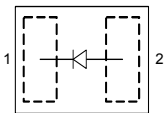


Low VF Schottky Diode

- Reverse voltage: 30 V
- Forward current: 0.5 A
- Low forward voltage and smallest package form factor (1.0 x 0.6 x < 0.4 mm) for mobile phone battery charger application
- Pb-free (RoHS compliant) package


BAS3005S-02LRH


Type	Package	Configuration	Marking
BAS3005S-02LRH	TSLP-2-17	single	5A

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

Parameter	Symbol	Value	Unit
Diode reverse voltage ¹⁾	V_R	30	V
Forward current ¹⁾ , $T_S \leq 132\text{ °C}$	I_F	0.5	A
Non-repetitive peak surge forward current ($t \leq 10\text{ ms}$)	I_{FSM}	2	
Junction temperature	T_j	150	°C
Operating temperature range	T_{op}	-55 ... 150	
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

Junction - soldering point ²⁾	R_{thJS}	≤ 60	K/W
--	------------	-----------	-----

¹ For $T_A > 25\text{ °C}$ the derating of V_R and I_F has to be considered.

²For calculation of R_{thJA} please refer to Application Note Thermal Resistance

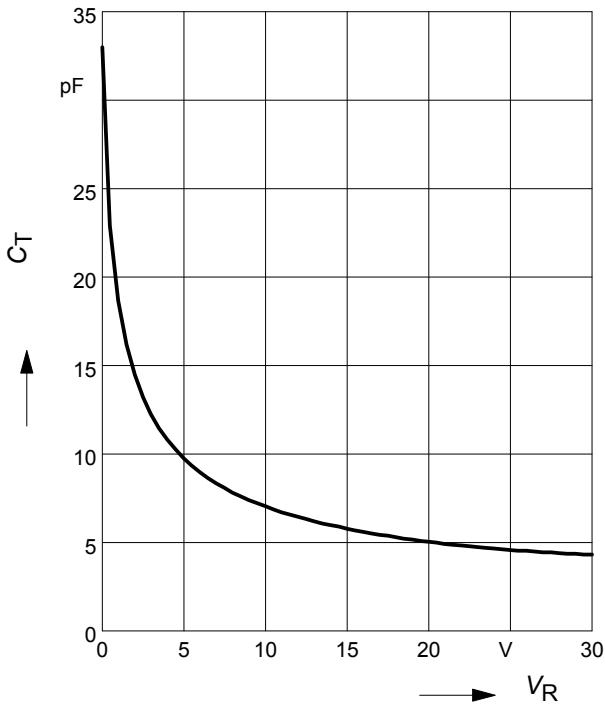
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current ¹⁾ $V_R = 5\text{ V}$ $V_R = 30\text{ V}$	I_R	-	-	15 300	μA
Forward voltage ¹⁾ $I_F = 0.1\text{ mA}$ $I_F = 10\text{ mA}$ $I_F = 200\text{ mA}$ $I_F = 500\text{ mA}$	V_F	-	140 260 370 450	190 310 420 500	mV
AC Characteristics					
Diode capacitance $V_R = 5\text{ V}, f = 1\text{ MHz}$	C_T	-	10	15	pF

¹⁾Pulsed test: $t_p = 300\ \mu\text{s}; D = 0.01$

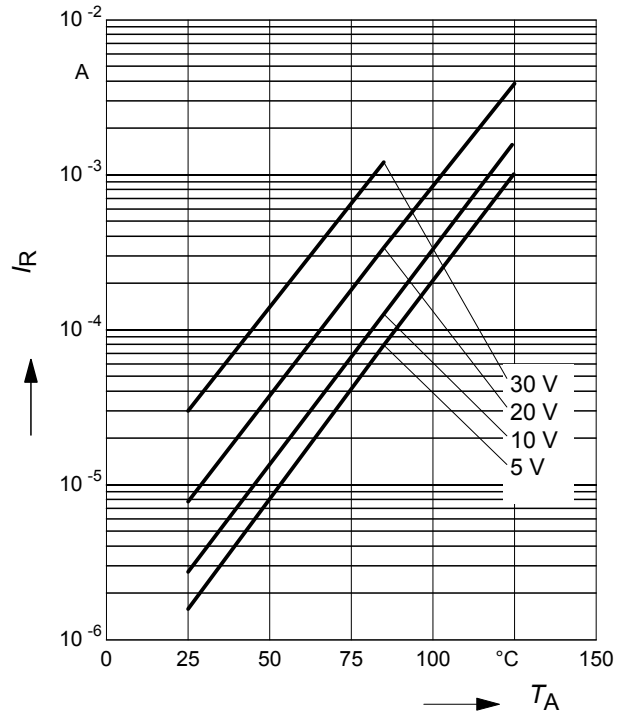
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



