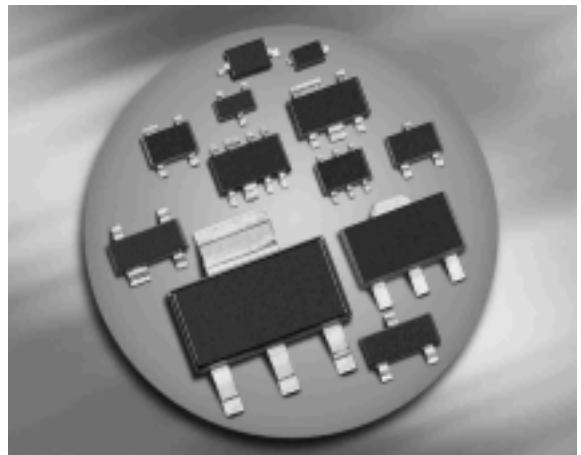
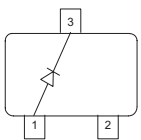
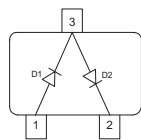
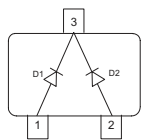
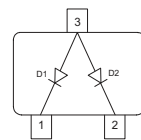


**Silicon Schottky Diode**

- General-purpose diode for high-speed switching
- Circuit protection
- Voltage clamping
- High-level detecting and mixing
- Improved operating temperature range due to extra-low thermal resistance (see attached Forward current curves)
- High volume packing size:  
B5000: 9 x 10kreels, B5003: 10 x 3k reels
- Not for automotive applications\*


**BAS70**

**BAS70-04**

**BAS70-05**

**BAS70-06**


Type	Package	Configuration	$L_S$ (nH)	Marking
BAS70	SOT23	single	1.8	73s
BAS70-04	SOT23	series	1.8	74s
BAS70-05	SOT23	common cathode	1.8	75s
BAS70-06	SOT23	common anode	1.8	76s

\* Automotive qualification ongoing

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	70	V
Forward current	$I_F$	70	mA
Non-repetitive peak surge forward current	$I_{FSM}$	100	
Total power dissipation	$P_{tot}$		mW
BAS70, $T_S \leq 109^\circ\text{C}$		250	
BAS70-04, BAS70-06, $T_S \leq 101^\circ\text{C}$		250	
BAS70-05, $T_S \leq 95^\circ\text{C}$		250	
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>1)</sup>	$R_{thJS}$		K/W
BAS70		$\leq 165$	
BAS70-04, BAS70-06		$\leq 195$	
BAS70-05		$\leq 220$	

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Breakdown voltage	$V_{(BR)}$	70	-	-	V
$I_{(BR)} = 10 \mu\text{A}$					
Reverse current	$I_R$	-	-	0.1	$\mu\text{A}$
$V_R = 50 \text{ V}$					
Forward voltage	$V_F$				mV
$I_F = 1 \text{ mA}$		300	375	410	
$I_F = 10 \text{ mA}$		600	705	750	
$I_F = 15 \text{ mA}$		720	880	1000	
Forward voltage matching <sup>2)</sup>	$\Delta V_F$	-	-	20	
$I_F = 10 \text{ mA}$					

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

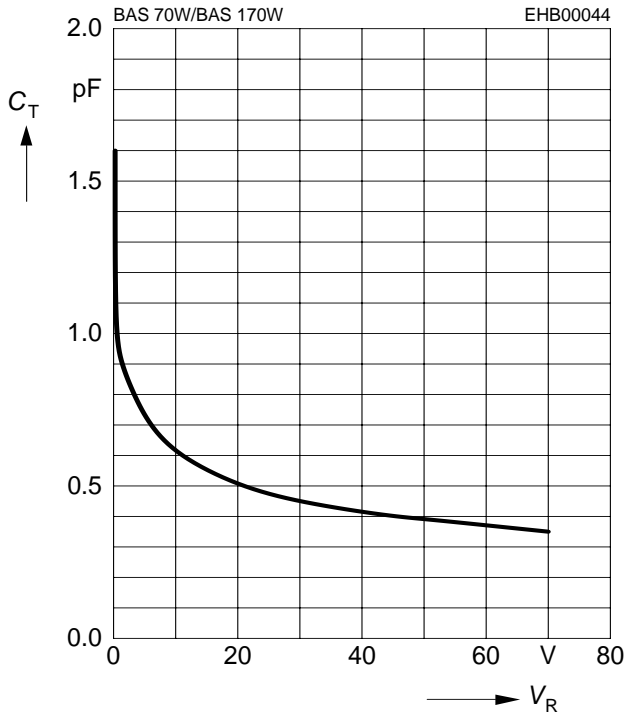
<sup>2)</sup> $\Delta V_F$  is the difference between lowest and highest  $V_F$  in a multiple diode component.

