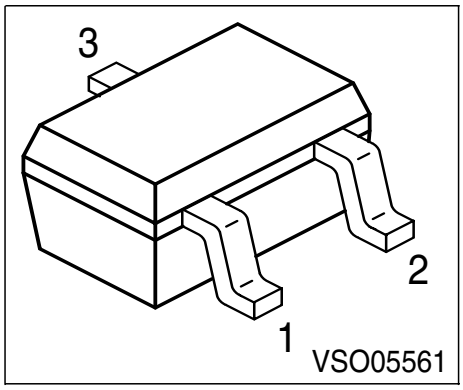
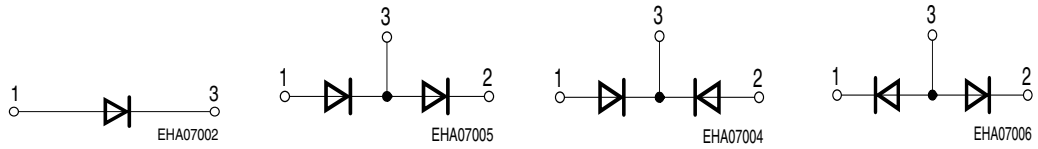
Silicon Schottky Diodes

- For mixer applications in the VHF / UHF range
- For high-speed switching applications



BAT 68W **BAT 68-04W** **BAT 68-05W** **BAT 68-06W**



ESD: **E**lectro**s**tatic **d**ischarge sensitive device, observe handling precaution!

Type	Marking	Pin Configuration			Package
BAT 68-04W	84s	1 = A1	2 =C2	3 = C1/A2	SOT-323
BAT 68-05W	85s	1 = A1	2 = A2	3 = C1/2	SOT-323
BAT 68-06W	86s	1 = C1	2 = C2	3 = A1/2	SOT-323
BAT 68W	83s	1 = A1	2 n.c.	3 = C	SOT-323

Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	8	V
Forward current	I_F	130	mA
Total power dissipation BAT 68W, T_S = 97 °C	P_{tot}	150	mW
BAT 68-04W, -05W, -06W , T_S = 92 °C	P_{tot}	150	
Junction temperature	T_j	150	°C
Operating temperature range	T_{op}	-65 ... 150	
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

Junction - ambient [1] BAT 68W	R_{thJA}	≤ 435	K/W
Junction - ambient [1] BAT 68-04W...	R_{thJA}	≤ 550	
Junction - soldering point BAT 68W	R_{thJS}	≤ 355	
Junction - soldering point BAT 68-04W ...	R_{thJS}	≤ 390	

1) Package mounted on alumina 15mm x 17.6mm x 0.7mm)

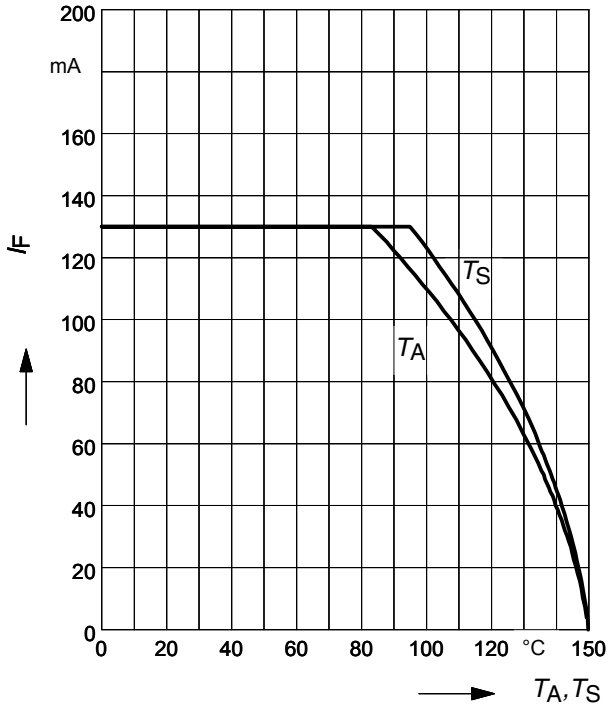
Electrical Characteristics at T_A = 25 °C, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Breakdown voltage $I_{(BR)}$ = 100 µA	$V_{(BR)}$	8	-	-	V
Reverse current V_R = 1 V	I_R	-	-	0.1	µA
Reverse current V_R = 1 V, T_A = 60 °C	I_R	-	-	1.2	
Forward voltage I_F = 1 mA I_F = 10 mA	V_F	 - 340	 318 390	 340 500	mV
AC characteristics					
Diode capacitance V_R = 1 V, f = 1 MHz	C_T	-	-	1	pF
Differential forward resistance I_F = 5 mA, f = 10 kHz	R_f	-	-	10	Ω

