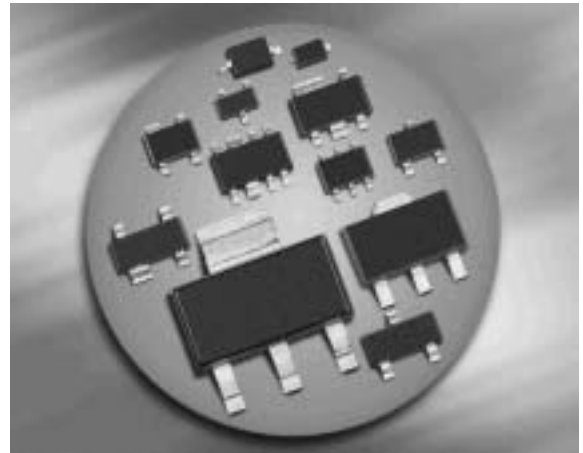
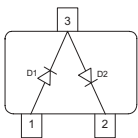
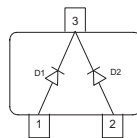
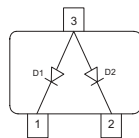
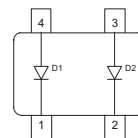


### Silicon Schottky Diodes

- For low-loss, fast-recovery, meter protection, bias isolation and clamping application
- Integrated diffused guard ring
- Low forward voltage
- Pb-free (RoHS compliant) package <sup>1)</sup>
- Qualified according AEC Q101


**BAS125-04W**

**BAS125-05W**

**BAS125-06W**

**BAS125-07W**


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

Type	Package	Configuration	$L_S$ (nH)	Marking
BAS125-04W	SOT323	series	1.4	14s
BAS125-05W	SOT323	common cathode	1.4	15s
BAS125-06W	SOT323	common anode	1.4	16s
BAS125-07W	SOT343	parallel pair	1.6	17s

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	25	V
Forward current	$I_F$	100	mA
Non-repetitive peak surge forward current	$I_{FSM}$	500	
Total power dissipation	$P_{tot}$		mW
BAS125-04W, BAS125-06W, $T_S \leq 84^\circ\text{C}$		250	
BAS125-05W, $T_S \leq 76^\circ\text{C}$		250	
BAS125-07W, $T_S \leq 96^\circ\text{C}$		250	
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 ... 150	

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

**Thermal Resistance**

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>1)</sup> BAS125-04W, BAS125-06W BAS125-05W BAS125-07W	$R_{thJS}$	$\leq 365$ $\leq 295$ $\leq 215$	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 $V_R = 20\text{ V}$ $V_R = 25\text{ V}$	$I_R$	- -	- -	100 150	nA
Forward voltage $I_F = 1\text{ mA}$ $I_F = 10\text{ mA}$ $I_F = 35\text{ mA}$	$V_F$	- - -	385 530 800	400 650 950	mV
Forward voltage matching <sup>2)</sup> $I_F = 10\text{ mA}$	$\Delta V_F$	-	-	20	

**AC Characteristics**

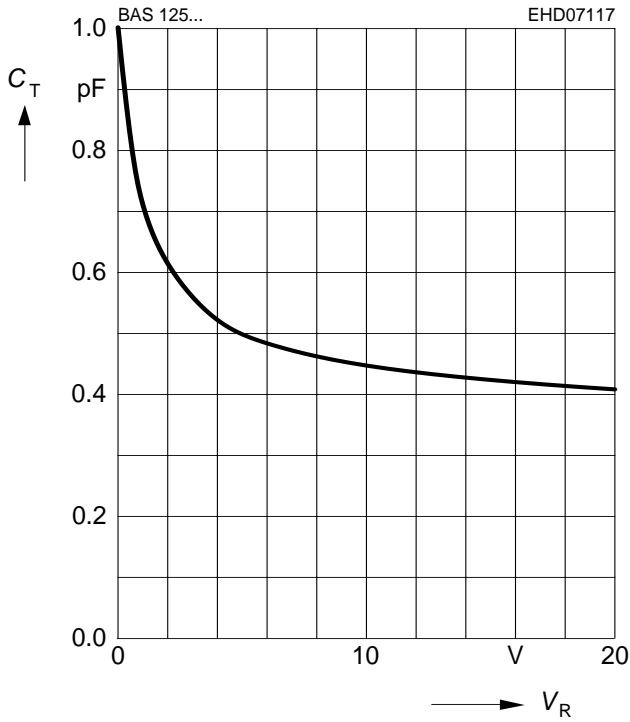
Diode capacitance $V_R = 0$ , $f = 1\text{ MHz}$	$C_T$	-	-	1.1	pF
Differential forward resistance $I_F = 5\text{ mA}$ , $f = 10\text{ kHz}$	$R_F$	-	15	-	$\Omega$

