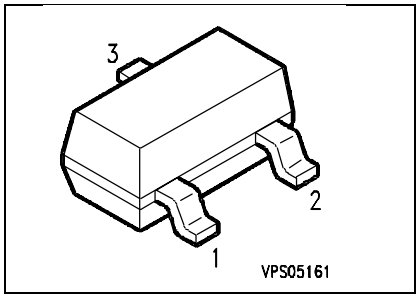
Silicon PIN Diode

- High voltage current controlled
- RF resistor for RF attenuator and swirches
- Freqency range above 1 MHz
- Low resistance and short carrier lifetime
- For frequencies up to 3 GHz



Type	Marking	Ordering code (tape and reel)	Pin configuration 1	2	3	Package 1)
BAR 64	POs	Q62702-A1041	A	-	C	SOT-23
BAR 64-04	PPs	Q62702-A1010	A	C	C/A	
BAR 64-05	PRs	Q62702-A1042	A	A	C/C	
BAR 64-06	PSs	Q62702-A1043	C	C	A/A	

Maximum ratings per diode

Parameter	Symbol	BAR 64	Unit
Reverse voltage	V_R	200	V
Forward current	I_F	100	mA
Total Power dissipation $T_S \leq 90°C$	P_{tot}	250	mW
BAR64-04,-05,-06 $T_S \leq 65°C$		250	
Junction temperature	T_j	150	°C
Operating temperature range	T_{op}	-55 +150°C	°C
Storage temperature range	T_{stg}	-55...+150°C	°C

Thermal resistance

Junction-ambient 1)	$R_{th\ JA}$		K/W
BAR64		≤ 320	
BAR64-04,-05,-06		≤ 500	
Junction-soldering point	$R_{th\ JS}$		
BAR64		≤ 240	
BAR64-04,-05,-06		≤ 340	

1)Package mounted on alumina 15mm x 16.7mm x 0.7mm

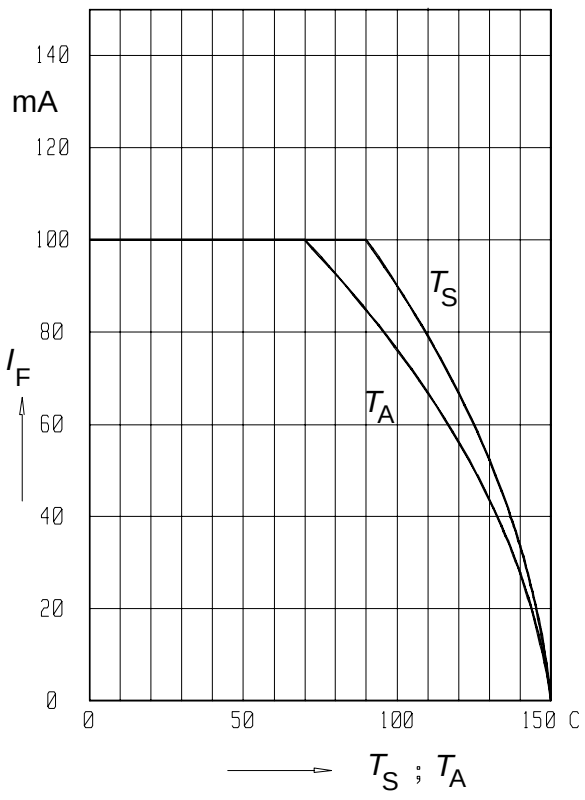
Electrical characteristics

at T_A = 25 °C, unless otherwise specified.

