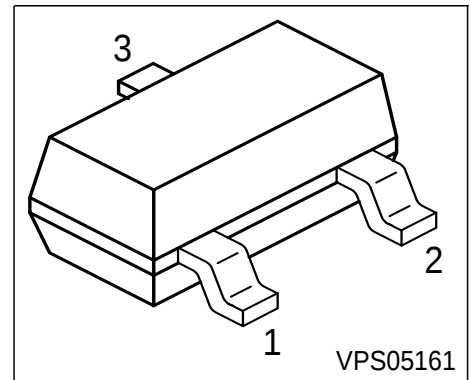
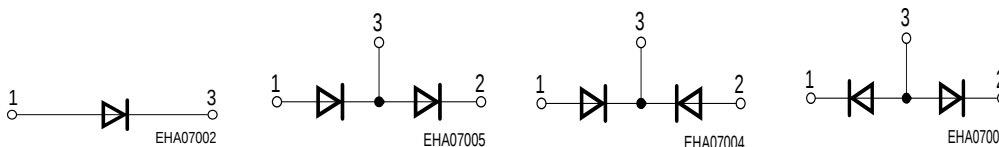


Silicon PIN Diodes

- High voltage current controlled
RF resistor for RF attenuator and switches
- Frequency range above 1 MHz up to 3 GHz
- Low resistance and long carrier lifetime
- Very low capacitance at zero volts reverse bias at frequencies above 1 GHz
- Very low signal distortion


BAR64
BAR64-04
BAR64-05
BAR64-06


Type	Marking	Pin Configuration			Package
BAR64	POs	1 = A	2 n.c.	3 = C	SOT23
BAR64-04	PPs	1 = A1	2 = C2	3=C1/A2	SOT23
BAR64-05	PRs	1 = A1	2 = A2	3=C1/C2	SOT23
BAR64-06	PSs	1 = C1	2 = C2	3=A1/A2	SOT23

Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	200	V
Forward current	I_F	100	mA
Total power dissipation BAR64, $T_S \leq 90^\circ\text{C}$	P_{tot}	250	mW
BAR64-04, BAR64-05, BAR64-06, $T_S \leq 65^\circ\text{C}$	P_{tot}	250	
Junction temperature	T_j	150	$^\circ\text{C}$
Operating temperature range	T_{op}	-55 ... 150	
Storage temperature	T_{stg}	-55 ... 150	

Thermal Resistance

Junction - soldering point ¹⁾	R_{thJS}		K/W
BAR64		≤ 240	
BAR64-04, BAR64-05, BAR64-06		≤ 340	

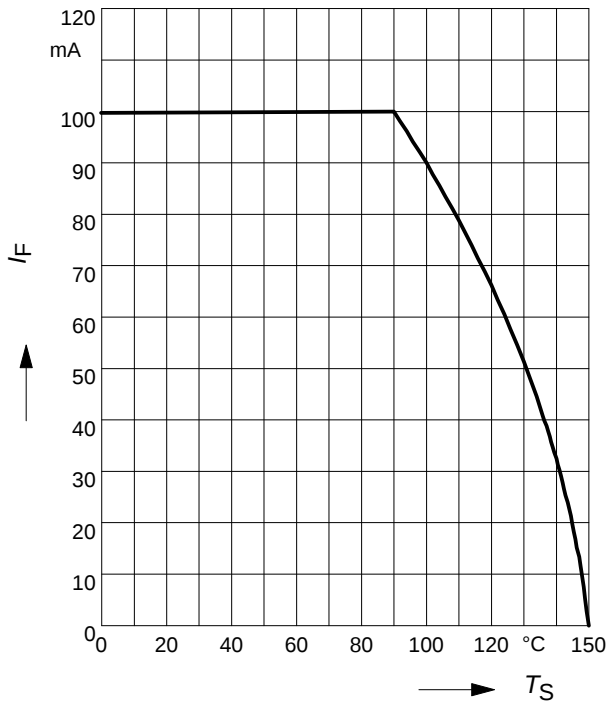
¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Breakdown voltage $I_{(BR)} = 5 \mu A$	$V_{(BR)}$	200	-	-	V
Reverse current $V_R = 80 V$	I_R	-	-	50	nA
Forward voltage $I_F = 50 mA$	V_F	-	-	1.1	V
AC characteristics					
Diode capacitance $V_R = 20 V, f = 1 MHz$	C_T	-	0.23	0.35	pF
Forward resistance $I_F = 1 mA, f = 100 MHz$ $I_F = 10 mA, f = 100 MHz$ $I_F = 100 mA, f = 100 MHz$	r_f	- - -	12.5 2.1 0.85	20 3.8 1.35	Ω
Charge carrier life time $I_F = 10 mA, I_R = 6 mA, I_R = 3 mA$	τ_{rr}	-	1.55	-	μs
Series inductance	L_S	-	1.4	-	nH

