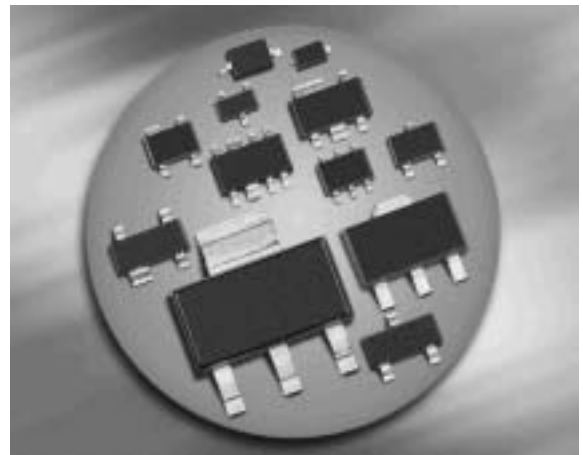
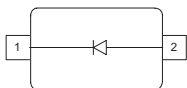


## Medium Power AF Schottky Diode

- Forward current: 1 A
- Reverse voltage: 30 V
- Low forward voltage, low reverse current
- For high efficiency DC/DC conversion, fast switching, protection and clamping applications
- Pb-free (RoHS compliant) package<sup>1)</sup>
- Qualified according AEC Q101



### BAS3010B-03W



Type	Package	Configuration	Marking
BAS3010B-03W	SOD323	single	2/ red

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

Parameter	Symbol	Value	Unit
Diode reverse voltage <sup>2)</sup>	$V_R$	30	V
Forward current <sup>2)</sup>	$I_F$	1	A
Average rectified forward current (50/60Hz, sinus)	$I_{FAV}$	1	
Repetitive peak forward current ( $t_p \leq 1 \text{ ms}$ , $D \leq 0.5$ )	$I_{FRM}$	3.5	
Non-repetitive peak surge forward current ( $t \leq 10 \text{ ms}$ )	$I_{FSM}$	10	
Junction temperature	$T_j$	150	$^\circ\text{C}$
Operating temperature range	$T_{op}$	-65 ... 125	
Storage temperature	$T_{stg}$	-65 ... 150	

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

<sup>2)</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>	$R_{thJS}$	$\leq 82$	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 <sup>2)</sup>	$I_R$				$\mu\text{A}$
$V_R = 5\text{ V}$		-	-	5	
$V_R = 10\text{ V}$		-	-	10	
$V_R = 30\text{ V}$		-	-	20	
Forward voltage <sup>2)</sup>	$V_F$				$\text{mV}$
$I_F = 1\text{ mA}$		-	230	280	
$I_F = 10\text{ mA}$		-	300	350	
$I_F = 100\text{ mA}$		-	360	420	
$I_F = 500\text{ mA}$		-	420	480	
$I_F = 1\text{ A}$		-	480	550	

**AC Characteristics**

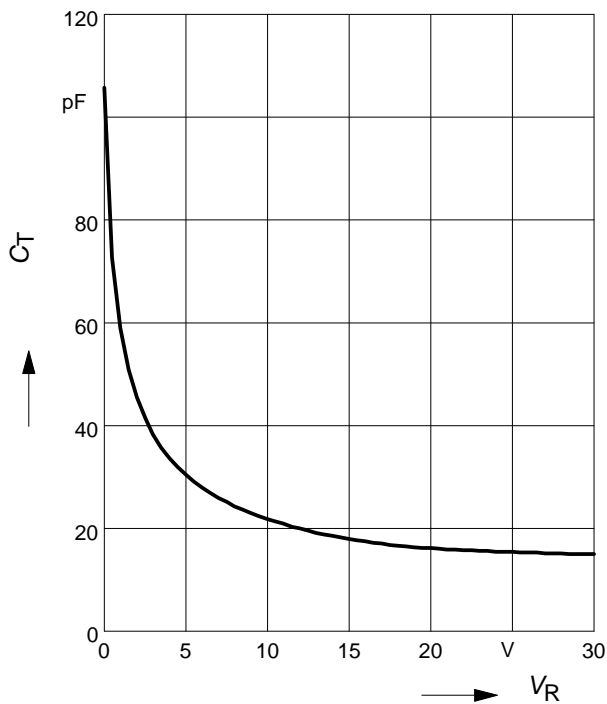
Diode capacitance	$C_T$	-	33	40	$\text{pF}$
$V_R = 5\text{ V}, f = 1\text{ MHz}$					

