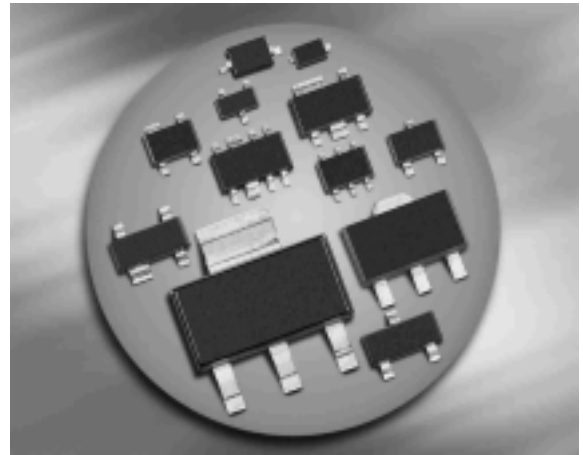
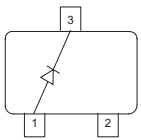
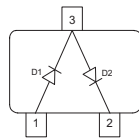
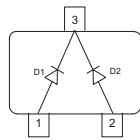
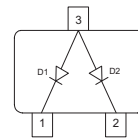


Silicon Schottky Diode

- 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 ¹⁾	R_{thJS}		K/W
BAS70		≤ 165	
BAS70-04, BAS70-06		≤ 195	
BAS70-05		≤ 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	μA
$V_R = 50 \text{ V}$					
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 ²⁾	ΔV_F	-	-	20	
$I_F = 10 \text{ mA}$					

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

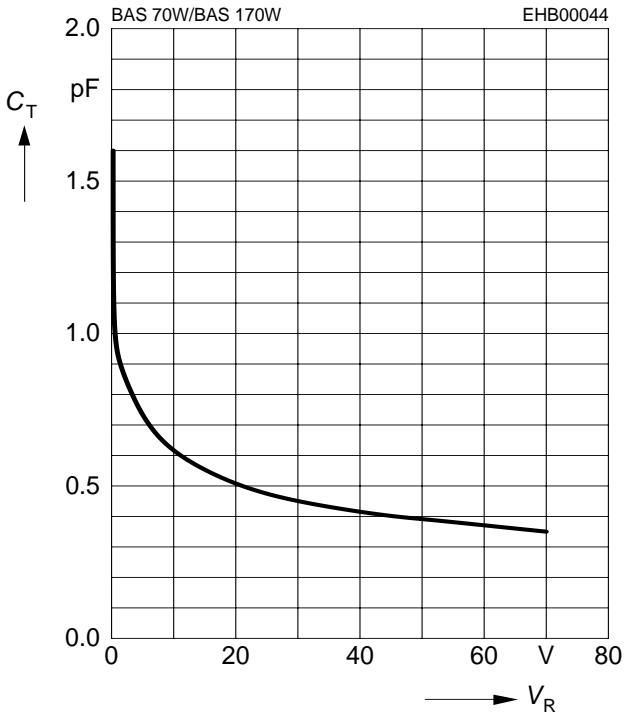
²⁾ ΔV_F is the difference between lowest and highest V_F in a multiple diode component.

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
AC Characteristics					
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	-	Ω
Charge carrier life time $I_F = 25 \text{ mA}$	τ_{rr}	-	-	100	ps

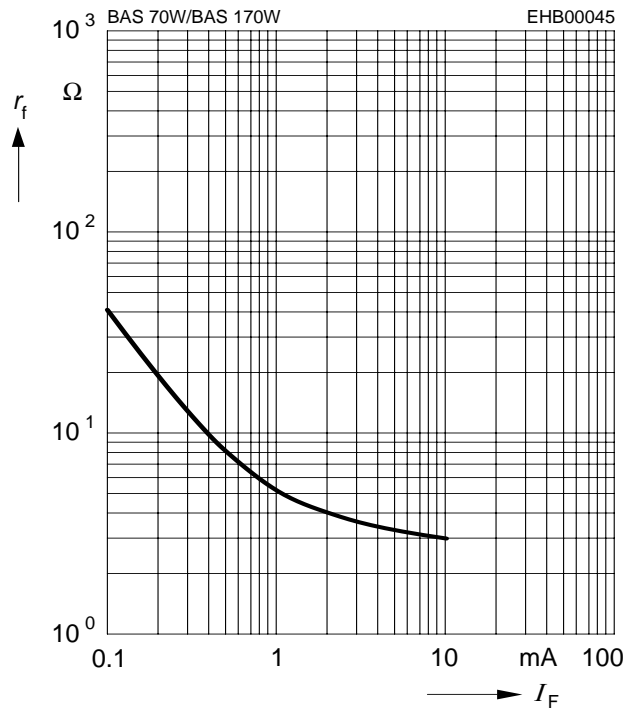
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



