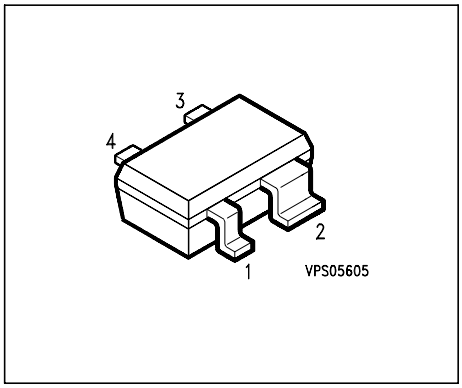
Silicon Schottky Diodes

Preliminary data

- General-purpose diodes for high-speed switching
- Circuit protection
- Voltage clamping
- High-level detection and mixing



ESD: **E**lectro**S**tatic **D**ischarge sensitive device, observe handling precautions!

Type	Marking	Ordering Code	Pin Configuration				Package
BAS70-07W	77s	Q62702-A1186	1 = C1	2 = C2	3 = A2	4 = A1	SOT-343

Maximum Ratings

Parameter	Symbol	Values	Unit
Diode reverse voltage	V_R	70	V
Forward current	I_F	70	mA
Surge forward current ($t \leq 10$ms)	I_{FSM}	100	
Total Power dissipation $T_S \leq 91$ °C	P_{tot}	250	mW
Operating temperature range	T_{op}	- 55 ... + 150	°C
Storage temperature	T_{stg}	- 55 ... + 150	

Thermal Resistance

Junction ambient [1)]	R_{thJA}	≤ 285	K/W
Junction - soldering point	R_{thJS}	≤ 145	

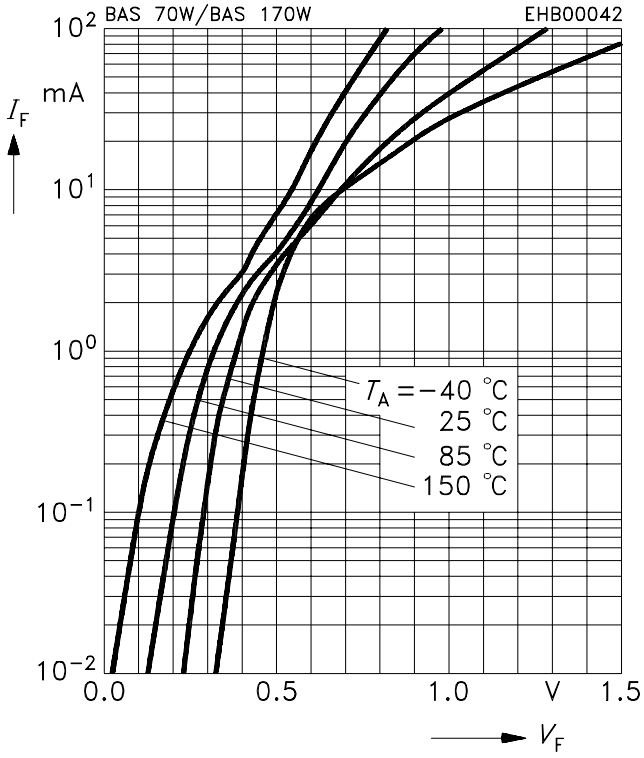
1) Package mounted on epoxy pcb 40mm x 40mmm x 1.5mm / 0.5cm^2 Cu

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics per Diode					
Breakdown voltage	$V_{(BR)}$				V
$I_{(BR)}$ = 10 µA		70	-	-	
Forward voltage	V_F				
I_F = 1 mA		300	375	410	
I_F = 10 mA		600	705	750	
I_F = 15 mA		750	880	1000	
Reverse current	I_R				µA
V_R = 50 V		-	-	0.1	
V_R = 70 V		-	-	10	
AC characteristics					
Diode capacitance	C_T				pF
V_R = 0 V, f = 1 MHz		-	1.5	2	
Charge carrier life time	τ				ps
I_F = 25 mA		-	-	100	
Forward resistance	r_f				Ω
I_F = 10 mA, f = 10 kHz		-	34	-	
Series inductance	L_S	-	2	-	nH

