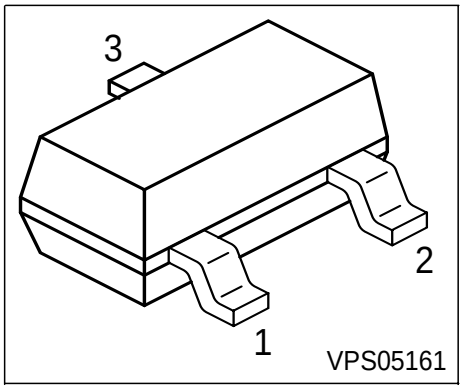
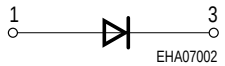
Silicon Schottky Diodes

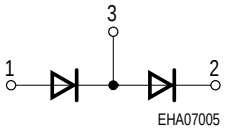


- General-purpose diode for high-speed switching
- Circuit protection
- Voltage clamping
- High-level detecting and mixing

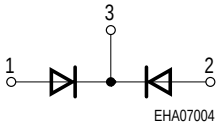
BAS70



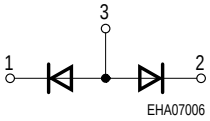
BAS70-04



BAS70-05



BAS70-06



Type	Marking	Pin Configuration			Package
BAS70	73s	1 = A	2 n.c.	3 = C	SOT23
BAS70-04	74s	1 = A1	2 = C2	3 = C1/A2	SOT23
BAS70-05	75s	1 = A1	2 = A2	3 = C1/C2	SOT23
BAS70-06	76s	1 = C1	2 = C2	3 = A1/A2	SOT23

Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	70	V
Forward current	I_F	70	mA
Surge forward current, t ≤ 10ms	I_{FSM}	100	
Total power dissipation	P_{tot}		mW
T_S ≤ 72°C, BAS70		250	
T_S ≤ 48°C, BAS70-04; BAS70-06		250	
T_S ≤ 22°C , BAS70-05		250	
Junction temperature	T_j	150	°C
Operating temperature range	T_{op}	-55 ... 150	
Storage temperature	T_{stg}	-55 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point[1)]	R_{thJS}		K/W
BAS70		≤ 310	
BAS70-04; BAS70-06		≤ 410	
BAS70-05		≤ 510	

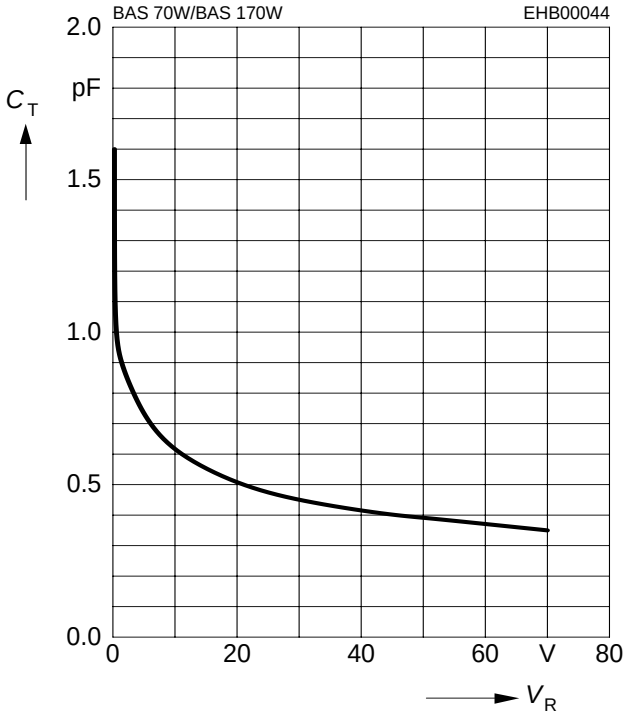
[1]For calculation of R_{thJA} please refer to Application Note Thermal Resistance