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>AC Characteristics</b>					
Diode capacitance $V_R = 0, f = 1 \text{ MHz}$	$C_T$	-	1.5	2	pF
Forward resistance $I_F = 10 \text{ mA}, f = 10 \text{ kHz}$	$r_f$	-	34	-	$\Omega$
Charge carrier life time $I_F = 25 \text{ mA}$	$\tau_{rr}$	-	-	100	ps

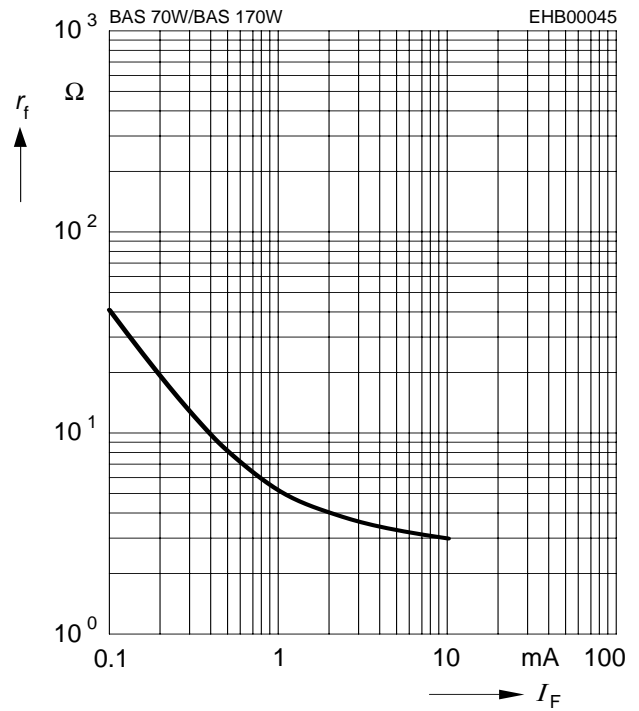
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