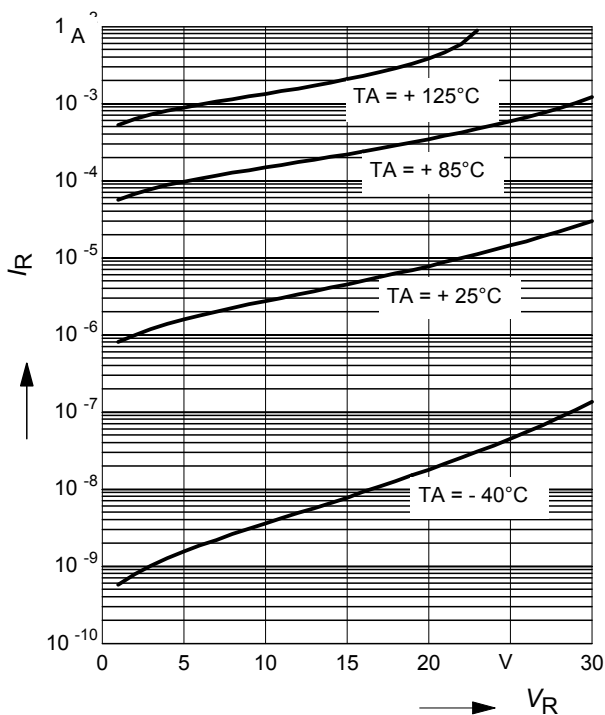
Reverse current $I_R = f(T_A)$

$V_R = \text{Parameter}$



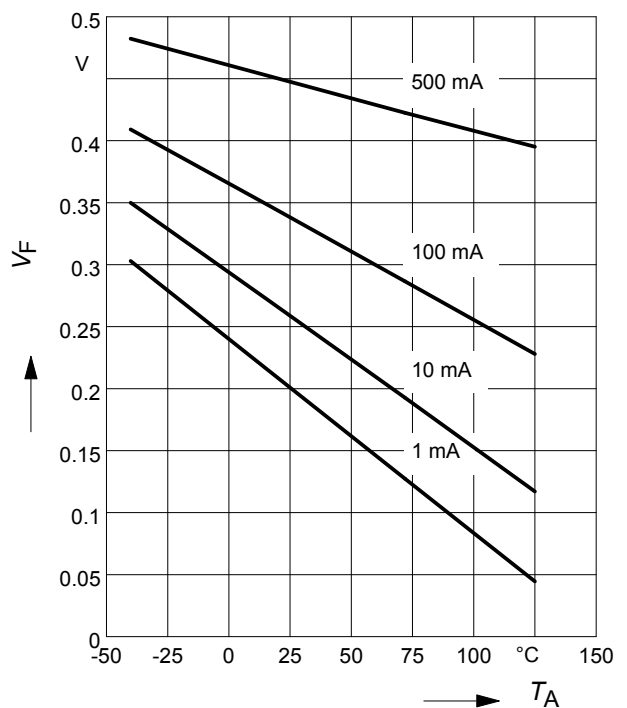
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$