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

<sup>2)</sup> $\Delta V_F$  is the difference between lowest and highest  $V_F$  in a multiple diode component.

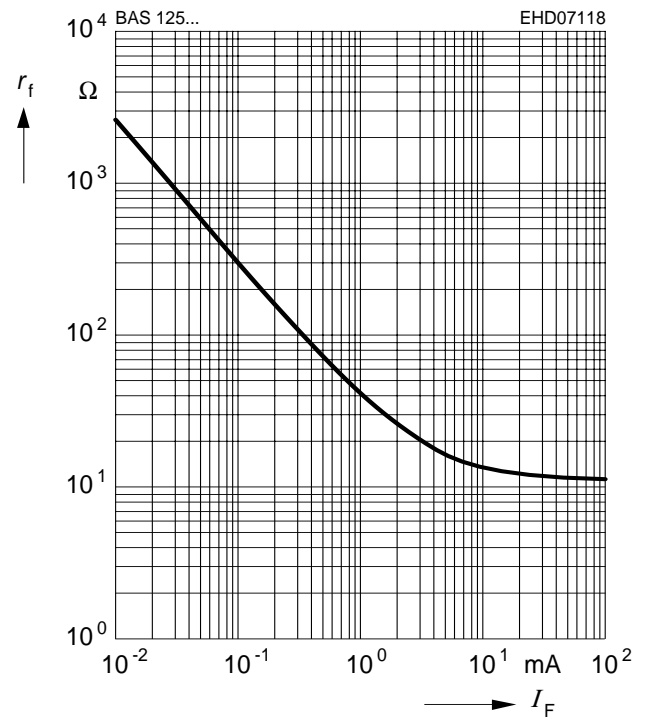
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



