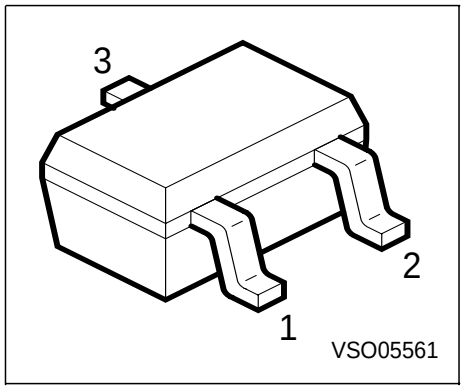
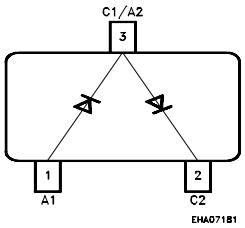
Silicon PIN Diode

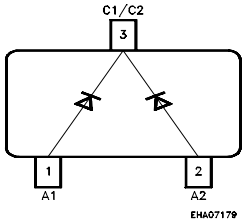
- High voltage current controlled
  RF resistor for RF attenuator and switches
- Frequency range above 1 MHz
- Low resistance and short carrier lifetime
- For frequencies up to 3 GHz



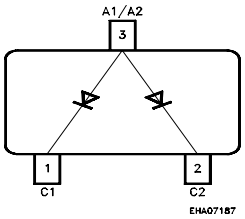
BAR 64-04W



BAR 64-05W



BAR 64-06W



Type	Marking	Ordering Code	Pin Configuration			Package
BAR 64-04W	PPs	Q62702-A1264	1 = A1	2 = C2	3=C1/A2	SOT-323
BAR 64-05W	PRs	Q62702-A1265	1 = A1	2 = C2	3 = C1/2	
BAR 64-06W	PSs	Q62702-A1266	1 = C1	2 = C2	3 = A1/2	

Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	200	V
Forward current	I_F	100	mA
Total power dissipation, $T_S \leq 115$ °C	P_{tot}	250	mW
Junction temperature	T_j	150	°C
Operating temperature range	T_{op}	- 55 ...+150	
Storage temperature	T_{stg}	- 55 ...+150	

Thermal Resistance

Junction - ambient 1)	R_{thJA}	≤ 300	K/W
Junction - soldering point	R_{thJS}	≤ 140	

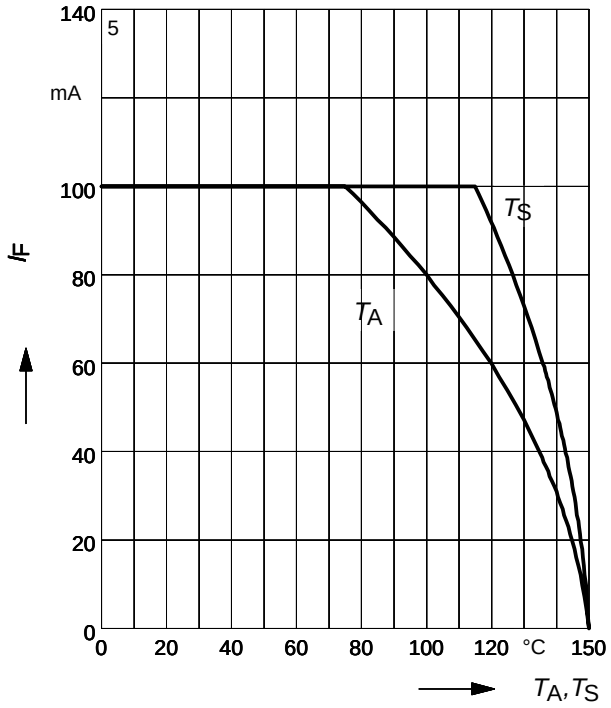
1) Package mounted on alumina 15mm x 16.7mm x 0.7mm

