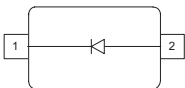


**Medium Power AF Schottky Diode**

- Forward current: 1 A
- Reverse voltage: 30 V
- Very low forward voltage  
(typ. 0.41V @  $I_F = 1A$ )
- For high efficiency DC/DC conversion,  
fast switching, protection and  
clamping applications
- Pb-free (RoHS compliant) package<sup>1)</sup>
- Qualified according AEC Q101


**BAS 3010A-03W**


Type	Package	Configuration	Marking
BAS3010A-03W	SOD323	single	4/ blue

**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	25	
$V_R = 10\text{ V}$		-	10	50	
$V_R = 30\text{ V}$		-	40	200	
Forward voltage <sup>2)</sup>	$V_F$				$\text{mV}$
$I_F = 1\text{ mA}$		-	170	220	
$I_F = 10\text{ mA}$		-	220	270	
$I_F = 100\text{ mA}$		-	290	340	
$I_F = 500\text{ mA}$		-	350	410	
$I_F = 1\text{ A}$		-	410	470	

**AC Characteristics**

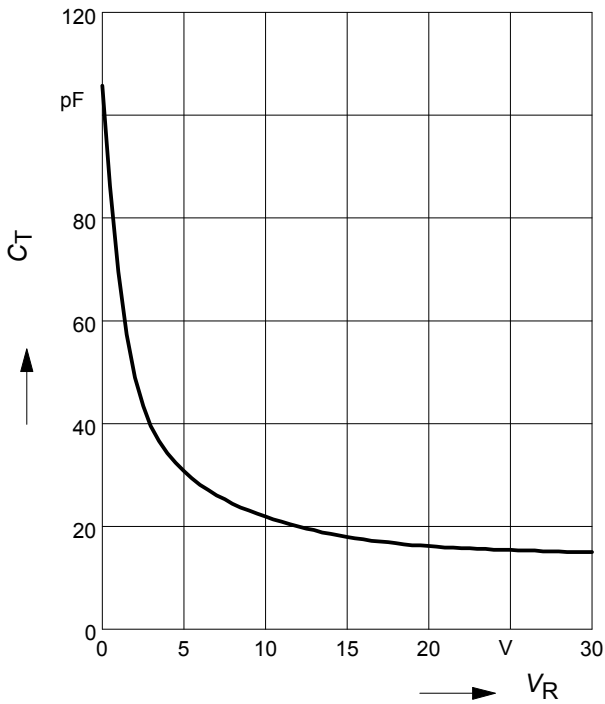
Diode capacitance	$C_T$	-	28	35	$\text{pF}$
$V_R = 5\text{ V}, f = 1\text{ MHz}$					

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

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

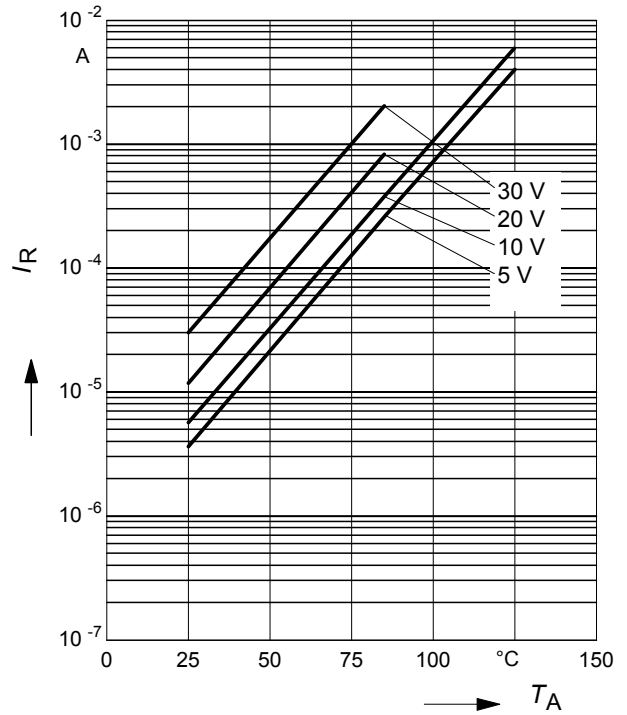
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



