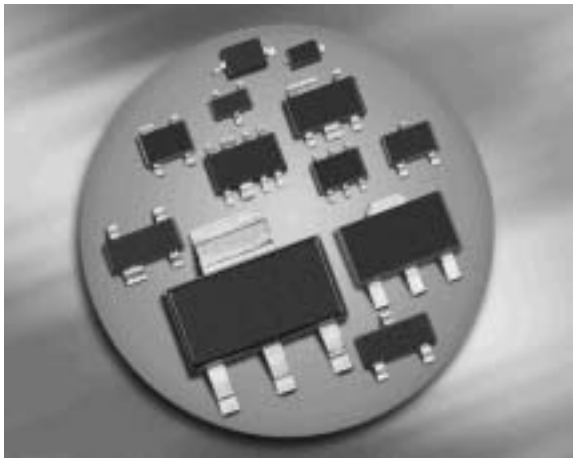
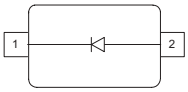
Silicon Schottky Diode

- High current rectifier Schottky diode with very low V_F drop (typ. 0.24 V at I_F = 10mA)
- For power supply applications
- For clamping and protection in low voltage applications
- For detection and step-up-conversion
- Pb-free (RoHS compliant) package[1)]
- Qualified according AEC Q101



AEC Qualified RoHS

BAT60B



ESD (**E**lectro**s**tatic **d**ischarge) sensitive device, observe handling precaution!

Type	Package	Configuration	Marking
BAT60B	SOD323	single	white/5

Maximum Ratings at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage[2)]	V_R	10	V
Forward current	I_F	3	A
Non-repetitive peak surge forward current ($t \leq$ 10ms)	I_{FSM}	5	
Total power dissipation $T_S \leq$ 28°C	P_{tot}	1350	mW
Junction temperature	T_j	150	°C
Operating temperature range	T_{op}	-55 ... 125	
Storage temperature	T_{stg}	-55 ... 150	

[1]Pb-containing package may be available upon special request
[2]For T_A > 25 °C the derating of V_R has to be considered. Please refer to curve Permissible reverse voltage.

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point[1)]	R_{thJS}	≤ 90	K/W

Electrical Characteristics at T_A = 25°C, unless otherwise specified

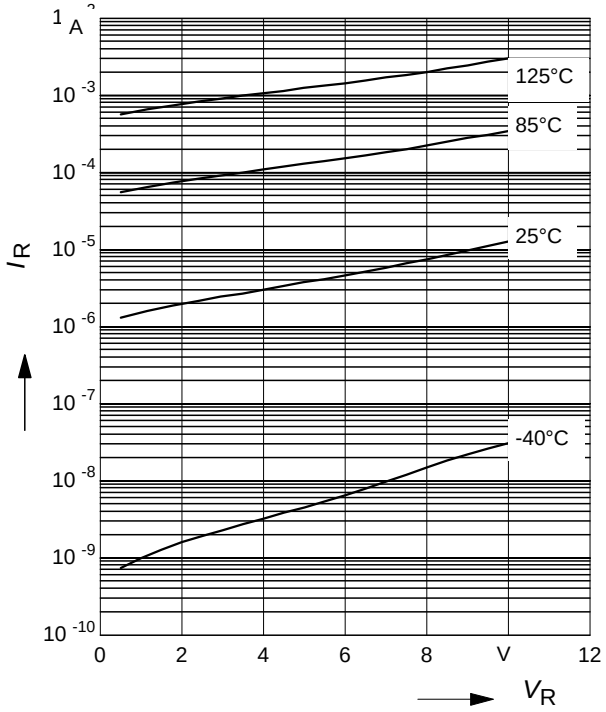
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current[2)]	I_R				µA
V_R = 5 V		-	5	15	
V_R = 8 V		-	10	25	
V_R = 5 V, T_A = 80 °C		-	100	800	
V_R = 8 V, T_A = 80 °C		-	410	1500	
Forward voltage[2)]	V_F				V
I_F = 10 mA		0.2	0.24	0.3	
I_F = 100 mA		0.26	0.32	0.38	
I_F = 500 mA		0.32	0.4	0.5	
I_F = 1000 mA		0.36	0.48	0.6	
AC Characteristics					
Diode capacitance	C_T	12	25	30	pF
V_R = 5 V, f = 1 MHz					