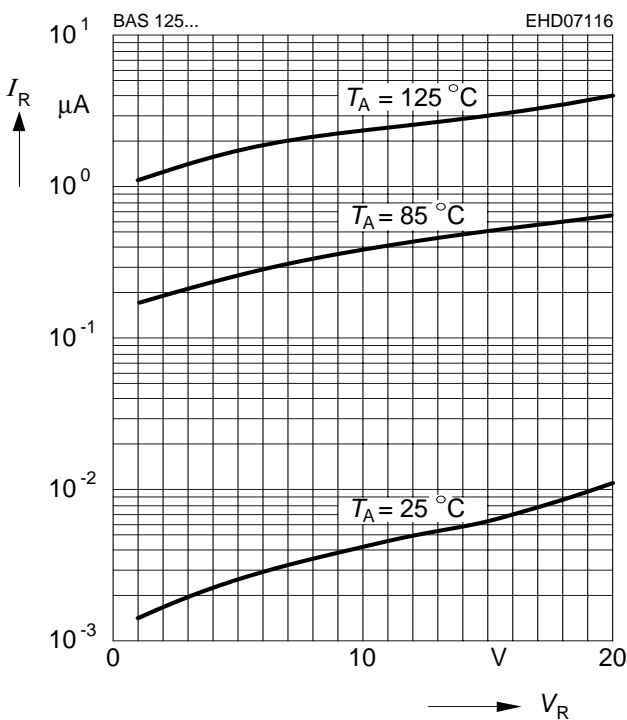
**Forward resistance  $r_f = f(I_F)$**

$f = 10\text{kHz}$



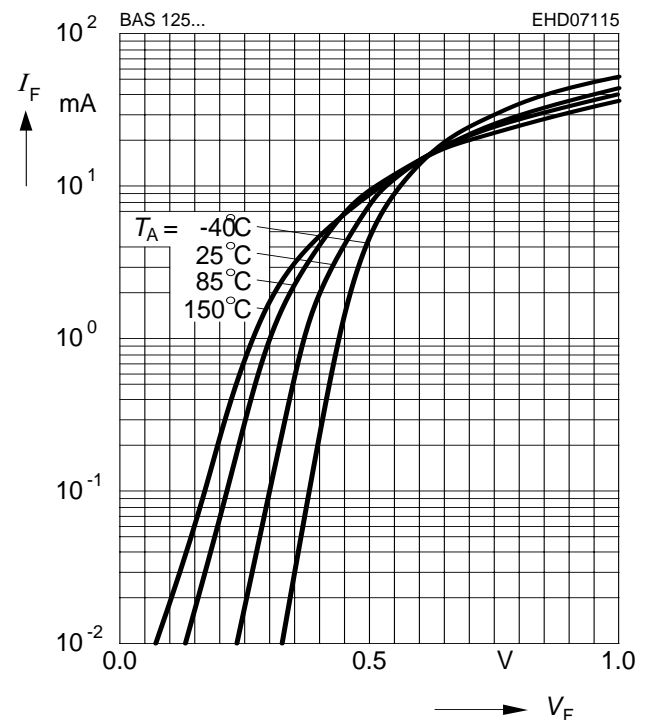
**Reverse current  $I_R = f(V_R)$**

$T_A = \text{Parameter}$



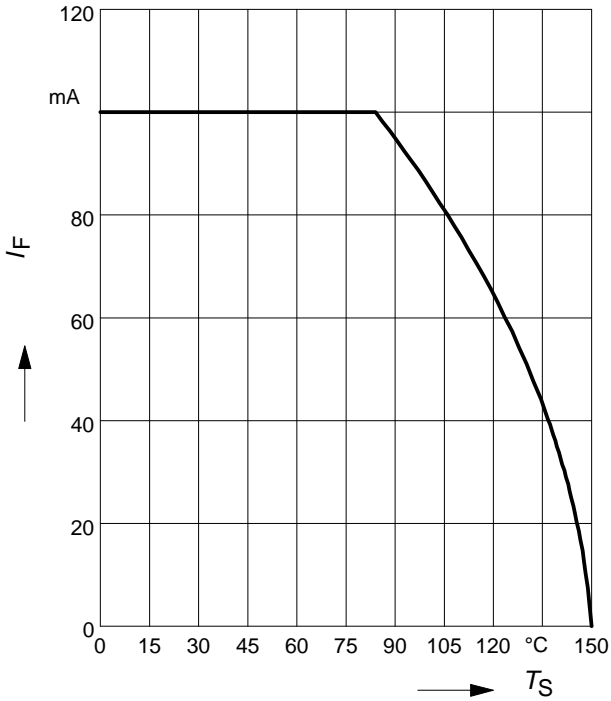
**Forward current  $I_F = f(V_F)$**

$T_A = \text{Parameter}$



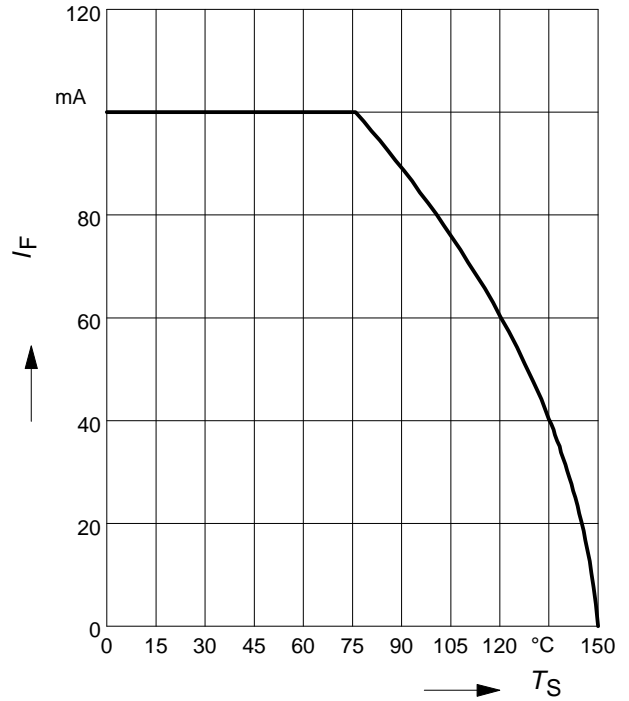
**Forward current  $I_F = f(T_S)$**

BAS125-04W, BAS125-06W