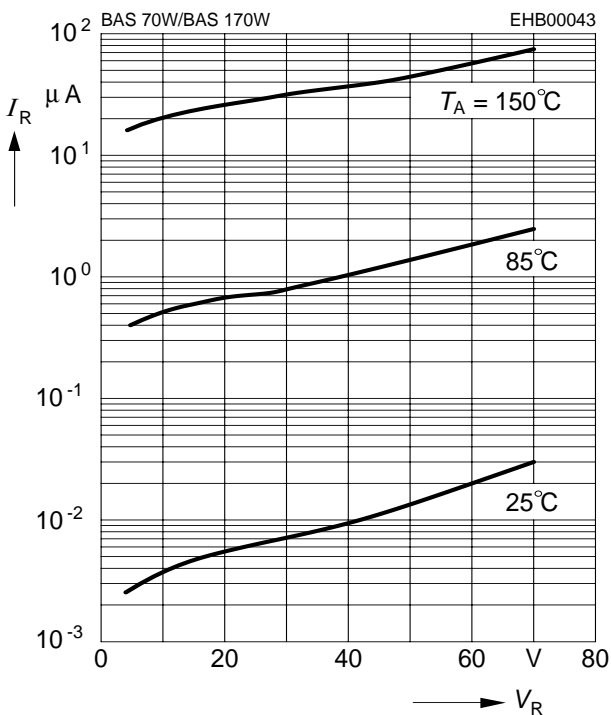
Forward resistance $r_f = f(I_F)$

$f = 1\text{MHz}$

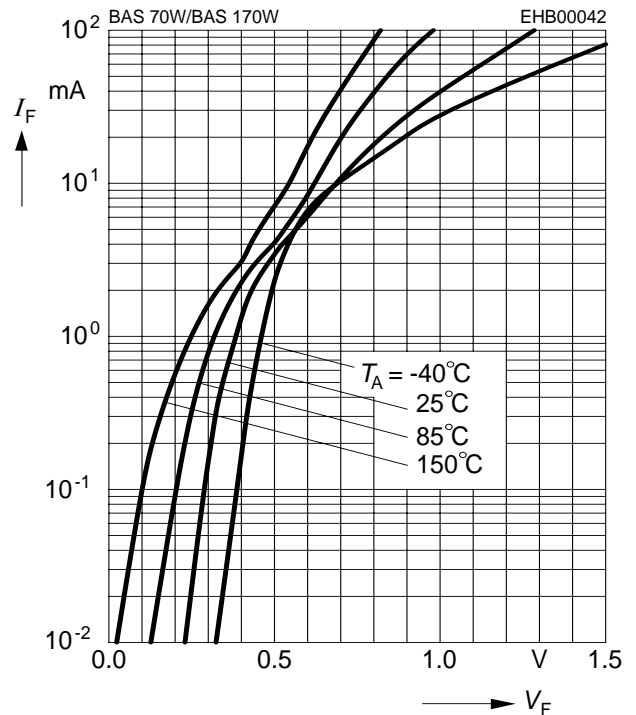


Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



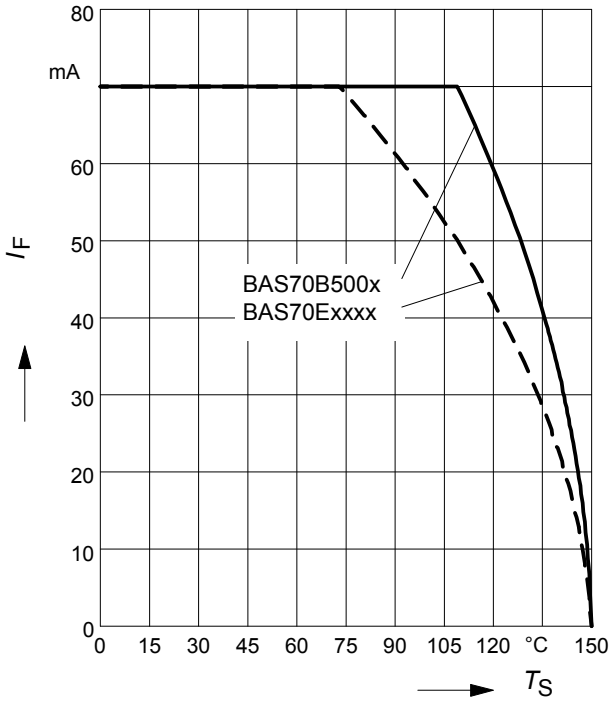
Forward current $I_F = f(V_F)$



Forward current $I_F = f(T_S)$

BAS70B500x

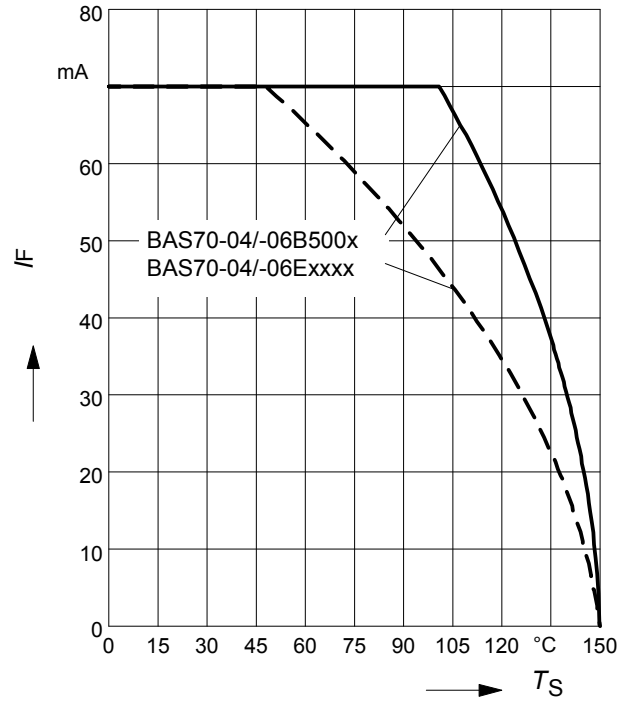
BAS70Exxx (e.g. E6327)



Forward current $I_F = f(T_S)$

BAS70-04/-06B500x

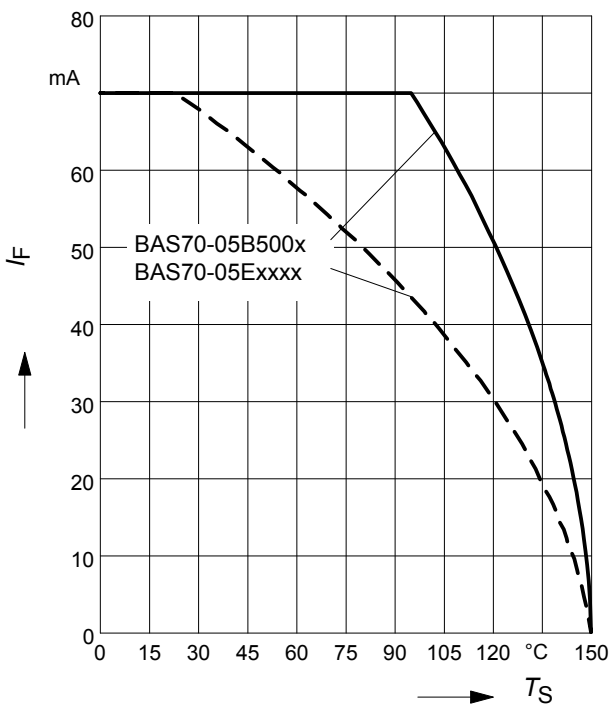