Parameter	Symbol	Value			Unit
		min.	typ.	max.	
DC characteristics per diode					
Breakdown voltage I_R = 5 µA	$V_{(BR)}$	200	-	-	V
Forward voltage I_F = 50 mA	V_F	-	-	1.1	V
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 lifetime I_F = 10 mA, I_R = 6 mA, I_R = 3 mA	τ_L	-	1.55	-	µs
Series inductance	L_s	-	1.4	-	nH

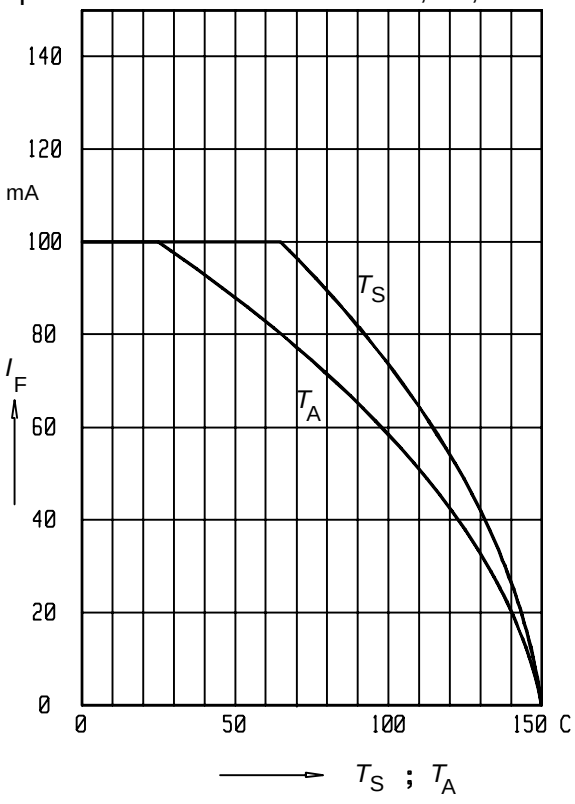
Forward current $r_F = f(T_S; T_A^*)$