<sup>1)</sup>For calculation of  $R_{thJA}$  please refer to Application Note Thermal Resistance

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

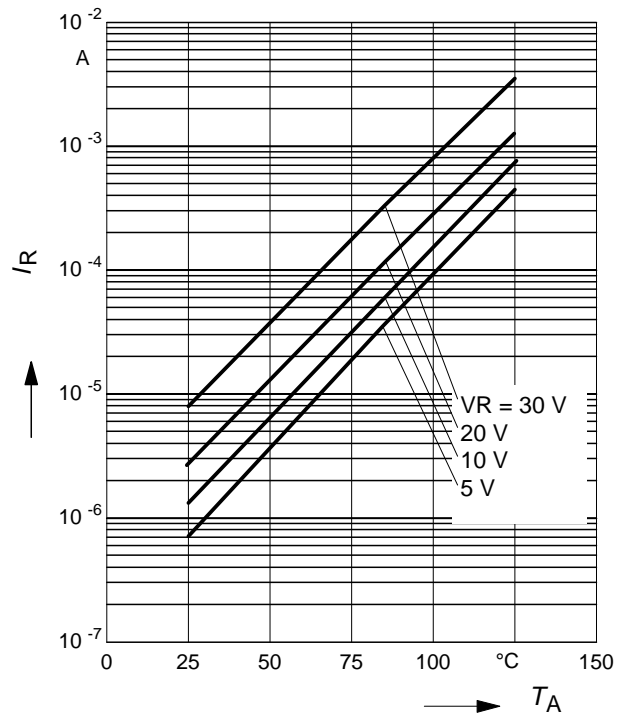
### Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