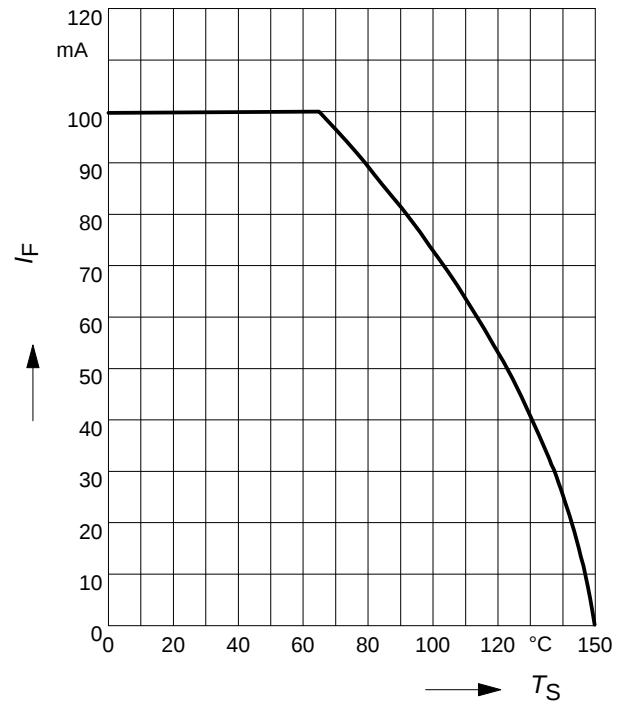
Forward current $I_F = f(T_S)$

BAR64



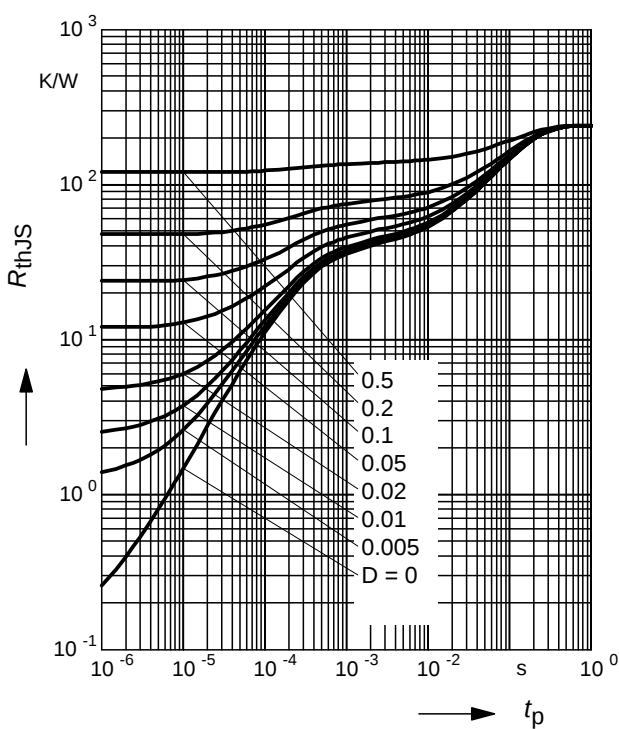
Forward current $I_F = f(T_S)$

BAR64-04, BAR64-05, BAR64-06



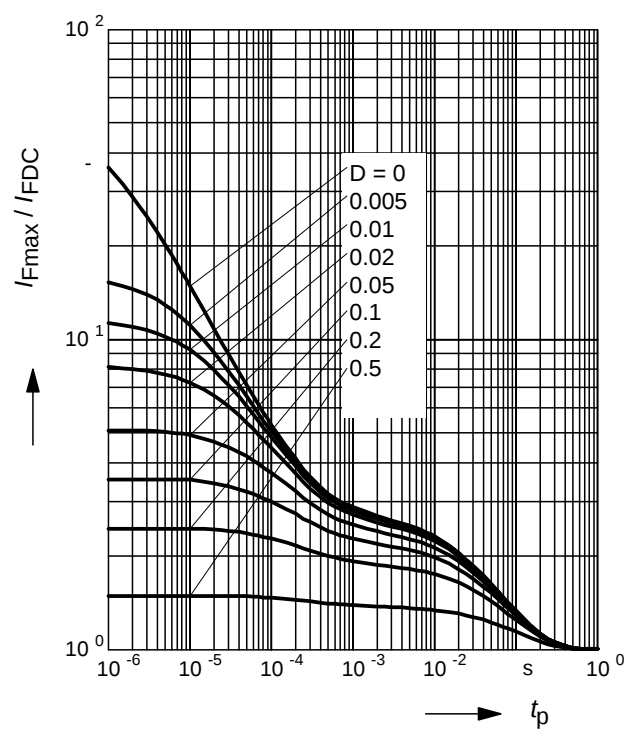