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

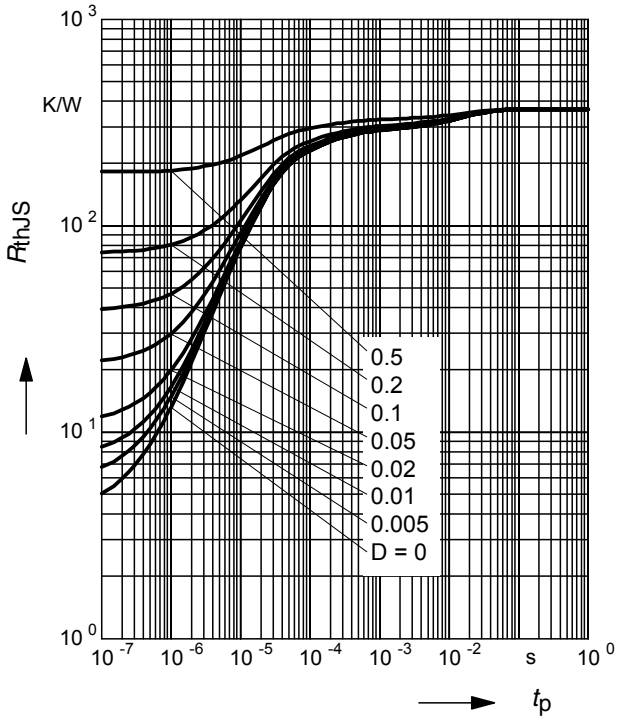
* Package mounted on alumina

BAT 68W



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

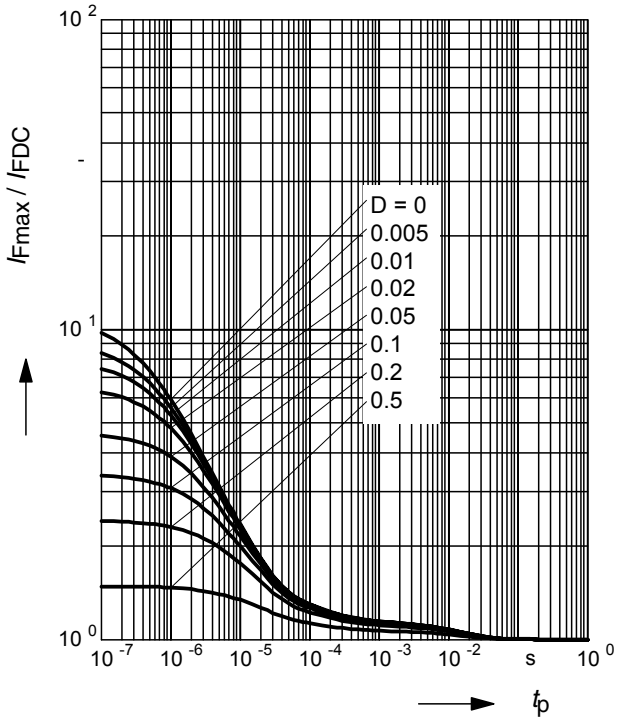
BAT 68W



Permissible Pulse Load

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