Electrical Characteristics at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Breakdown voltage $I_{(BR)}$ = 10 µA	$V_{(BR)}$	70	-	-	V
Reverse current V_R = 50 V	I_R	-	-	0.1	µA
Forward voltage	V_F				mV
I_F = 1 mA		-	375	410	
I_F = 10 mA		-	705	750	
I_F = 15 mA		-	880	1000	
AC Characteristics					
Diode capacitance- V_R = 0 V, f = 1 MHz	C_T	-	1.6	2	pF
Differential forward resistance I_F = 10 mA, f = 10 kHz	r_f	-	30	-	Ω
Charge carrier life time I_F = 25 mA	τ_{rr}	-	-	100	ps

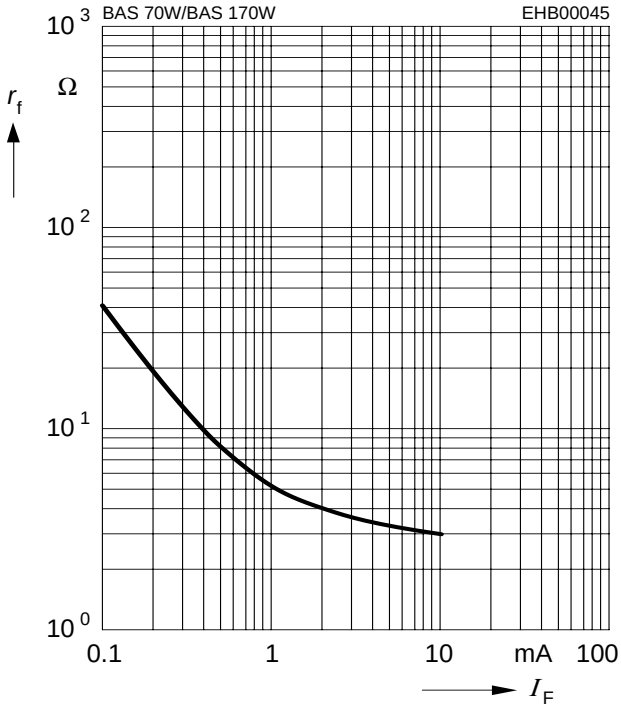
Diode capacitance $C_T = f(V_R)$

f = 1MHz



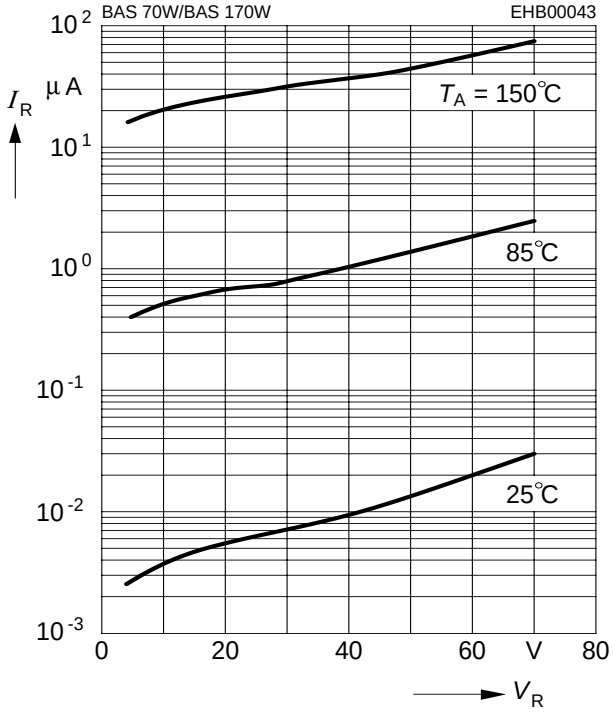
Differential forward resistance $r_f = f(I_F)$