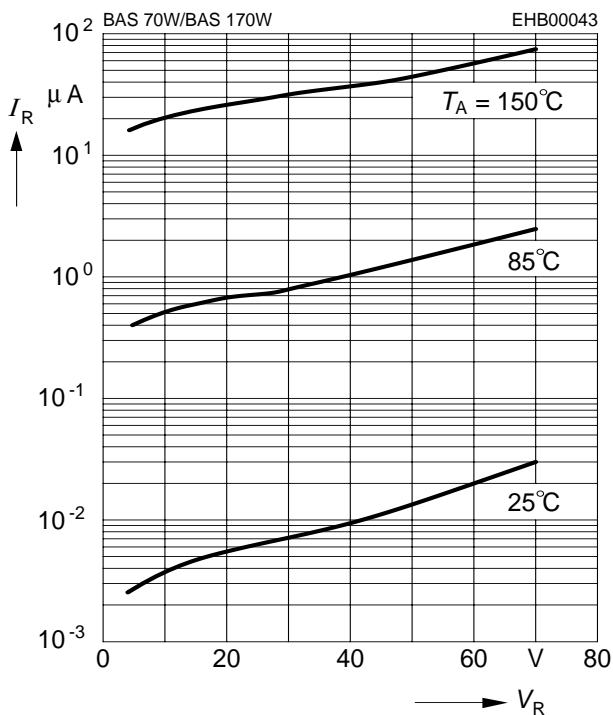
**Forward resistance  $r_f = f(I_F)$**

$f = 1\text{MHz}$

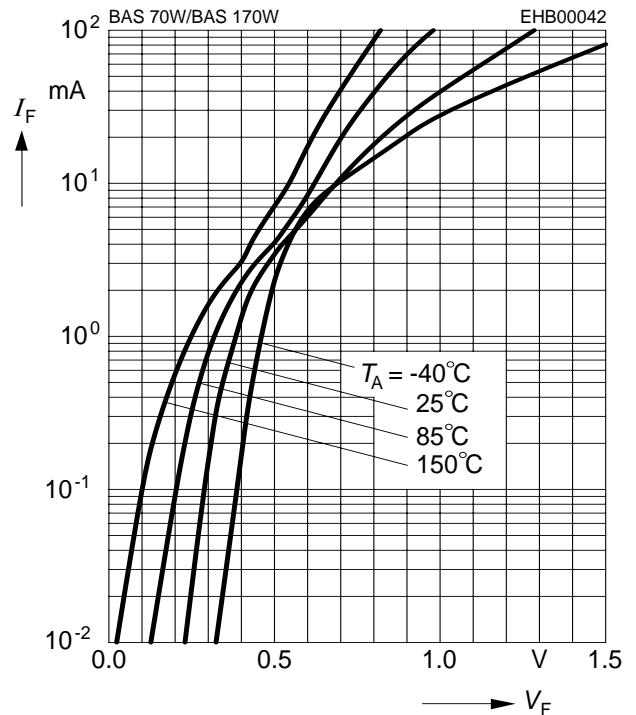


**Reverse current  $I_R = f(V_R)$**

$T_A = \text{Parameter}$



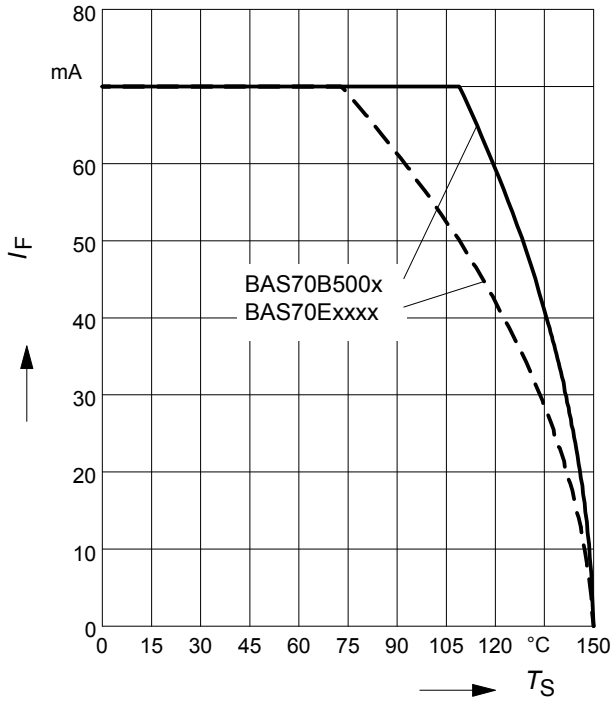
**Forward current  $I_F = f(V_F)$**



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

BAS70B500x

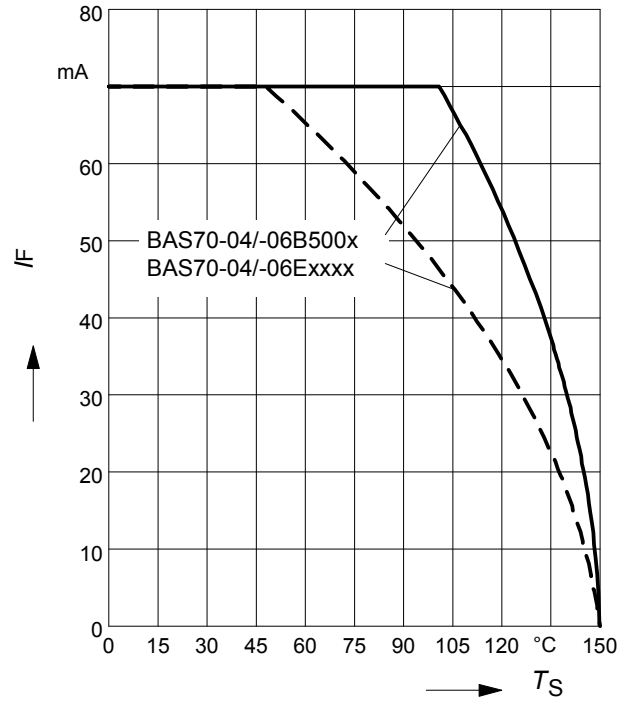
BAS70Exxx (e.g. E6327)



