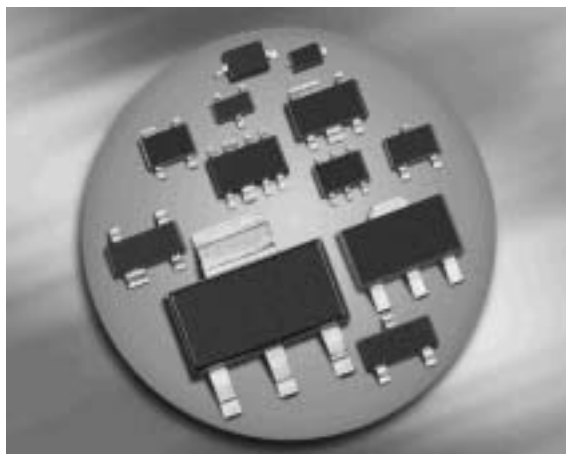
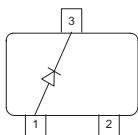


## Silicon PIN Diode

- Current-controlled RF resistor  
for switching and attenuating applications
- Frequency range 1 MHz ... 2 GHz
- Especially useful as antenna switch  
in TV-sat tuners
- Very low harmonics
- Pb-free (RoHS compliant) package<sup>1)</sup>
- Qualified according AEC Q101



## BA779



Type	Package	Configuration	$L_S$ (nH)	Marking
BA779	SOT 23	single	1.8	PA

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	50	V
Forward current	$I_F$	50	mA
Junction temperature	$T_j$	150	$^\circ\text{C}$
Operating temperature range	$T_{op}$	-55 ... 125	
Storage temperature	$T_{stg}$	-55 ... 150	

## Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>2)</sup>	$R_{thJS}$	$\leq 370$	K/W

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

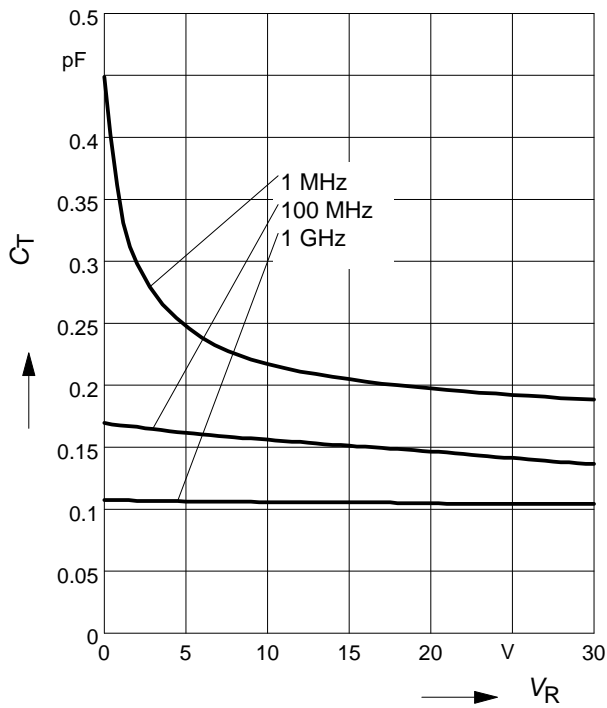
<sup>2</sup>For calculation of  $R_{thJA}$  please refer to Application Note Thermal Resistance

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current $V_R = 30\text{ V}$	$I_R$	-	-	20	nA
Forward voltage $I_F = 50\text{ mA}$	$V_F$	-	-	1.1	V
AC Characteristics					
Diode capacitance $V_R = 0\text{ V}, f = 100\text{ MHz}$ $V_R = 10\text{ V}, f = 1\text{ MHz}$	$C_T$	- -	0.26 0.22	0.4 0.6	pF
Reverse parallel resistance $V_R = 1\text{ V}, f = 100\text{ MHz}$ $V_R = 0\text{ V}, f = 1\text{ GHz}$	$R_P$	- -	50 10	- -	kΩ
Forward resistance $I_F = 1.5\text{ mA}, f = 100\text{ MHz}$ $I_F = 10\text{ mA}, f = 100\text{ MHz}$	$r_f$	- -	22 4.5	40 7	Ω
Charge carrier life time $I_F = 10\text{ mA}, I_R = 6\text{ mA}$ , measured at $I_R = 3\text{ mA}$ , $R_L = 100\text{ }\Omega$	$\tau_{rr}$	-	1600	-	nS
I-region width	$W_I$	-	130	-	μm