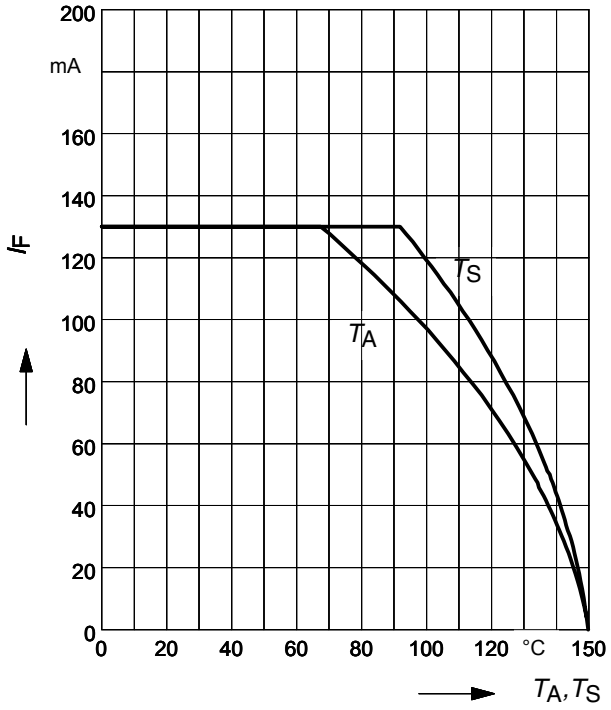
BAT 68W



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

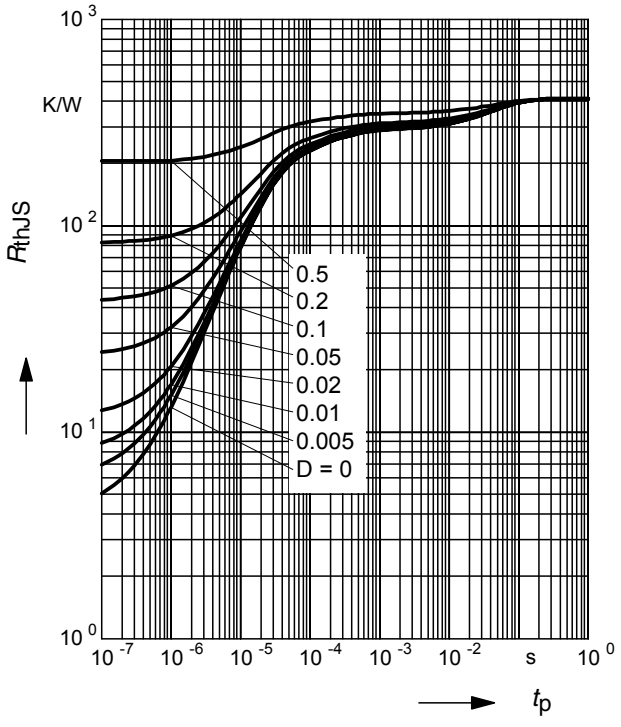
* Package mounted on alumina

BAT 68-04W ...



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

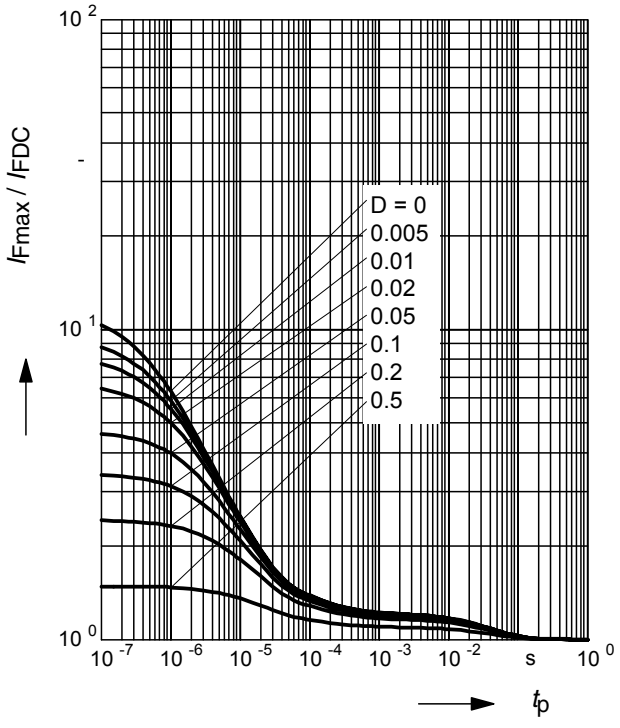
BAT 68-04W ...