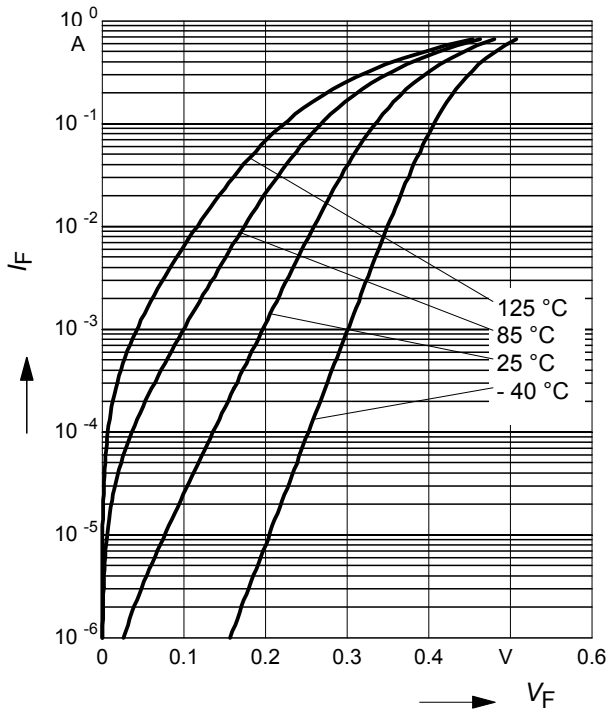


Forward Voltage $V_F = f(T_A)$

$I_F = \text{Parameter}$



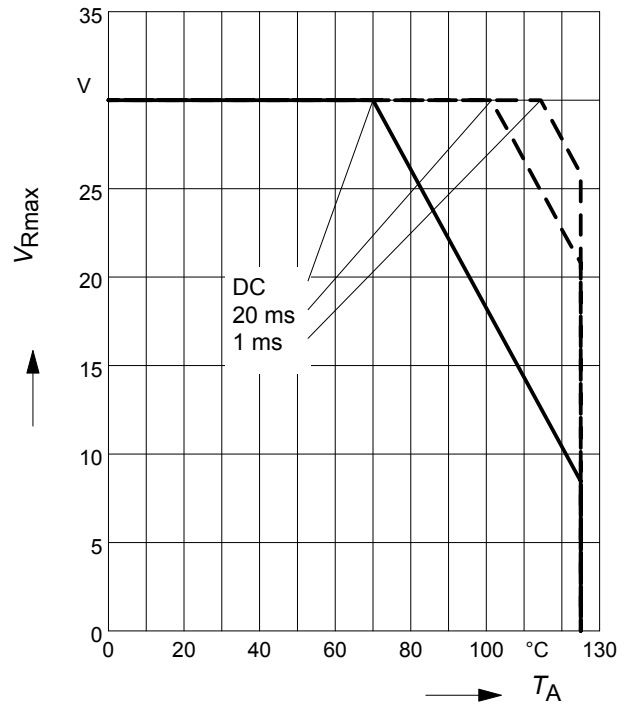
Forward current $I_F = f(V_F)$



Permissible Reverse voltage $V_R = f(T_A)$

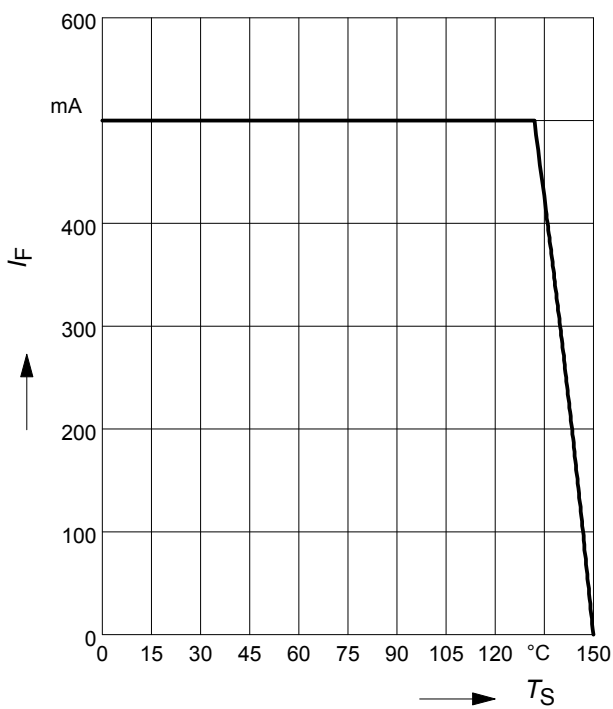
t_p = Parameter, Duty cycle < 0.01

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

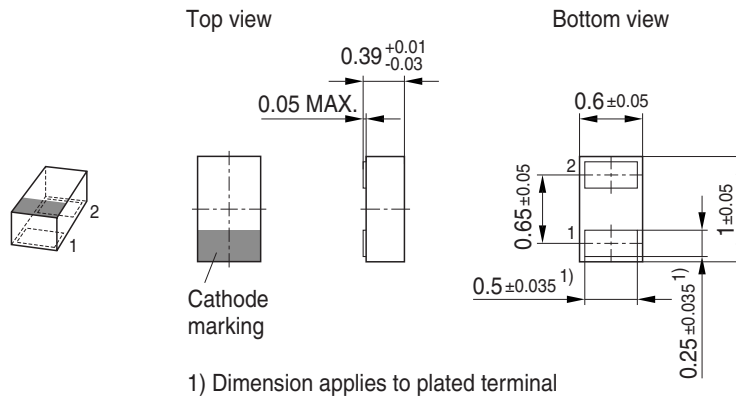


Forward current $I_F = f(T_S)$

BAS3005S-02LRH

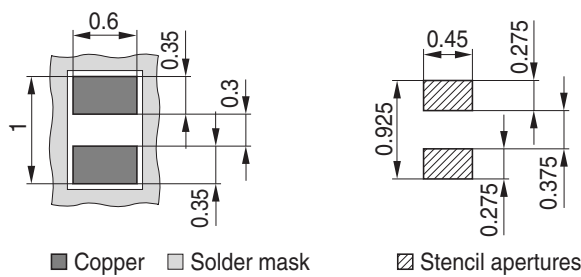


Package Outline

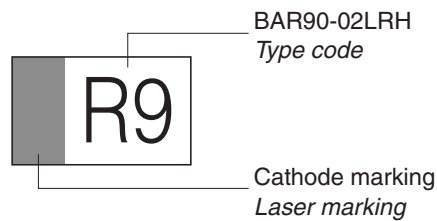


Foot Print

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

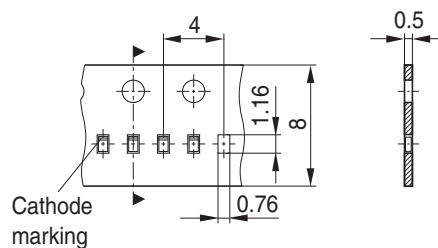


Marking Layout (Example)



Standard Packing

Reel \varnothing 180 mm = 15.000 Pieces/Reel
 Reel \varnothing 330 mm = 50.000 Pieces/Reel (optional)



Edition 2009-11-16

**Published by
Infineon Technologies AG
81726 Munich, Germany**

**© 2009 Infineon Technologies AG
All Rights Reserved.**

Legal Disclaimer

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics. 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 the 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 the nearest Infineon Technologies Office.

Infineon Technologies components may be used in life-support devices or systems only 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.