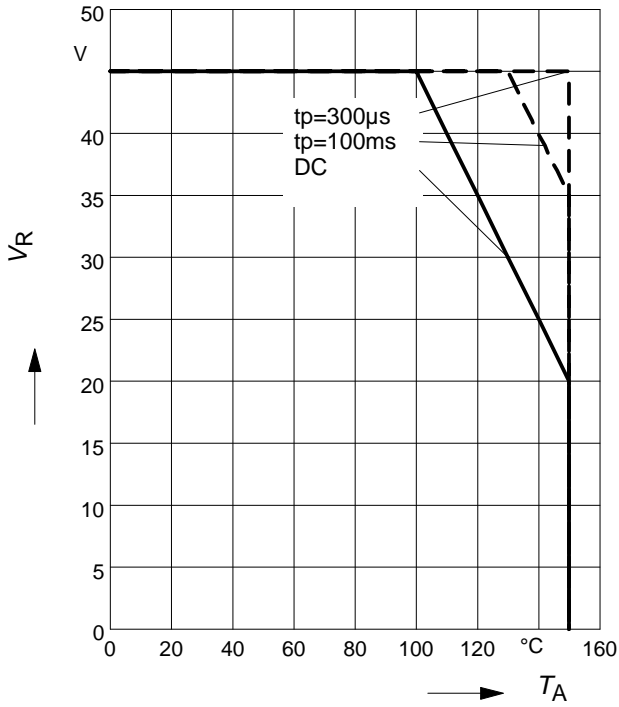
**Forward current  $I_F = f(V_F)$**

$T_A = \text{Parameter}$

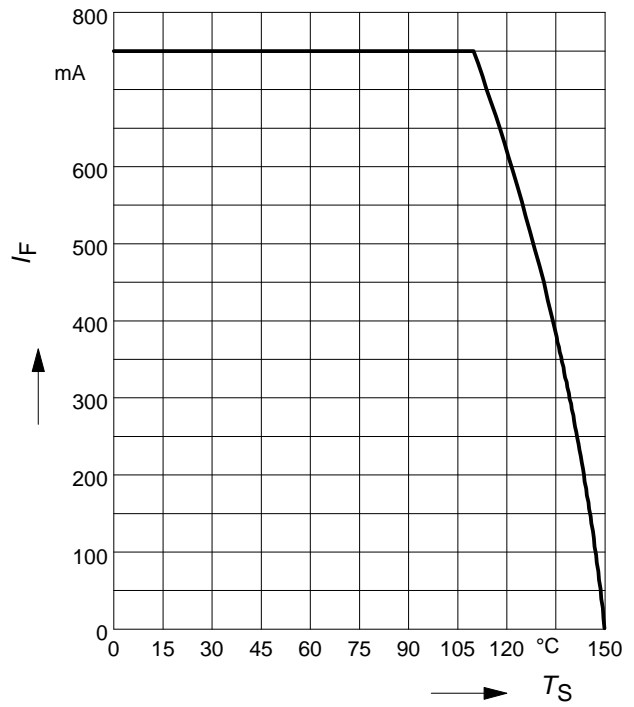


**Permissible Reverse voltage  $V_R = f(T_A)$**

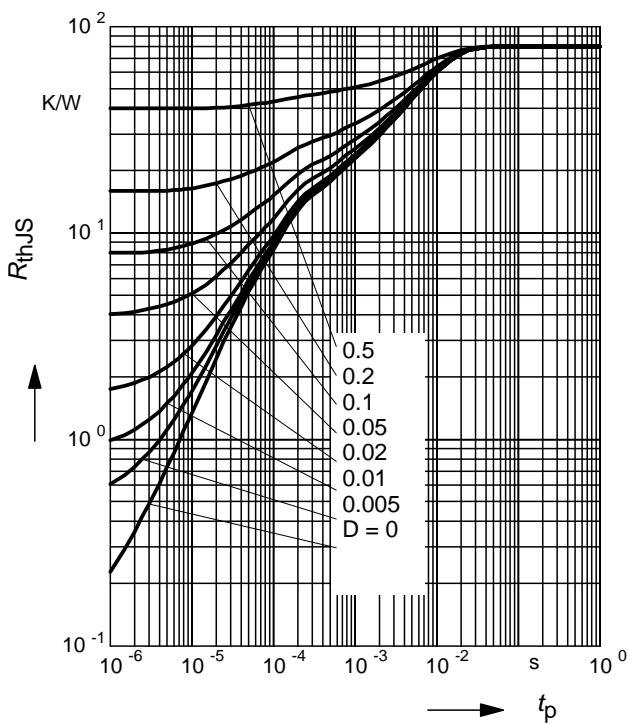
$t_p$  = Parameter  
Duty cycle < 0.01



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

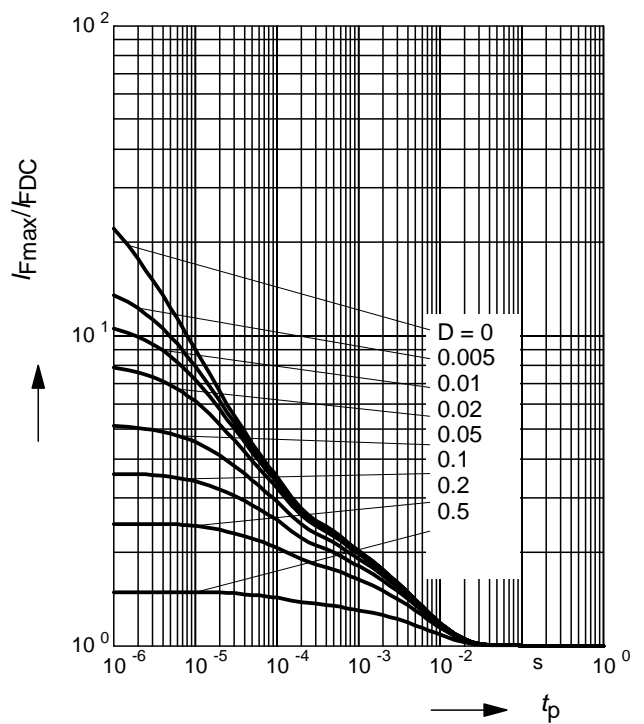