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

[2]Pulsed test: t_p = 300 µs; D = 0.01

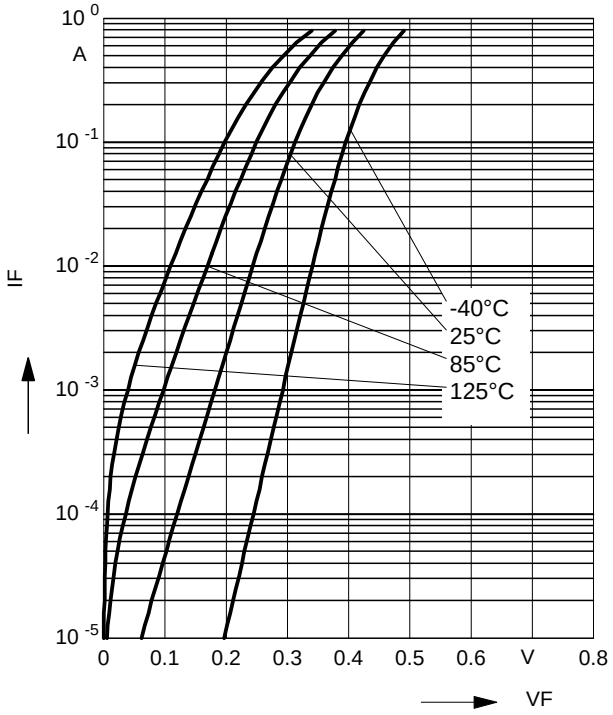
Reverse current $I_R = f(V_R)$

T_A = Parameter



Forward current $I_F = f(V_F)$

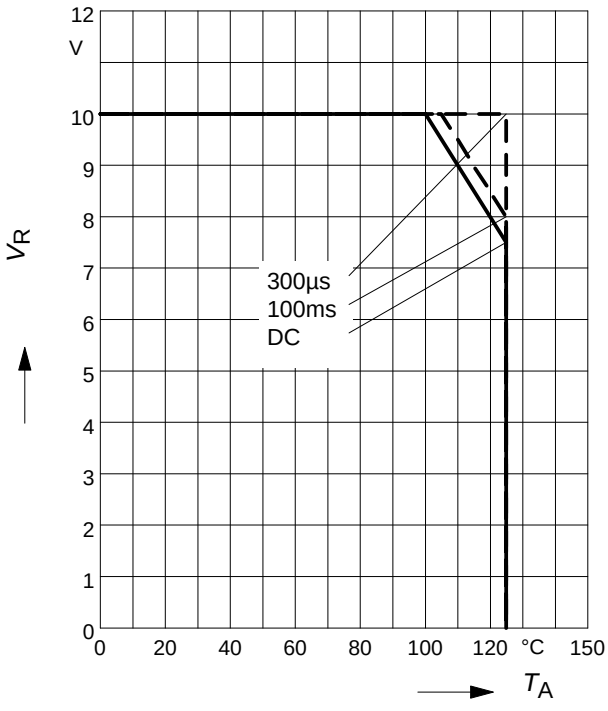
T_A = Parameter



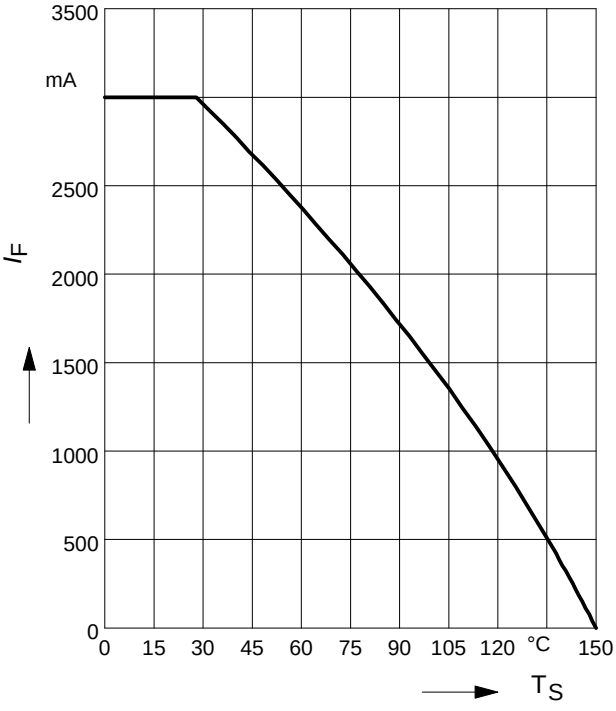
Permissible Reverse voltage $V_R = f(T_A)$