Permissible Pulse Load $R_{thJS} = f(t_p)$

BAR64



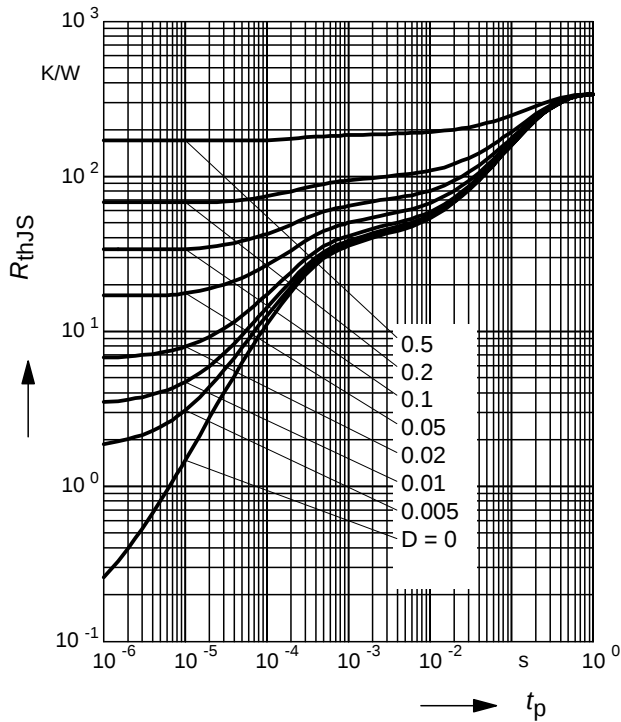
Permissible Pulse Load $I_{Fmax} / I_{FDC} = f(t_p)$

BAR64



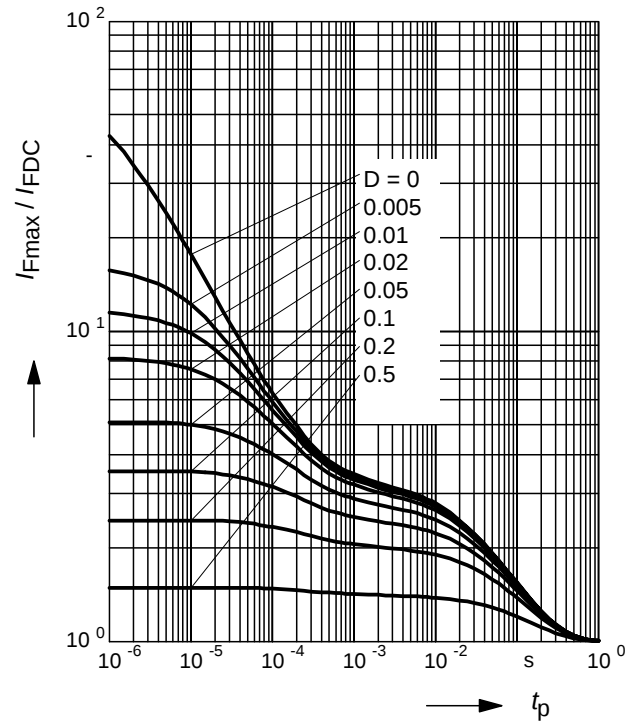
Permissible Pulse Load $R_{thJS} = f(t_p)$