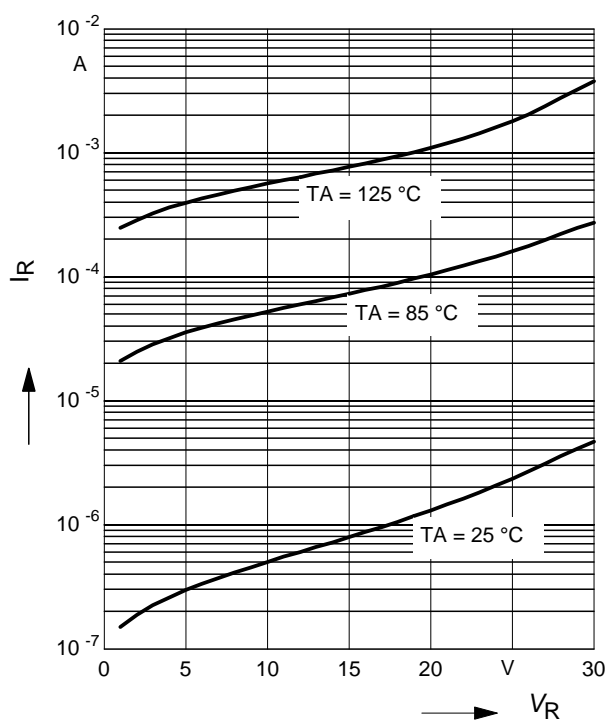
### Reverse current $I_R = f(T_A)$

$V_R = \text{Parameter}$



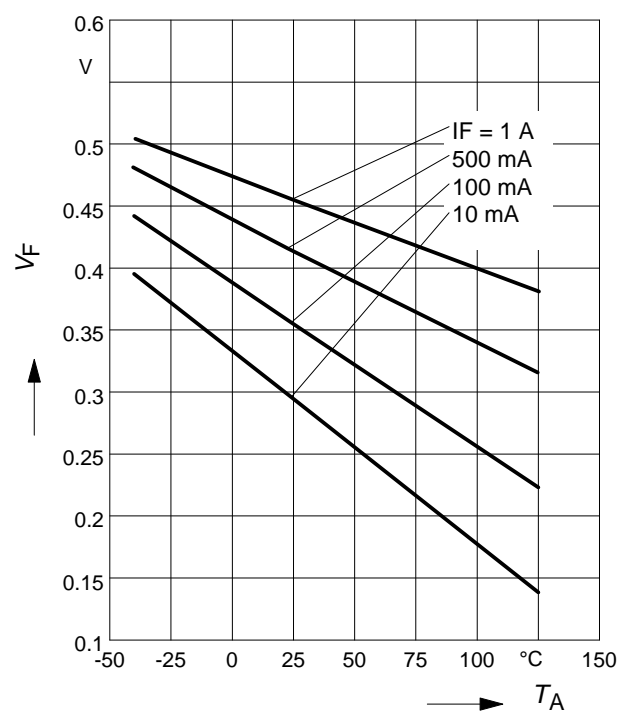
### Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$