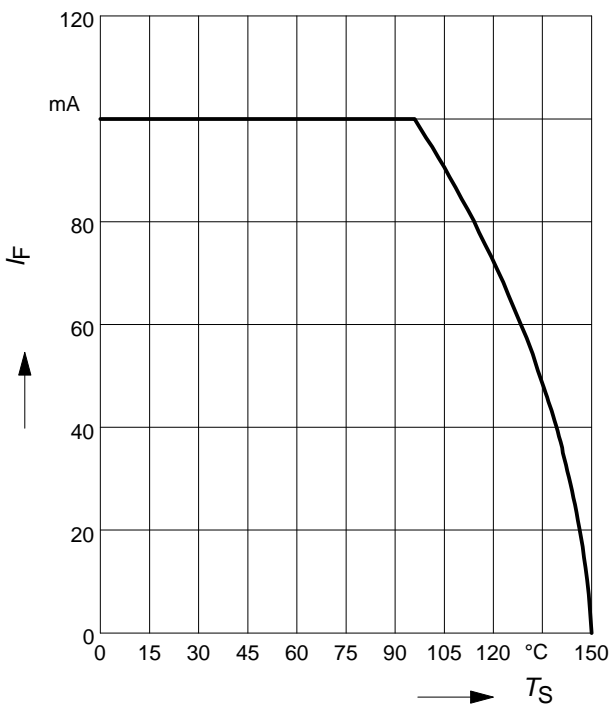
**Forward current  $I_F = f(T_S)$**

BAS125-05W



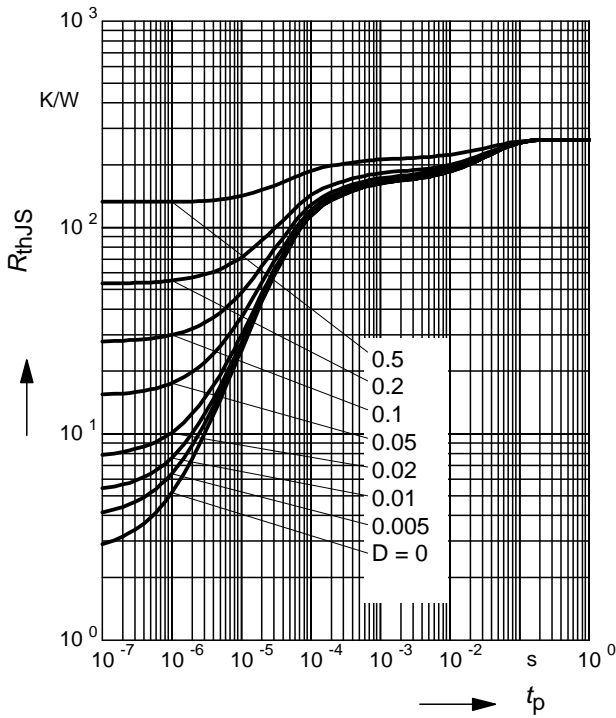
**Forward current  $I_F = f(T_S)$**

BAS125-07W



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

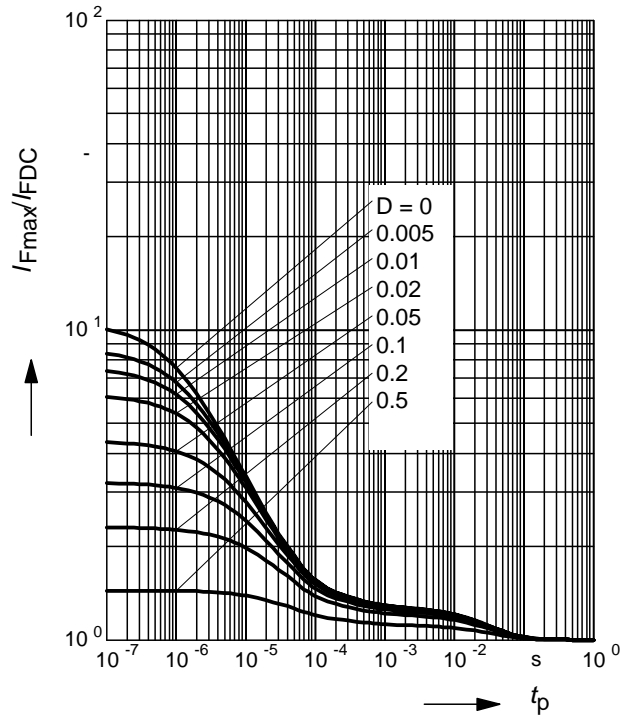
BAS125-04W, BAS125-06W



**Permissible Pulse Load**

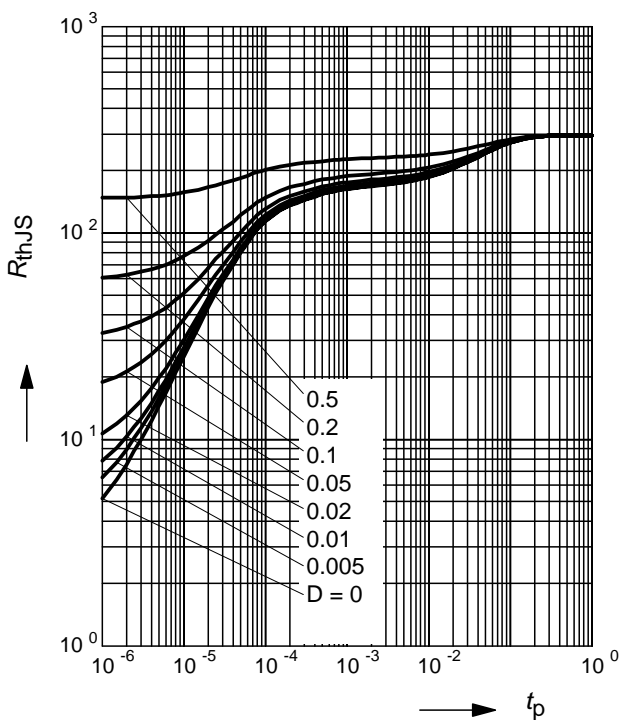
$I_{Fmax} / I_{FDC} = f(t_p)$

BAS125-04W, BAS125-06W