f = 1MHz



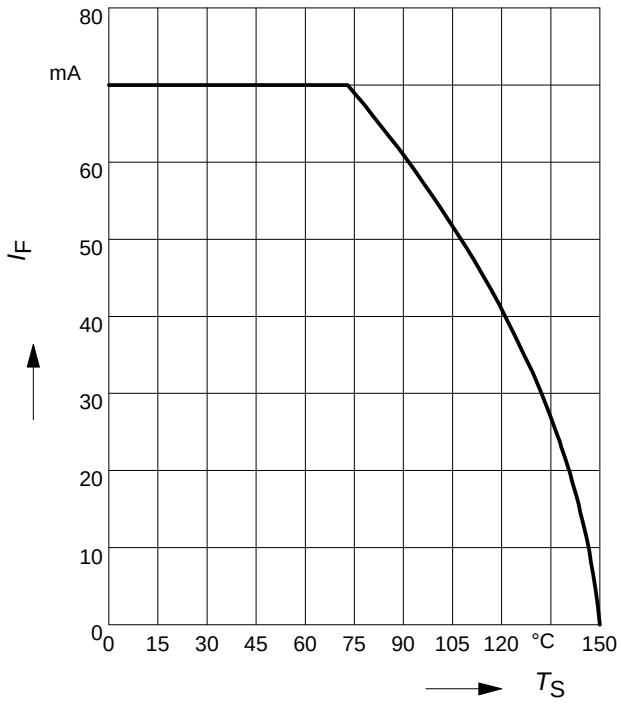
Reverse current $I_R = f(V_R)$

T_A = Parameter



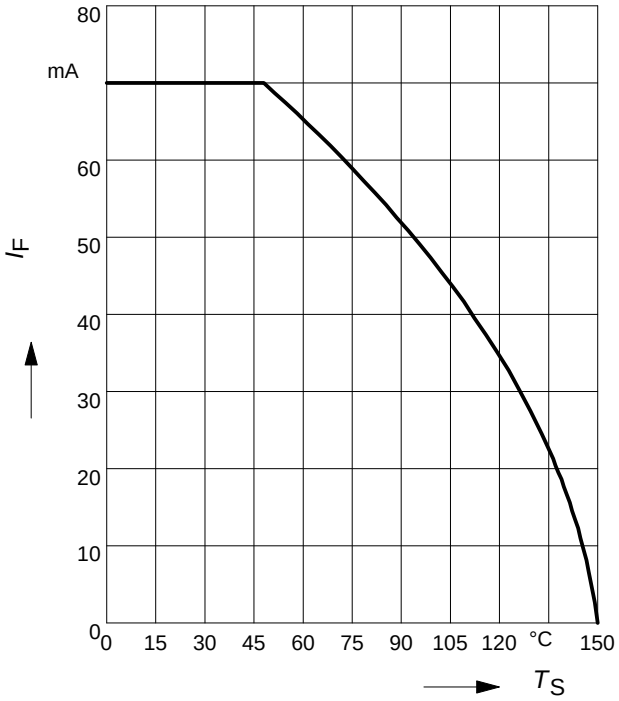
Forward current $I_F = f(T_S)$

BAS70



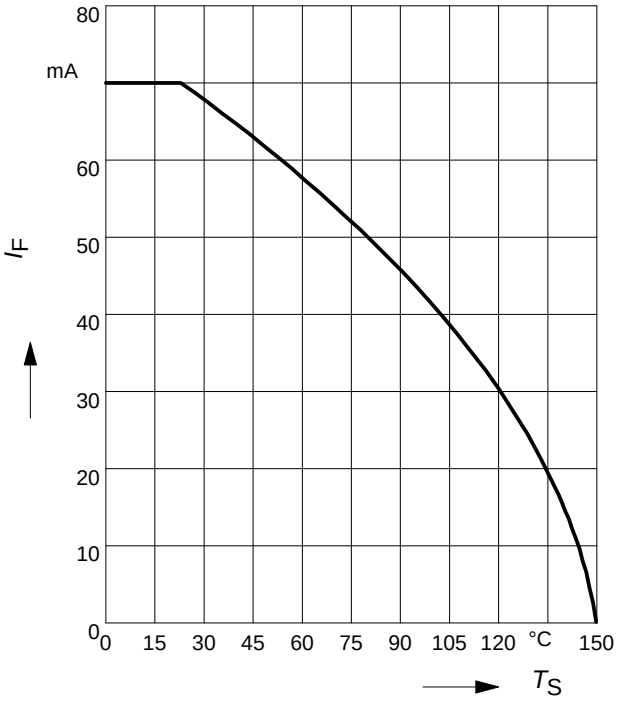
Forward current $I_F = f(T_S)$

BAS70-04, BAS70-06