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

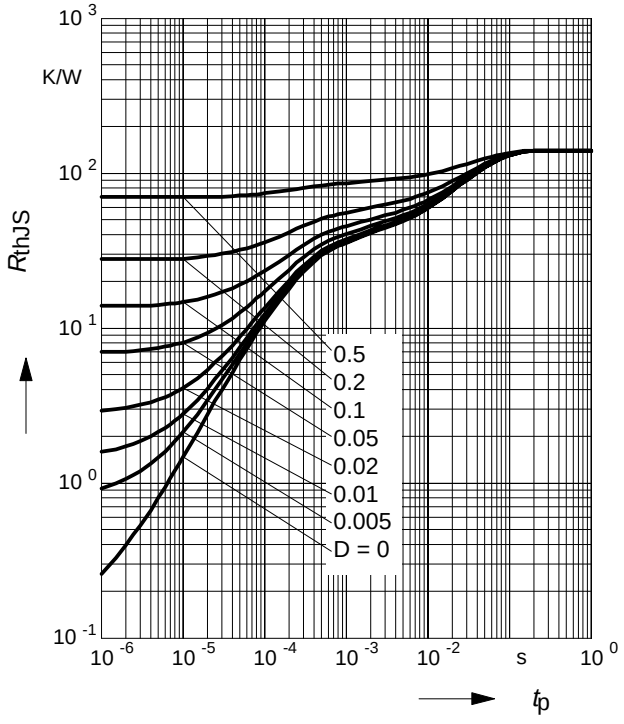
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Breakdown voltage $I_{(BR)}$ = 5 µA	$V_{(BR)}$	200	-	-	V
Reverse current V_R = 20 V	I_R	-	-	50	µA
Forward voltage I_F = 50 mA	V_F	-	-	1.1	mV
AC characteristics					
Diode capacitance V_R = 20 V, f = 1 MHz	C_T	-	0.23	0.35	pF
Forward resistance	r_f				Ω
I_F = 1 mA, f = 100 MHz		-	12.5	20	
I_F = 10 mA, f = 100 MHz		-	2.1	2.8	
I_F = 100 mA, f = 100 MHz		-	0.85	1.35	
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	-	1.2	-	nH