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

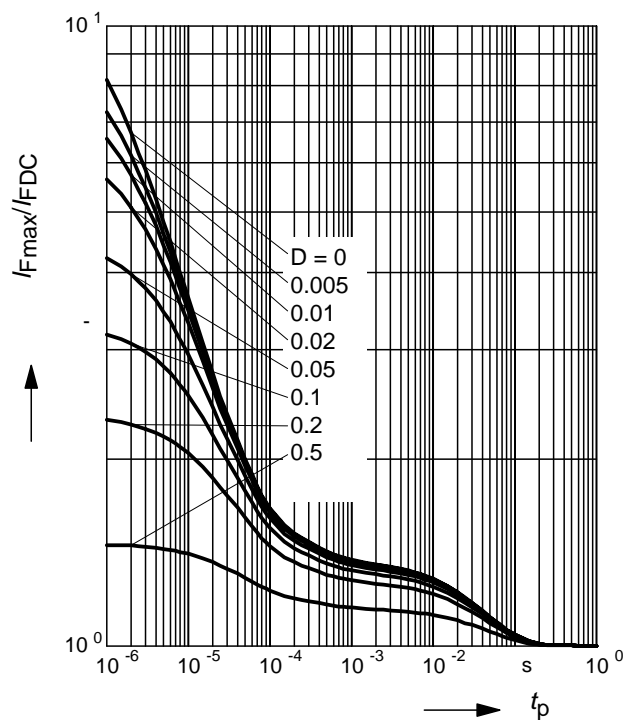
BAS125-05W



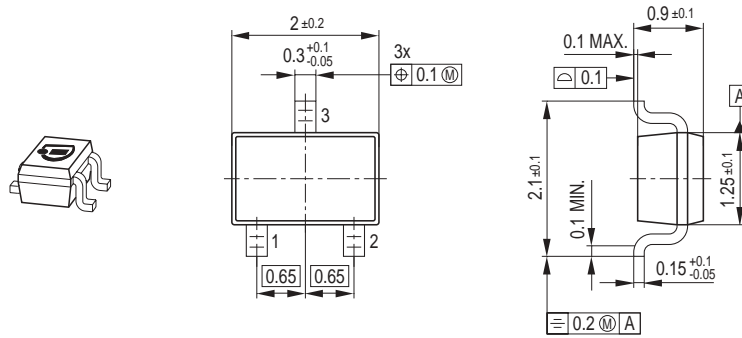
**Permissible Pulse Load**

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

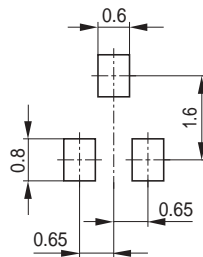
BAS125-05W



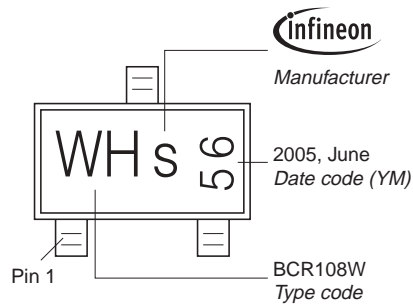
Package Outline



Foot Print

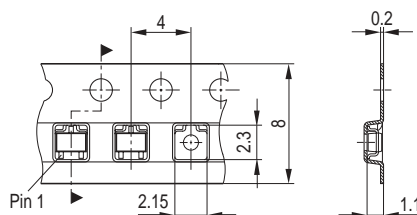


Marking Layout (Example)

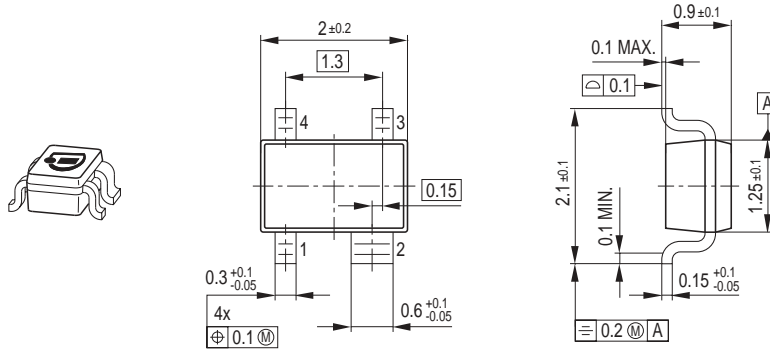


Standard Packing

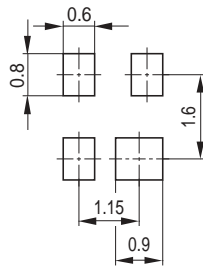
Reel  $\varnothing$ 180 mm = 3.000 Pieces/Reel  
 Reel  $\varnothing$ 330 mm = 10.000 Pieces/Reel



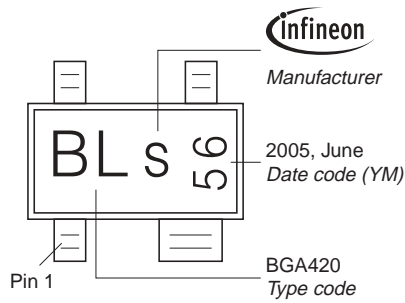
Package Outline



Foot Print

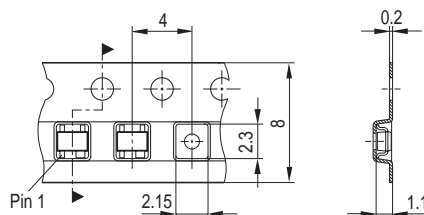


Marking Layout (Example)



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

© 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.