* mounted on alumina BAR64

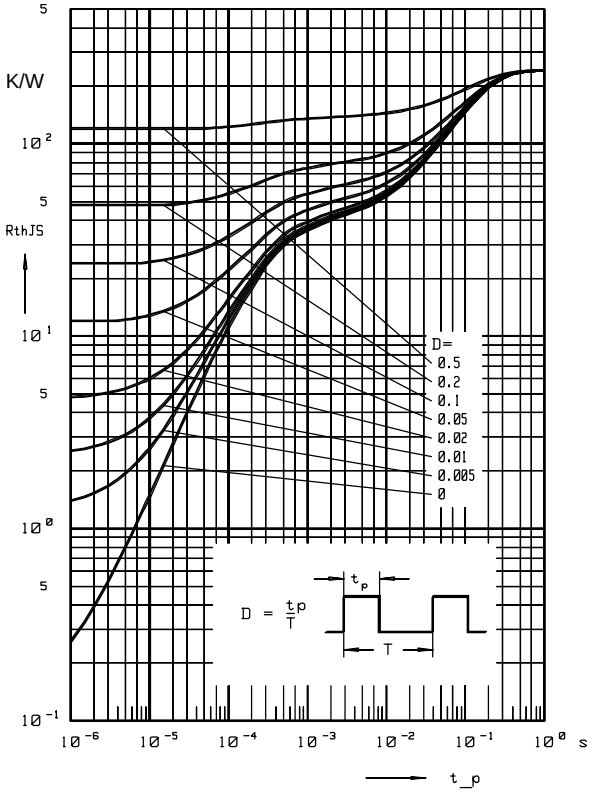


Forward current $r_F = f(T_S; T_A^*)$

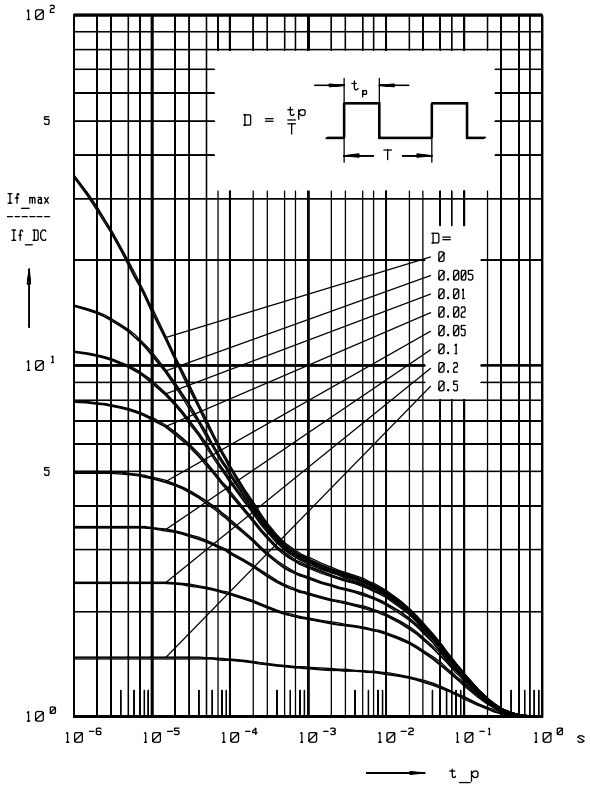
per each diode BAR64-05,-05,-06



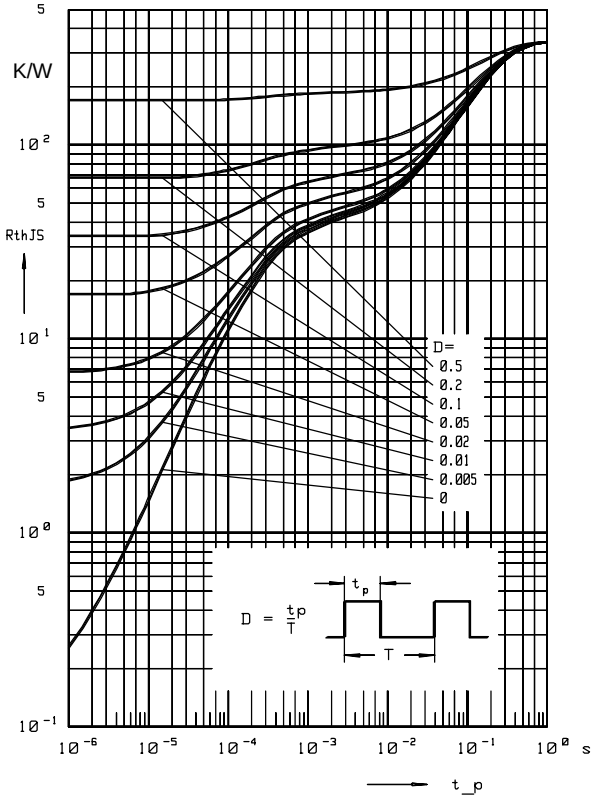
Permissible pulse load $R_{thJS} = f(t_p)$
BAR64



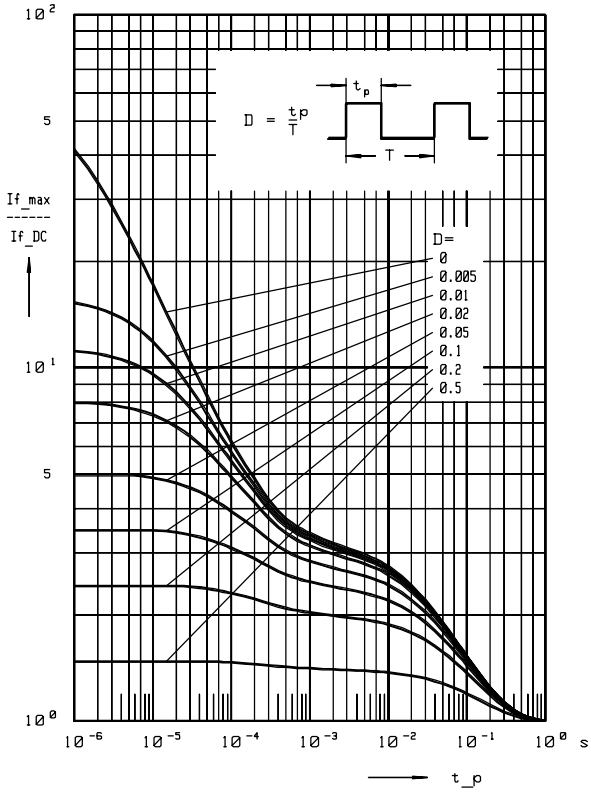
Permissible pulse load $I_{fmax}/I_{f\ DC}=f(t_p)$
BAR64