BAS70-04/-06Exxx (e.g. E6327)



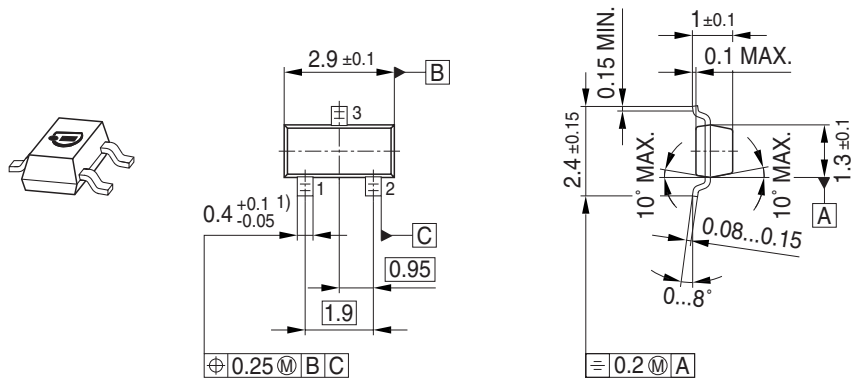
Forward current $I_F = f(T_S)$

BAS70-05B500x

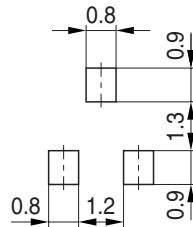
BAS70-05Exxx (e.g. E6327)



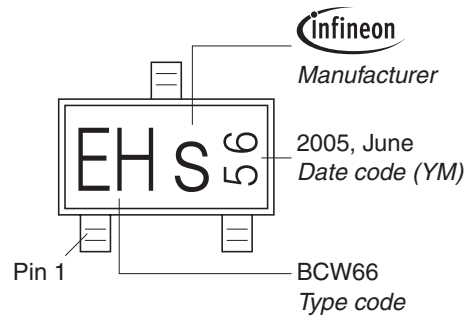
Package Outline



Foot Print

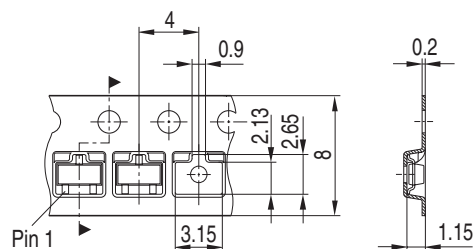


Marking Layout (Example)



Standard Packing

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



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