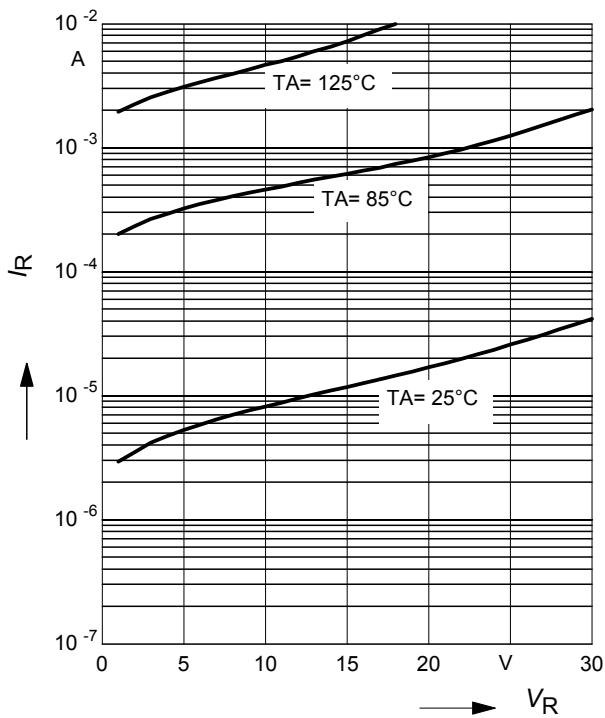
**Reverse current  $I_R = f(T_A)$**

$V_R = \text{Parameter}$



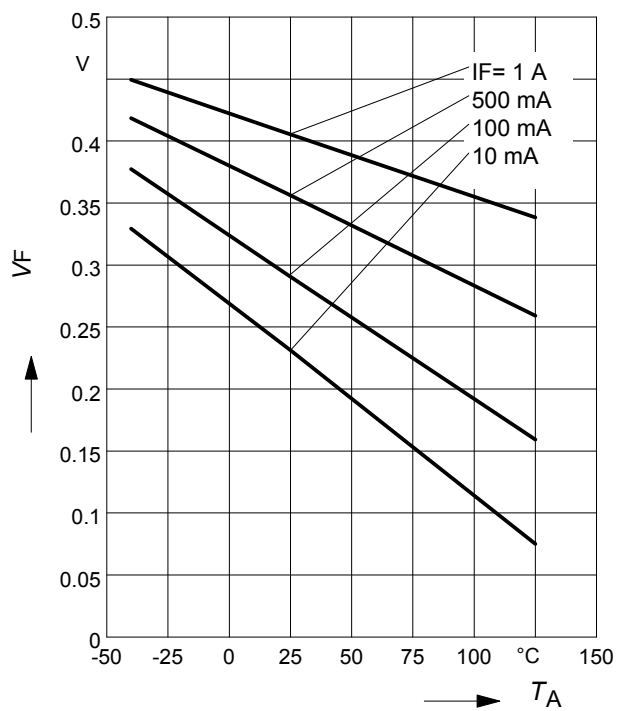
**Reverse current  $I_R = f(V_R)$**

$T_A = \text{Parameter}$



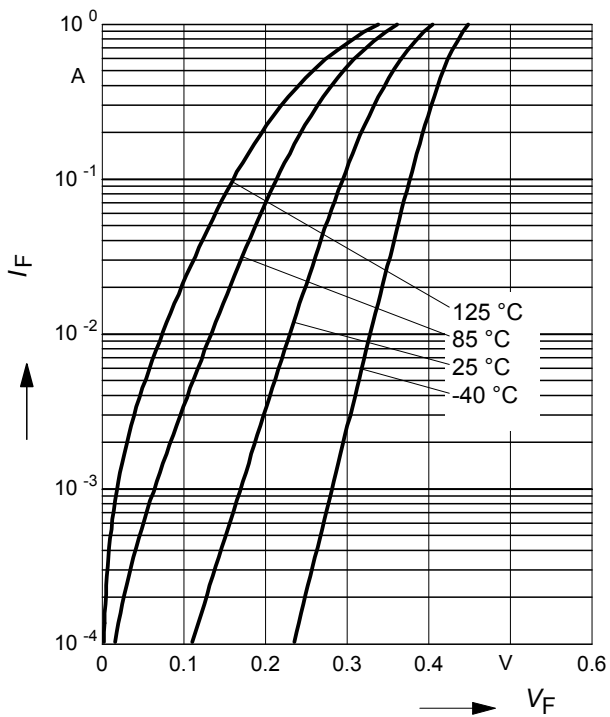
**Forward Voltage  $V_F = f(T_A)$**

$I_F = \text{Parameter}$



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

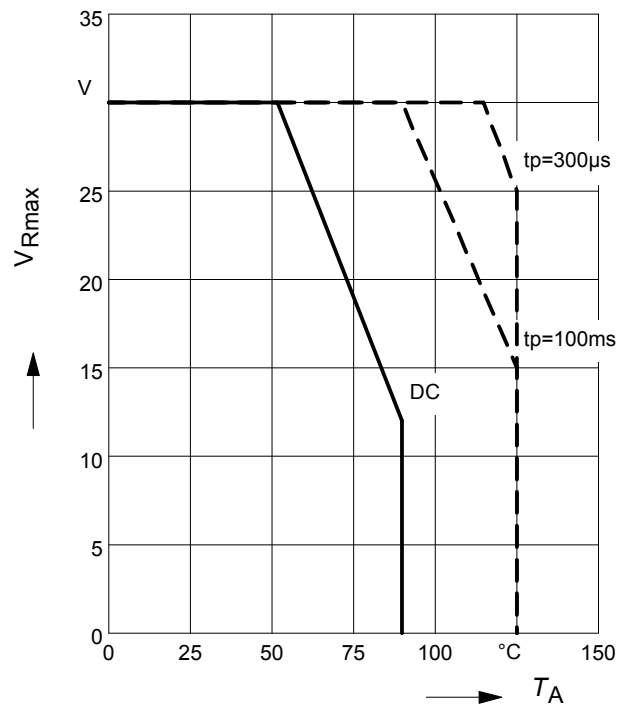
$T_A$  = Parameter



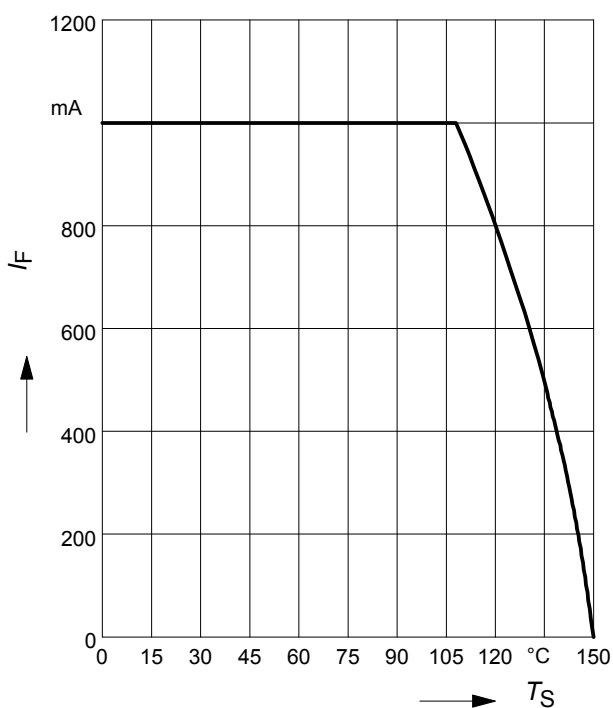
**Permissible Reverse voltage  $V_R = f(T_A)$**

$t_p$  = Parameter, Duty cycle < 0.01

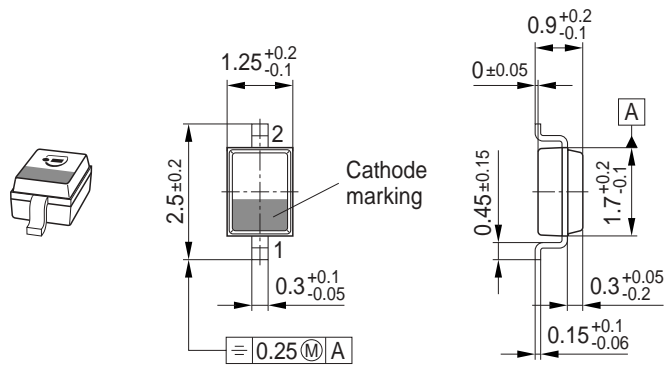
Device mounted on PCB with  $R_{th} = 160$  k/W



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



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

© Infineon Technologies AG 2007.

All Rights Reserved.

### **Attention please!**

The information given in this dokument shall in no event be regarded as a guarantee of conditions or characteristics ("Beschaffenheitsgarantie"). With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation warranties of non-infringement of intellectual property rights of any third party.

### **Information**

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office ([www.infineon.com](http://www.infineon.com)).

### **Warnings**

Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office.

Infineon Technologies Components may only be used in life-support devices or systems with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system, or to affect the safety or effectiveness of that device or system.

Life support devices or systems are intended to be implanted in the human body, or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Infineon:](#)

[BAS 3010A-03W E6327](#) [BAS3010A03WE6327HTSA1](#) [BAS3010A03WE6327XT](#)