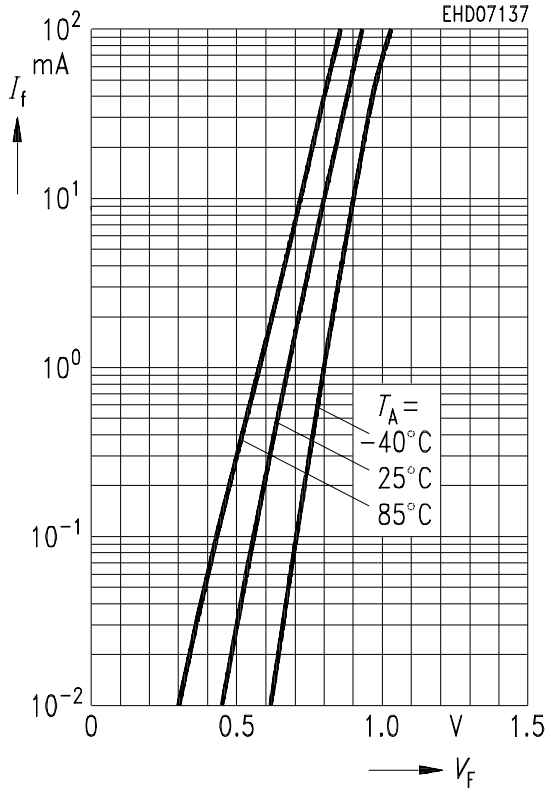
Permissible pulse load $R_{thJS}= f(t_p)$
BAR64-04,-05,-06



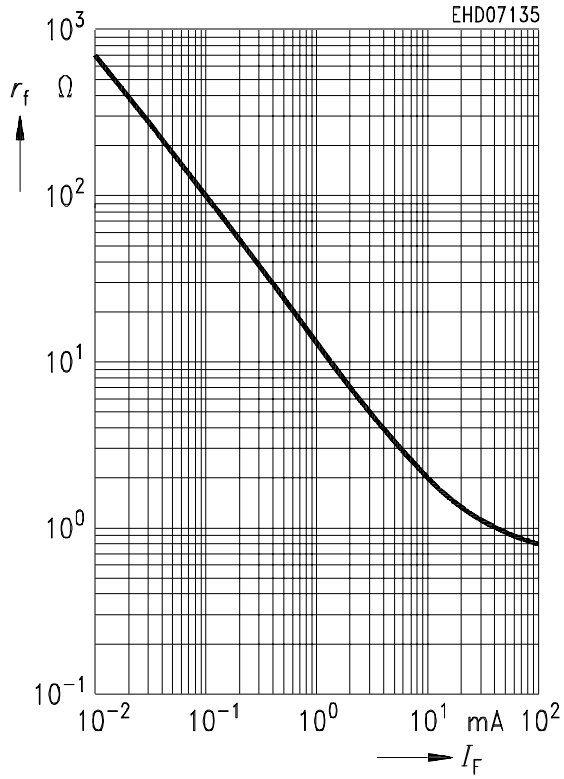
Permissible pulse load $I_{Fmax}/I_{FDC} = f(t_p)$
BAR64-04,-05,-06



Forward current $I_F = f(V_F)$



Forward resistance $r_f = f(I_F)$
f = 100 MHz



Diode capacitance $C_T = f(V_R)$
f = 1 MHz.