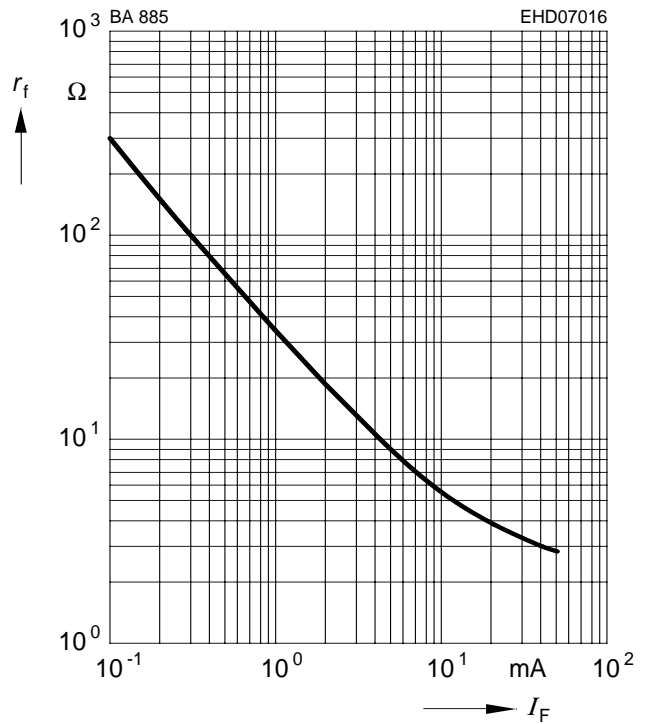
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$

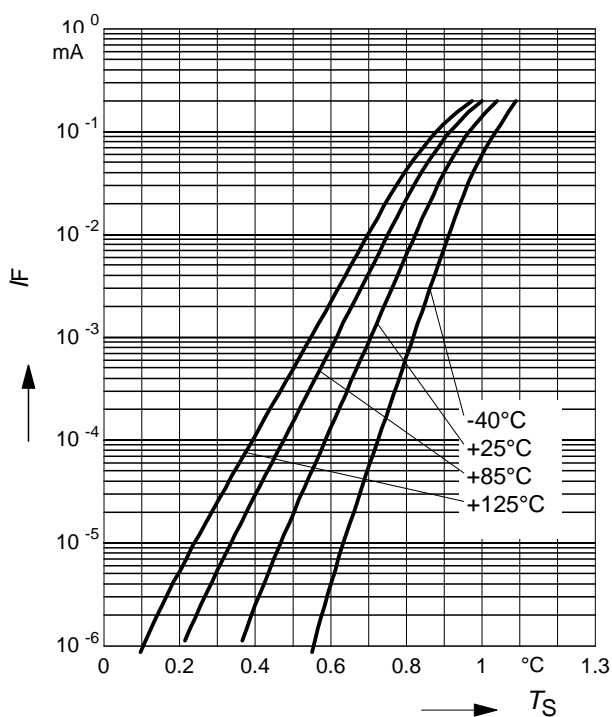


**Forward resistance  $r_f = f(I_F)$**

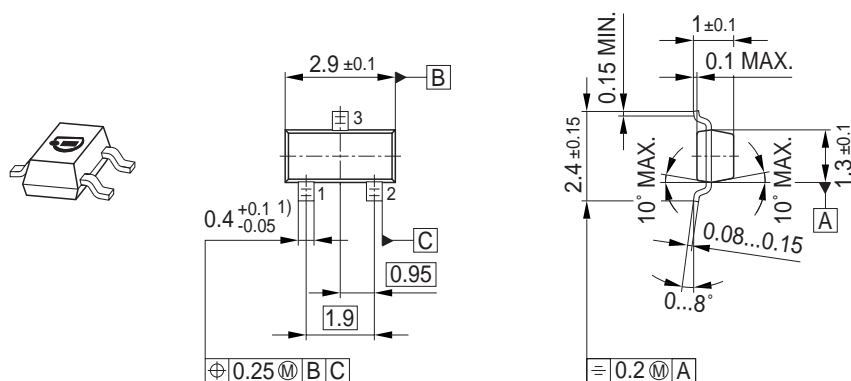
$f = 1\text{MHz}$



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

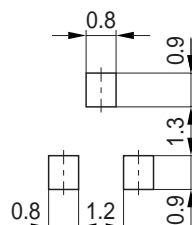


## Package Outline

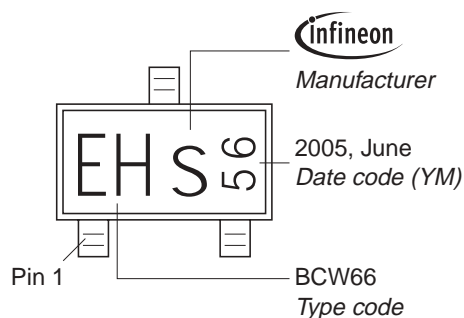


1) Lead width can be 0.6 max. in dambar area

## Foot Print

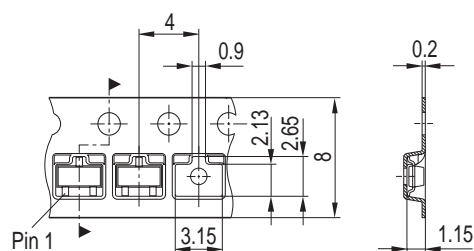


## Marking Layout (Example)



## 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.