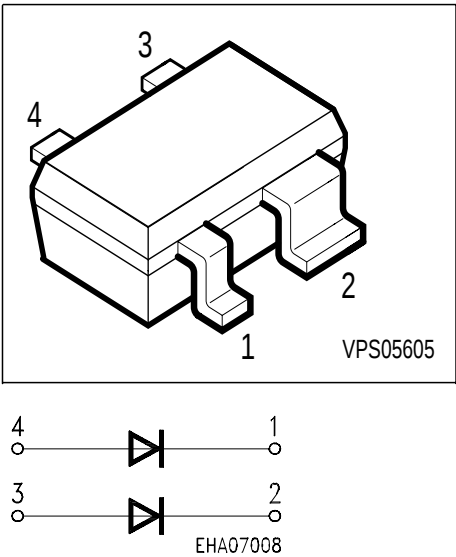


Silicon Schottky Diode

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



ESD: Electrostatic discharge sensitive device, observe handling precaution!

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	Value	Unit
Diode reverse voltage	V_R	70	V
Forward current	I_F	70	mA
Surge forward current ($t < 100\mu s$)	I_{FSM}	100	
Total power dissipation, $T_S \leq 91\text{ }^\circ\text{C}$	P_{tot}	250	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Operating temperature range	T_{op}	- 55 ...+150	
Storage temperature	T_{stg}	- 55 ...+150	

Maximum Ratings

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

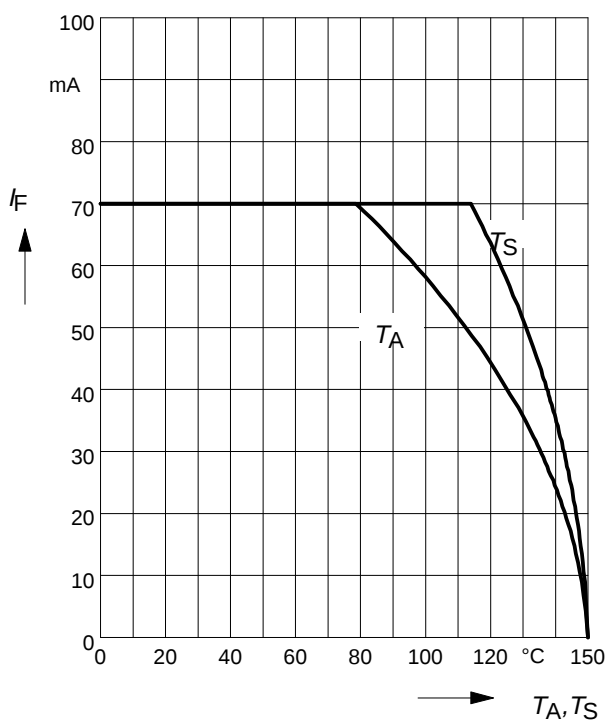
1) Package mounted on epoxy pcb 40mm x 40mm x 1.5mm / 0.5cm² Cu