t_p = Parameter; duty cycle < 0.01

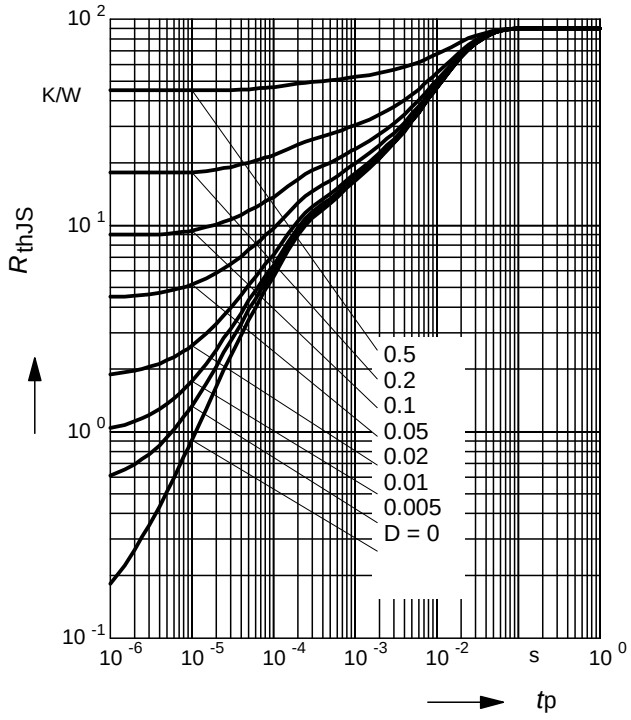
Device mounted on PCB with R_{th} = 160 K/W



Forward current $I_F = f(T_S)$

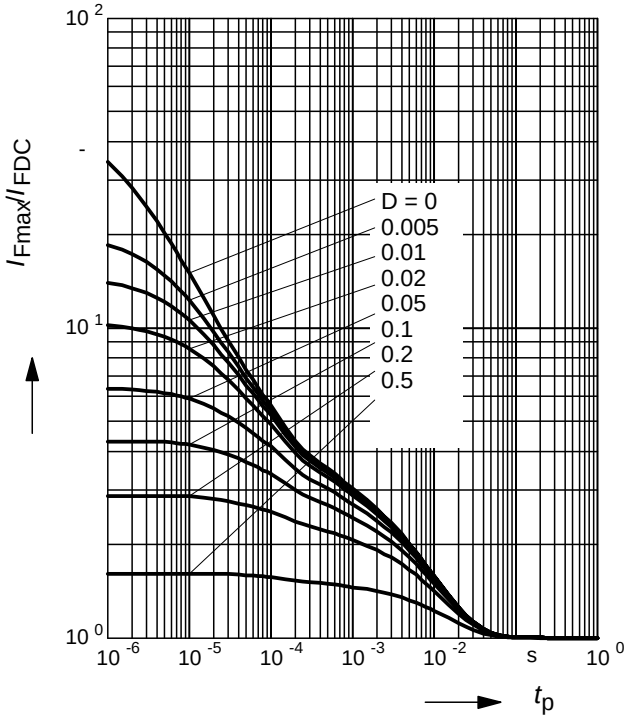


Permissible Puls Load $R_{thJS} = f(t_p)$

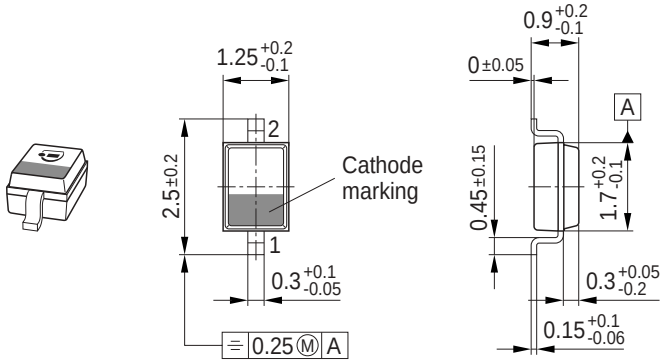


Permissible Pulse Load

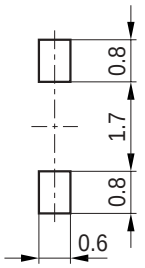
$I_{Fmax} / I_{FDC} = f(t_p)$



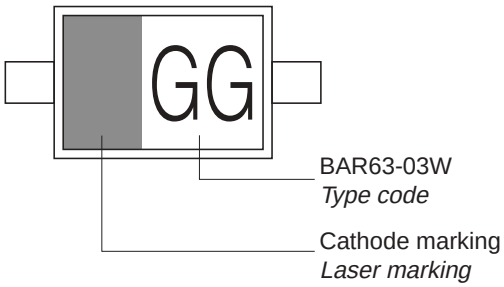
Package Outline



Foot Print

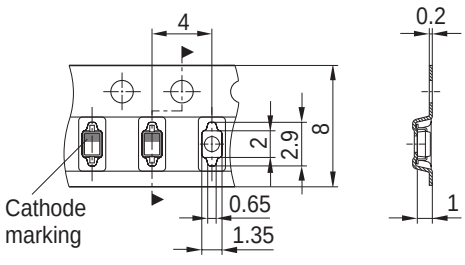


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel



Edition 2006-02-01
Published by
Infineon Technologies AG
81726 München, Germany

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**).

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.