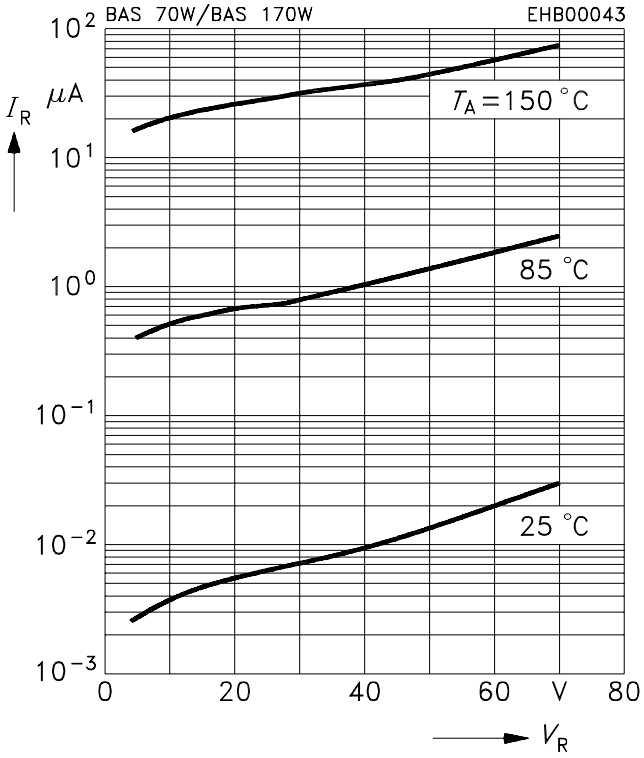
Forward current $I_F = f(V_F)$

T_A = parameter



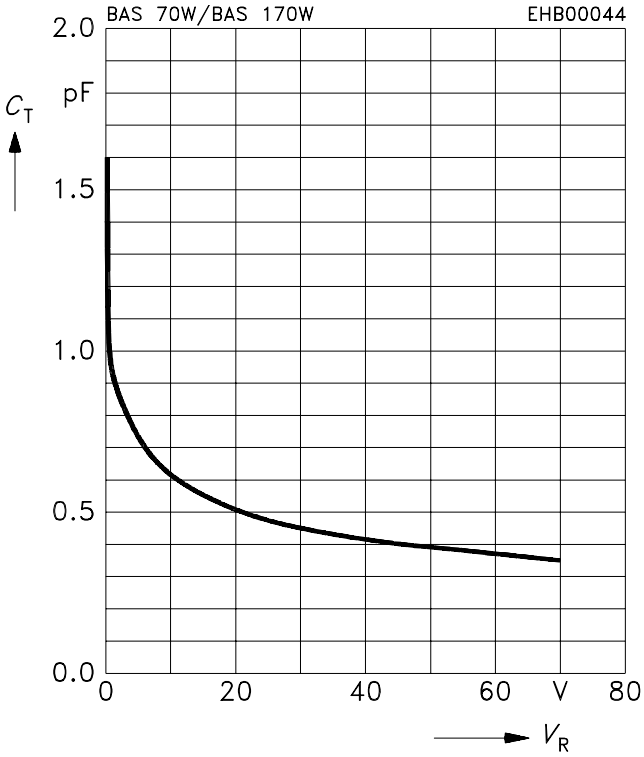
Reverse current $I_R = f(V_R)$

T_A = Parameter



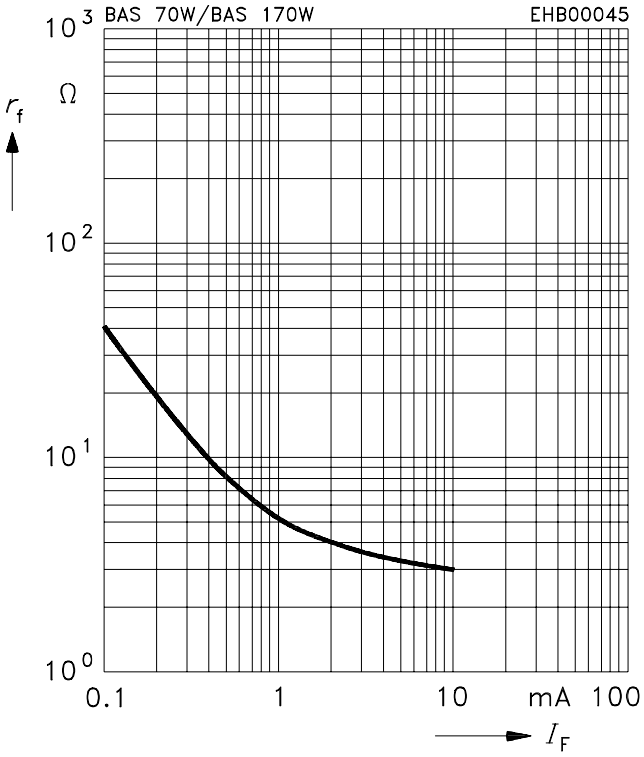
Diode capacitance $C_T = f(V_R)$

f = 1MHz



Differential forward resistance $R_F = f(I_F)$

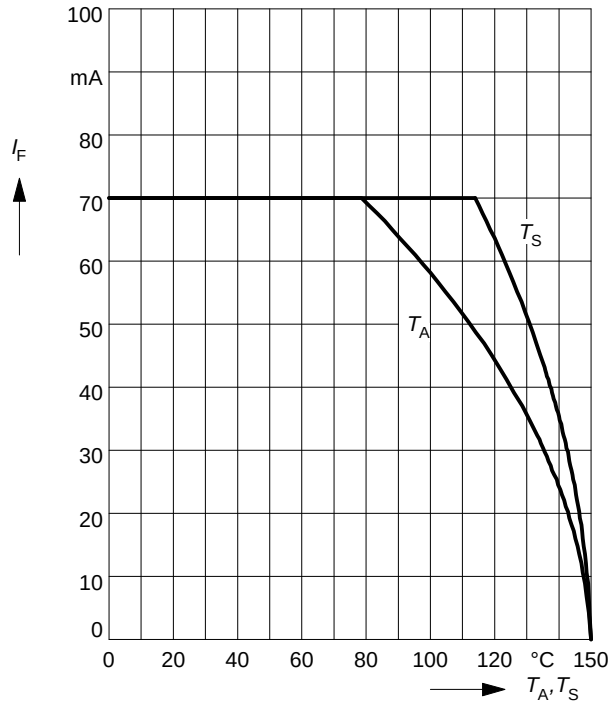
f = 10kHz