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

* mounted on alumina

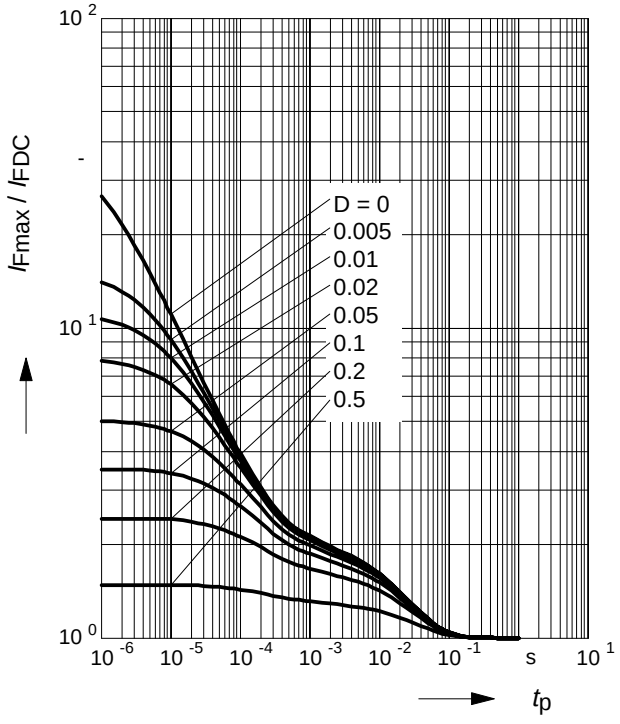


Permissible Pulse Load $R_{thJS} = f(t_p)$



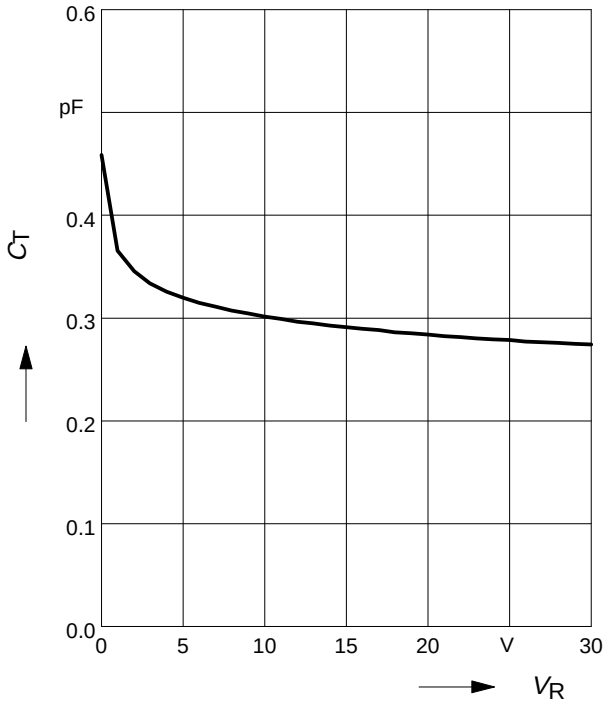
Permissible Pulse Load

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



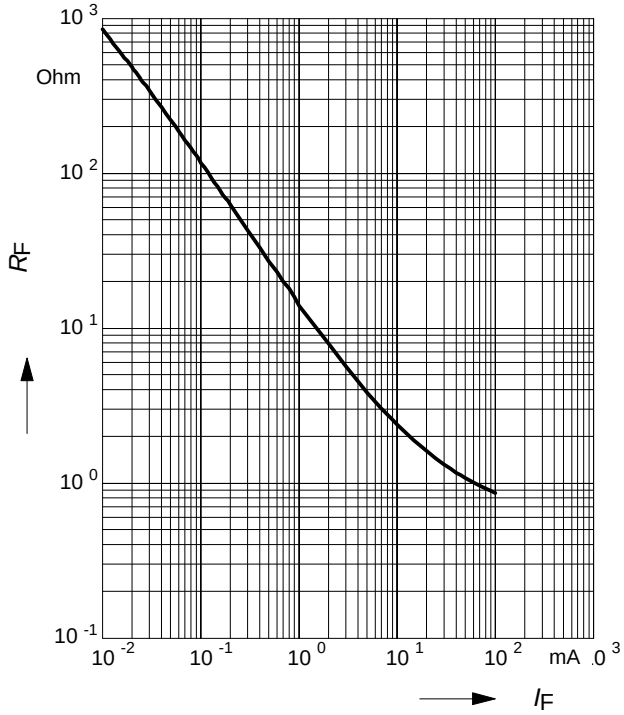
Diode capacitance $C_T = f(V_R)$

f = 1MHz



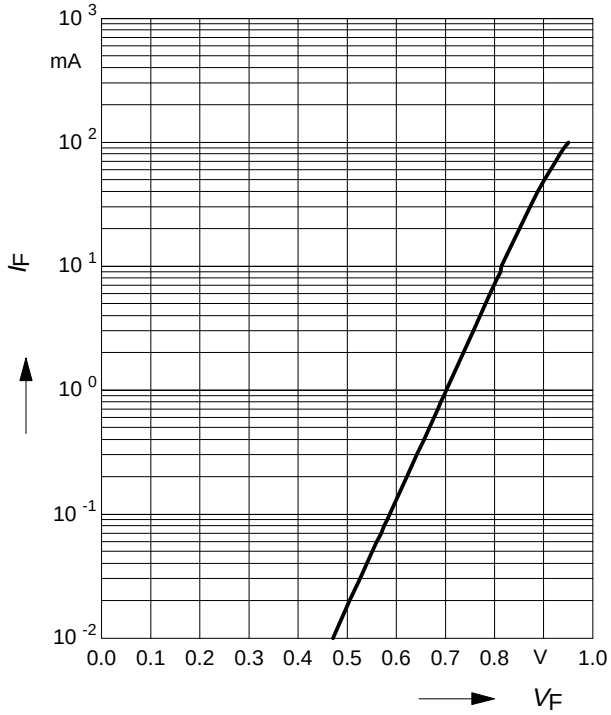
Forward resistance $r_f = f(I_F)$

f = 100MHz



Forward current $I_F = f(V_F)$

T_A = parameter



Intermodulation intersept point

$IP_3 = f(I_F)$

f = parameter