Permissible Pulse Load

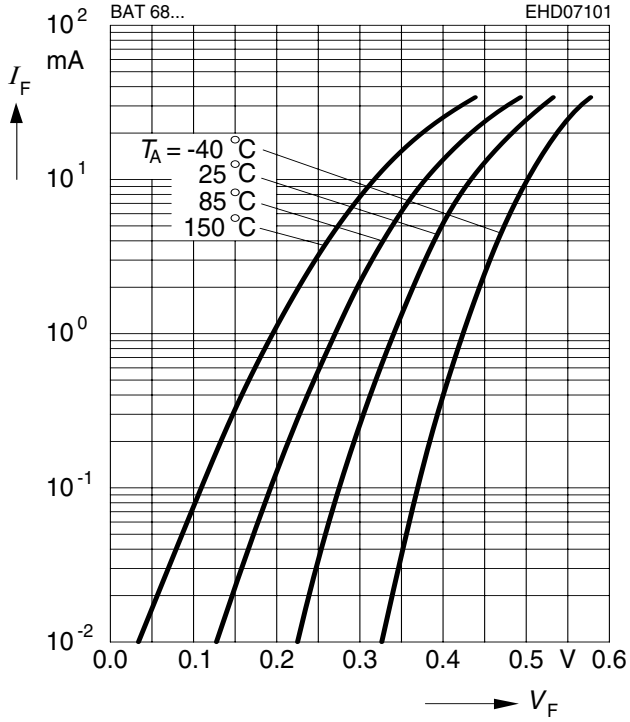
$I_{Fmax} / I_{FDC} = f(t_p)$

BAT 68-04W ...



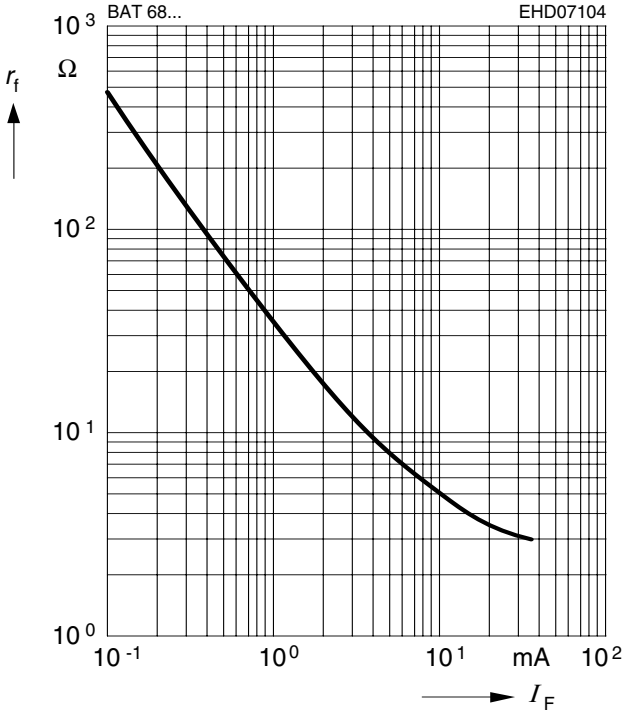
Forward current $I_F = f(V_F)$

T_A = Parameter



Differential forward resistance $r_f = f(I_F)$

f = 10 kHz



Diode capacitance $C_T = f(V_R)$

f = 1MHz