Forward Current $I_F = f(T_A^*; T_S)$

* mounted on PCB 40x40x1.5mm/6cm^{2}Cu

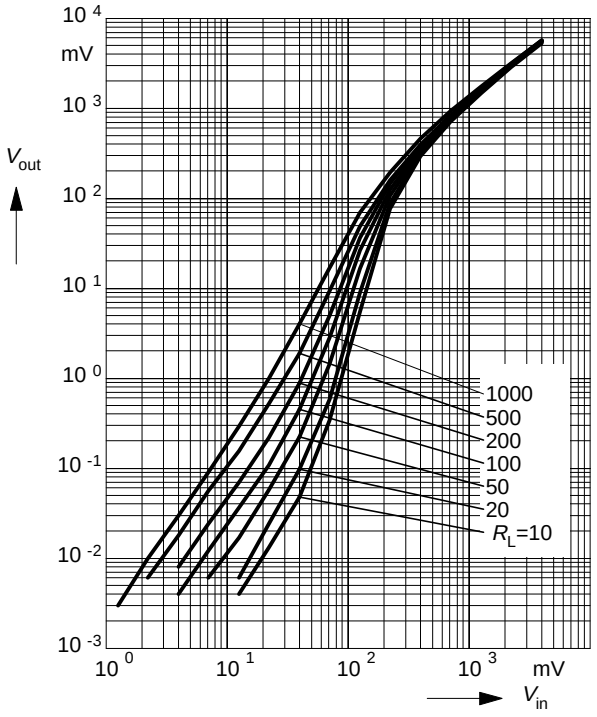
I_F per diode



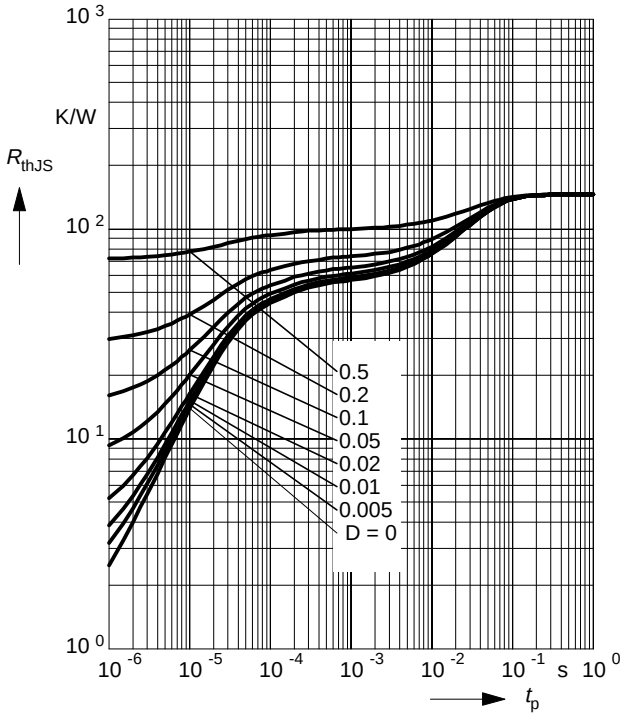
Rectifier Voltage vs. Input Voltage

f = 900MHz

R_L = parameter in kΩ



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



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