**Permissible Puls Load  $R_{thJS} = f(t_p)$**

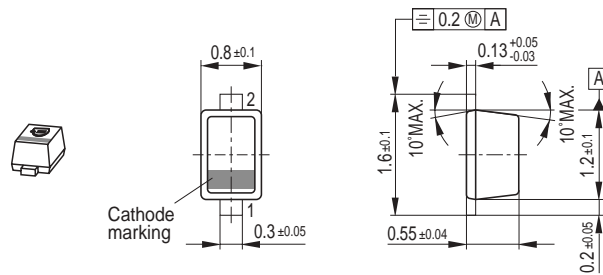


**Permissible Pulse Load**

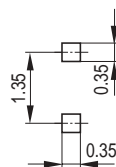
$I_{Fmax} / I_{FDC} = f(t_p)$



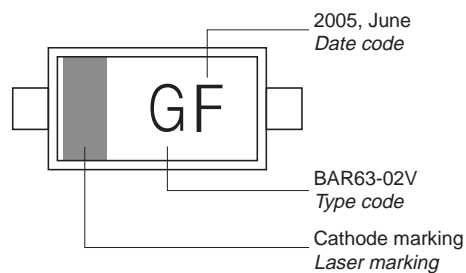
Package Outline



Foot Print

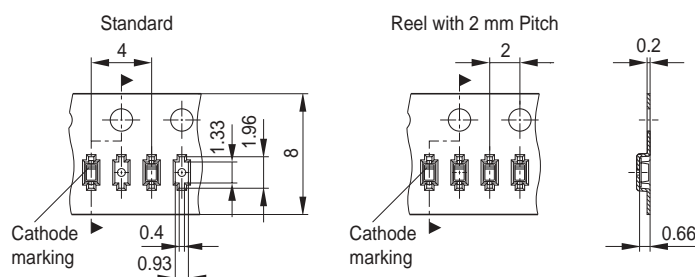


Marking Layout (Example)



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.