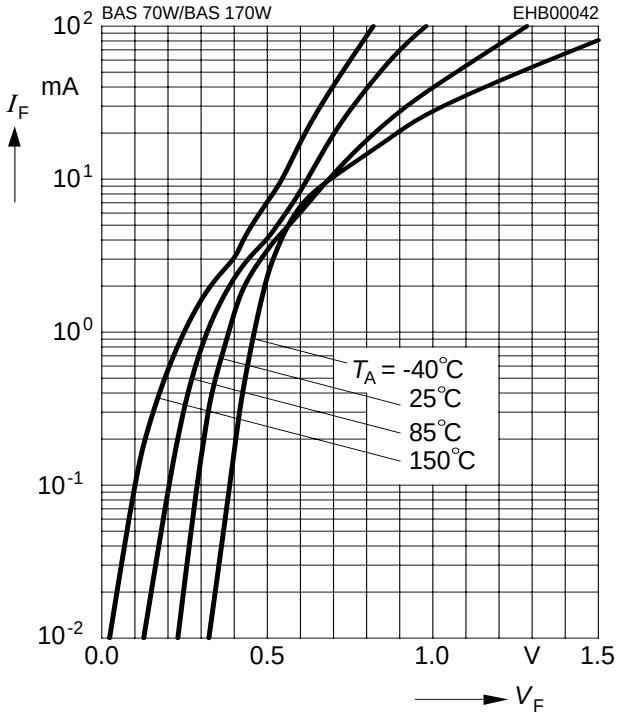
Forward current $I_F = f(T_S)$

BAS70-05



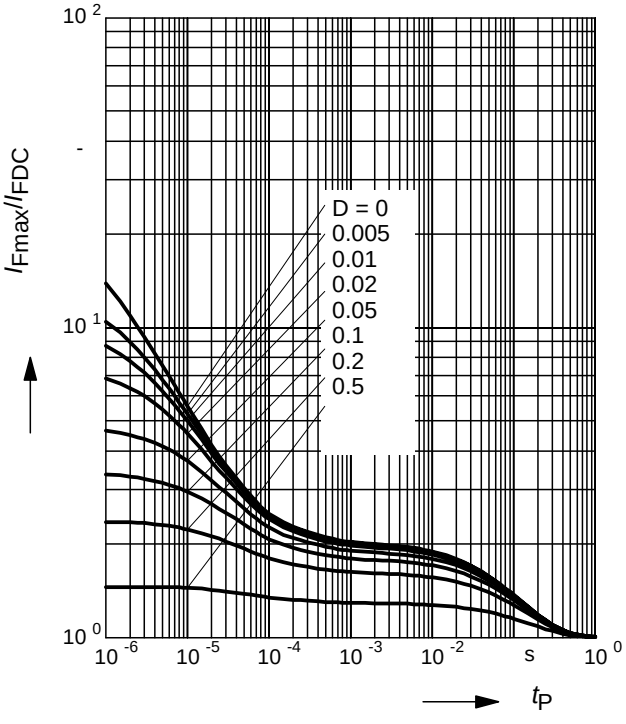
Forward current $I_F = f(V_F)$

T_A = 25°C



Permissible Pulse Load

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



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