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

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

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

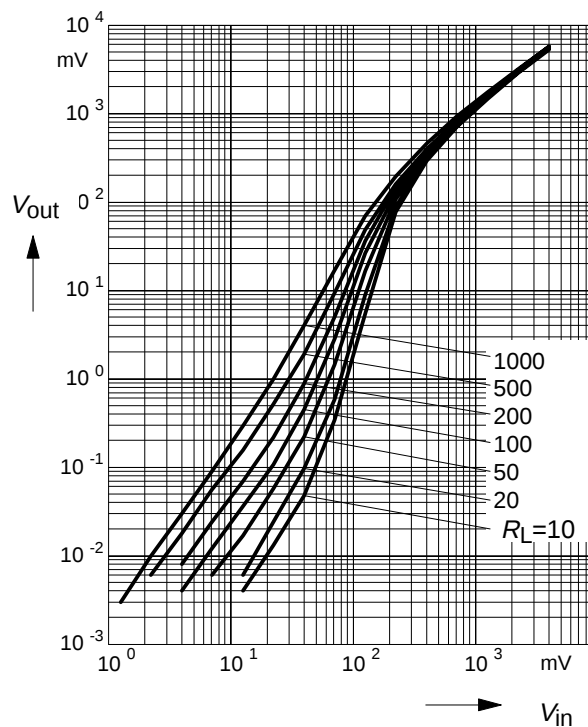
* Package mounted on epoxy



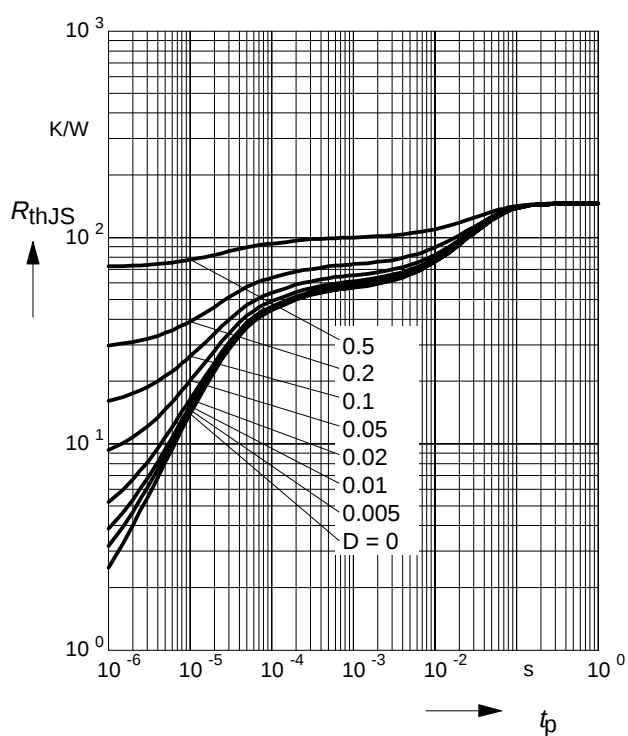
Rectifier voltage $V_{out} = f(V_{in})$

$f = 900$ MHz

R_L = parameter in k Ω

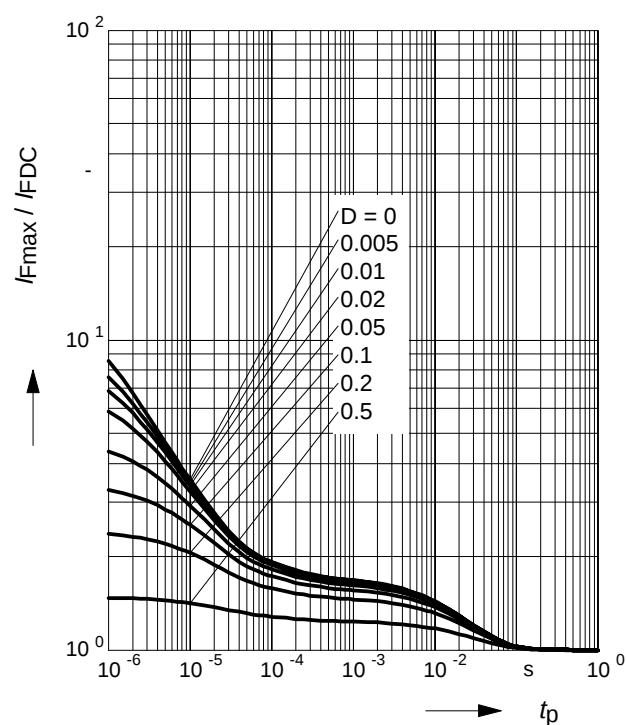


Permissible Pulse Load $R_{thJS} = f(t_p)$