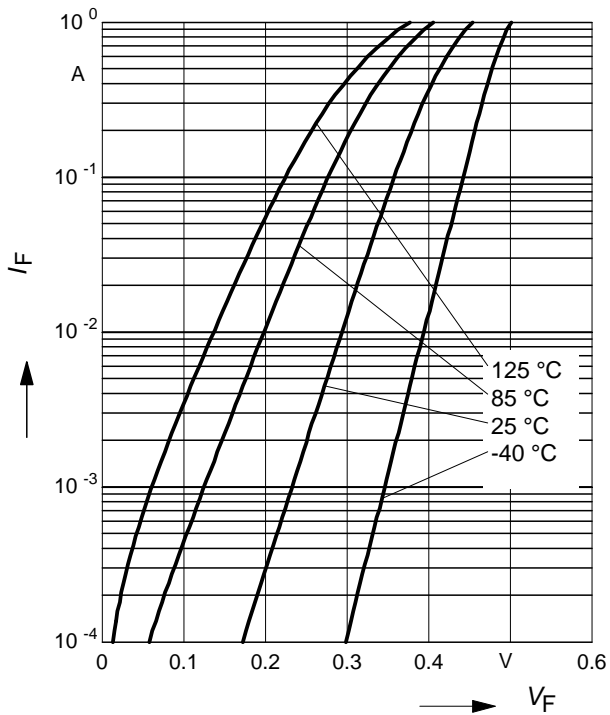


### Forward Voltage $V_F = f(T_A)$

$I_F = \text{Parameter}$



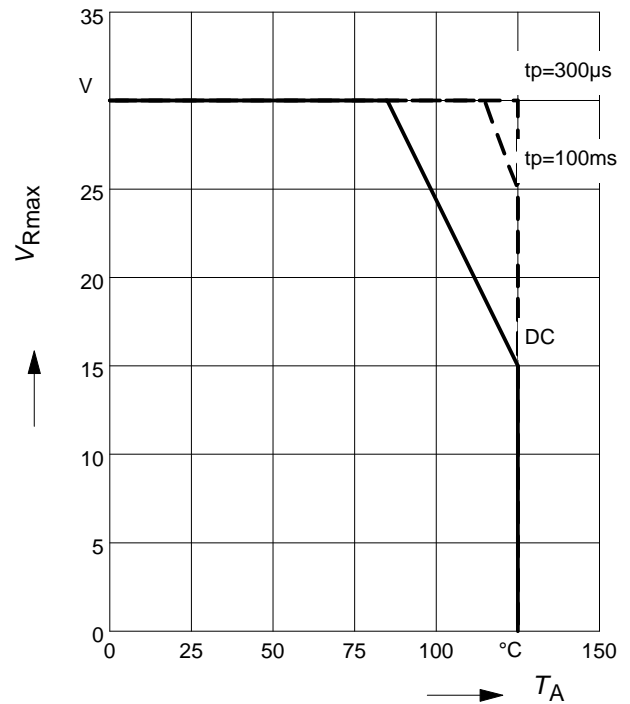
**Forward current  $I_F = f(V_F)$**



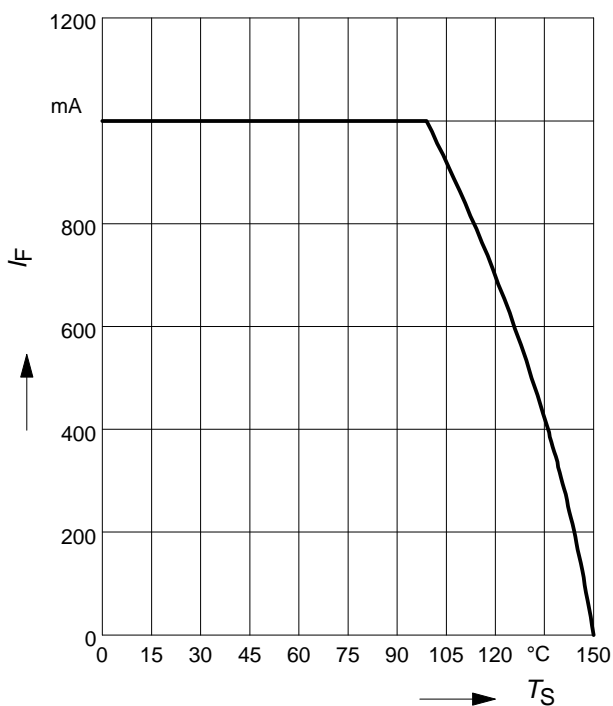
**Permissible Reverse voltage  $V_R = f(T_A)$**

$t_p$  = Parameter, Duty cycle < 0.01

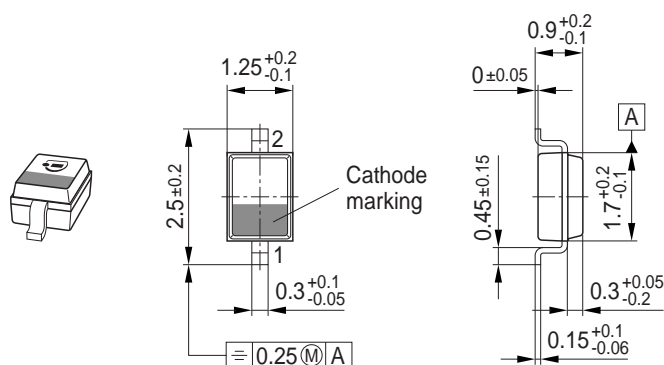
Device mounted on PCB with  $R_{th} = 160 \text{ k/W}$



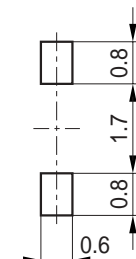
**Forward current  $I_F = f(T_S)$**



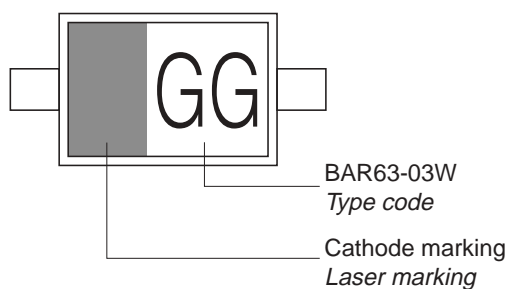
## Package Outline



## Foot Print

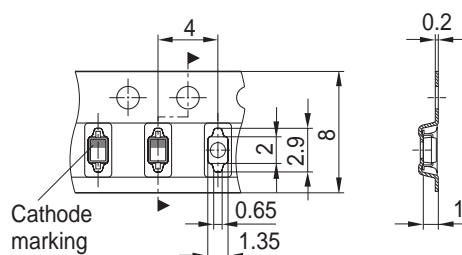


## Marking Layout (Example)



## Standard Packing

Reel  $\varnothing 180$  mm = 3.000 Pieces/Reel  
 Reel  $\varnothing 330$  mm = 10.000 Pieces/Reel



Edition 2006-02-01

Published by

Infineon Technologies AG

81726 München, Germany

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