BAR64-04,-05,-06



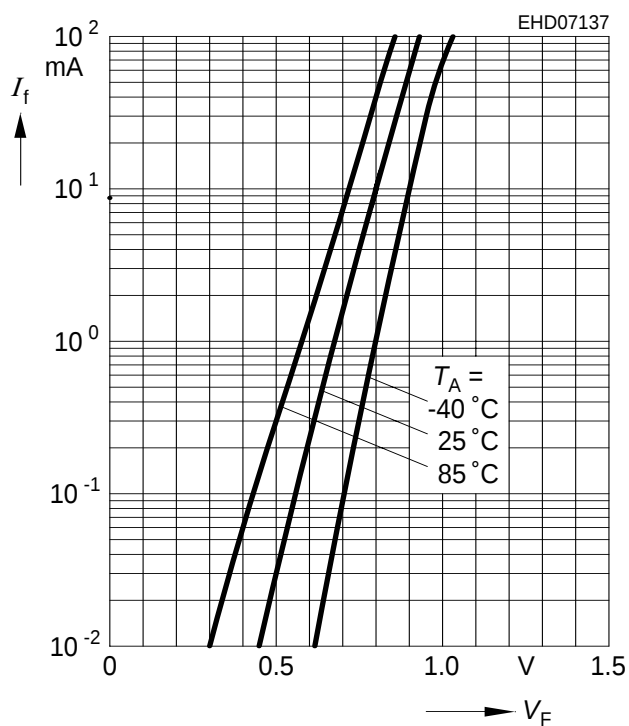
Permissible Pulse Load $I_{Fmax} / I_{FDC} = f(t_p)$

BAR64-04,-05,-06



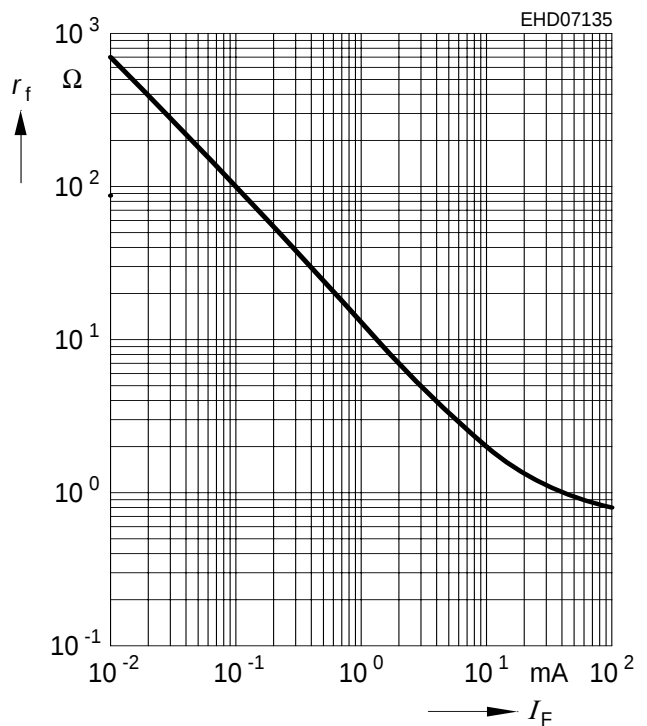
Forward current $I_F = f(V_F)$

T_A = Parameter



Forward resistance $r_f = f(I_F)$

$f = 100\text{MHz}$



Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$