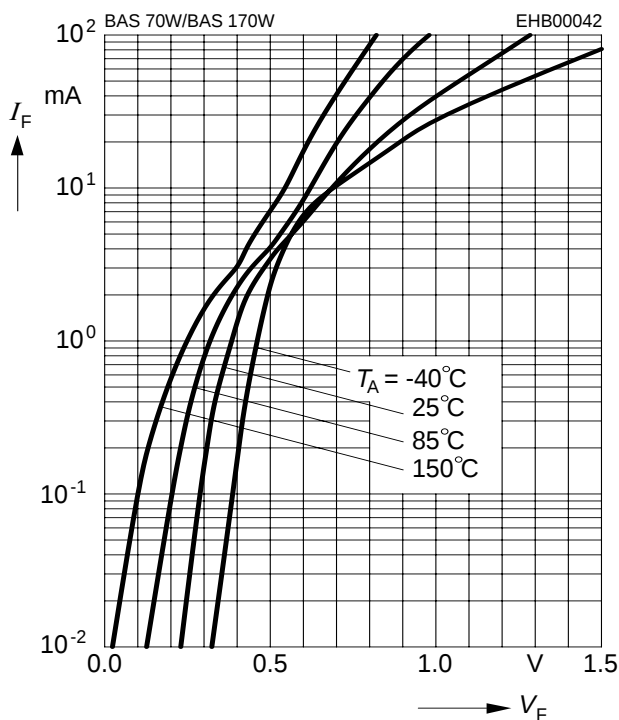
Permissible Pulse Load

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



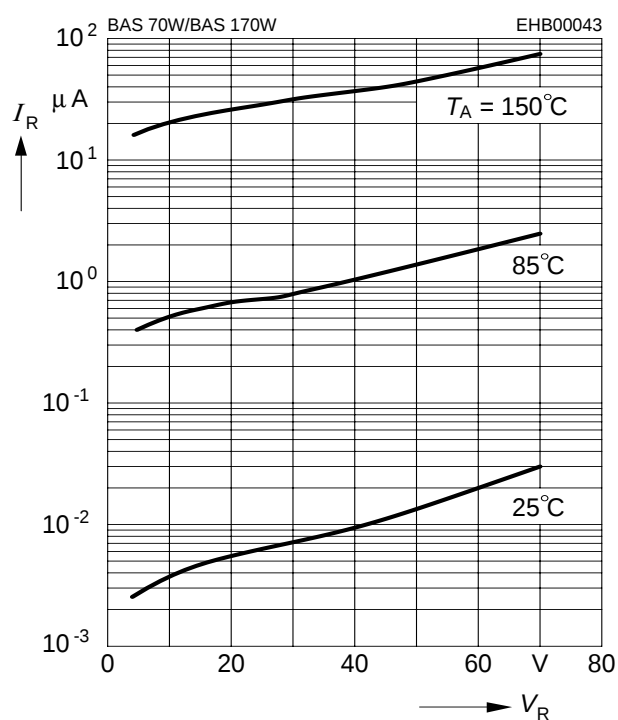
Forward current $I_F = f(V_F)$

$T_A = \text{Parameter}$



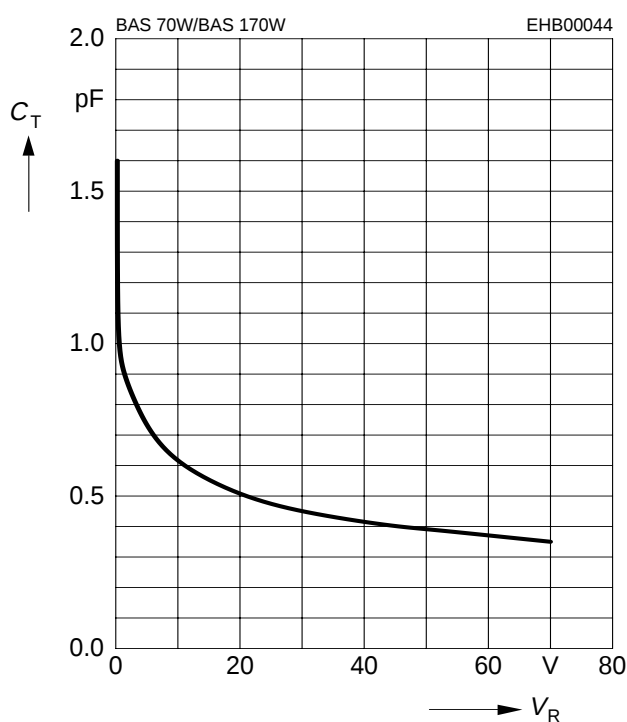
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



Diode capacitance $C_T = f(V_R)$

$f = 1 \text{ MHz}$



Differential forward resistance $r_f = f(I_F)$

$f = 10 \text{ kHz}$