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

BAS70-04/-06B500x

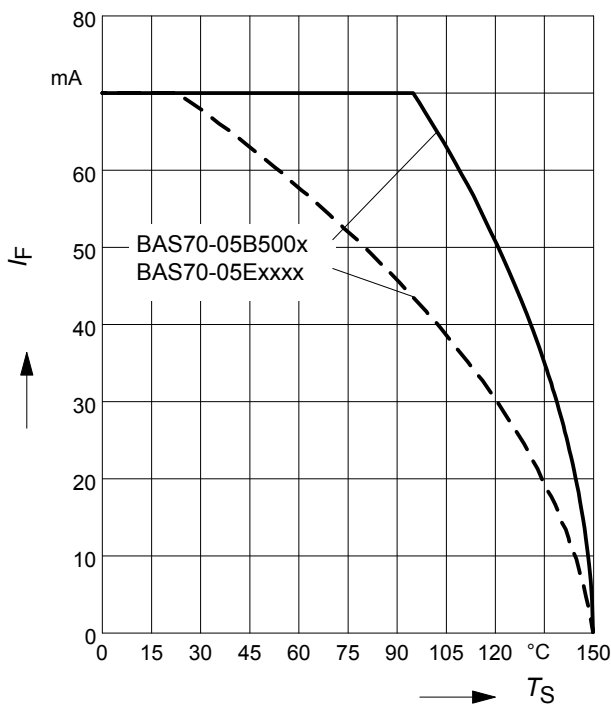
BAS70-04/-06Exxx (e.g. E6327)



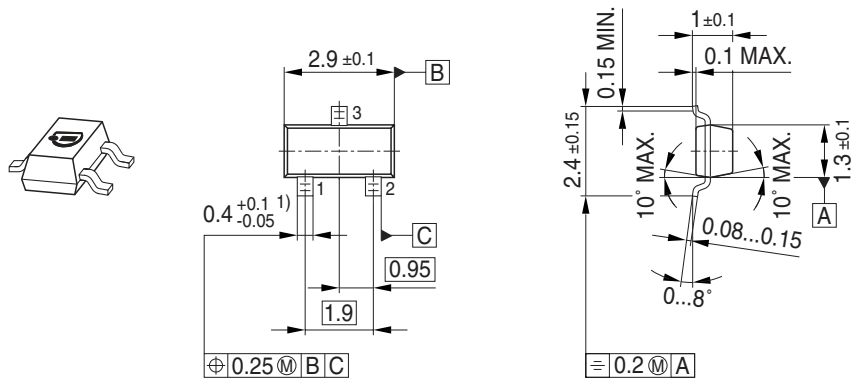
**Forward current  $I_F = f(T_S)$**

BAS70-05B500x

BAS70-05Exxx (e.g. E6327)

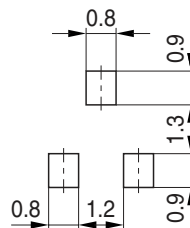


Package Outline

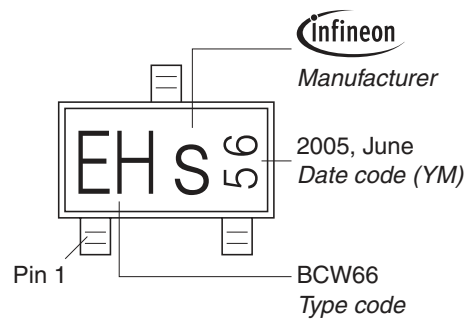


1) Lead width can be 0.6 max. in dambar area

Foot Print

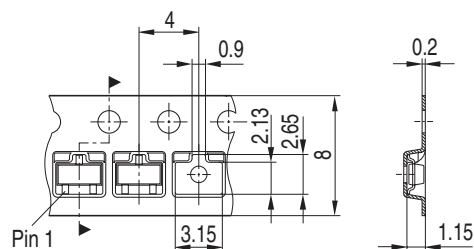


Marking Layout (Example)



Standard Packing

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



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