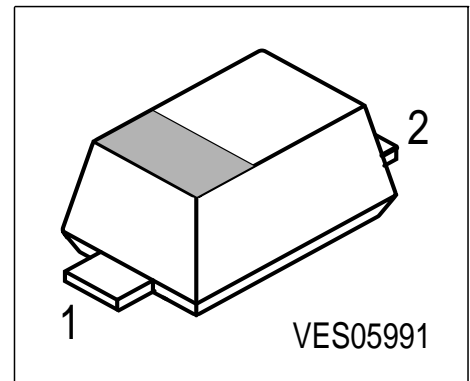## Silicon PIN Diode

- PIN diode for high speed switching of RF signals
- Low forward resistance, small capacitance small inductance
- Very low capacitance
- For frequencies up to 3 GHz

VES05991

Type	Marking	Ordering Code	Pin Configuration		Package
BAR 63-02W	G	Q62702-A1211	1 = C	2 = A	SCD-80

Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	50	V
Forward current	I_F	100	mA
Total power dissipation, $T_S = 115\ °C$	P_{tot}	250	mW
Junction temperature	T_j	150	°C
Operating temperature range	T_{op}	-55 ...+150	°C
Storage temperature	T_{stg}	-55 ...+150	

Thermal Resistance

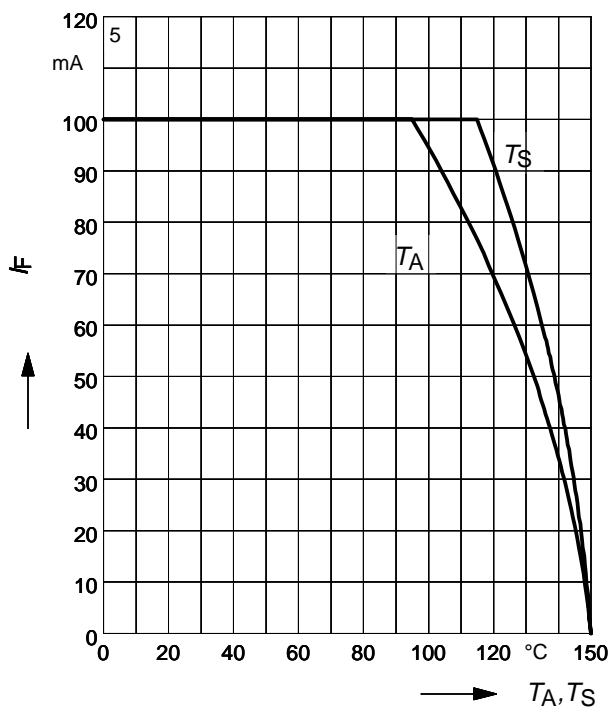|			
Junction - ambient [1]	R_{thJA}	≤ 220	K/W
Junction - soldering point	R_{thJS}	≤ 140	

[1] Package mounted on alumina 15mm x 16.7mm x 0.7mm

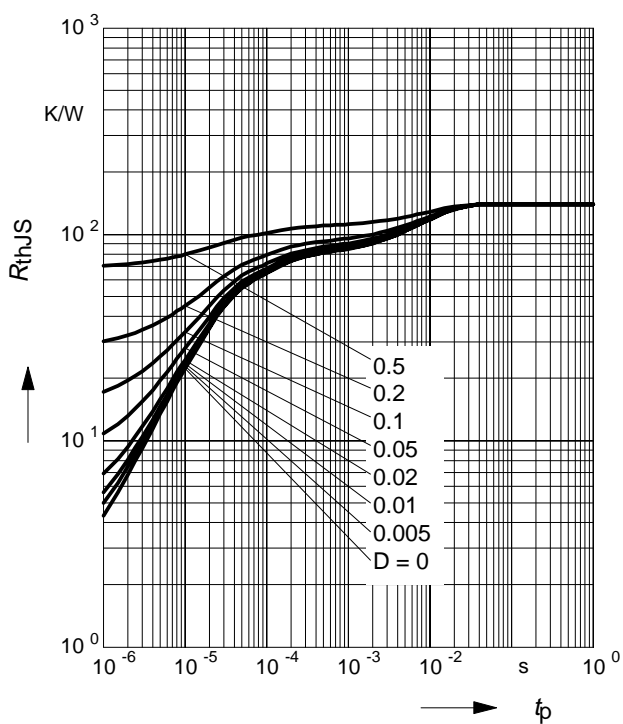**Electrical Characteristics** at $T_A = 25$ =C, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Breakdown voltage $I_{(BR)} = 5$ µA	$V_{(BR)}$	50	-	-	V
Reverse current $V_R = 35$ V	I_R	-	-	10	µA
Forward voltage $I_F = 100$ mA	V_F	-	0.95	1.2	V
AC characteristics					
Diode capacitance $V_R = 0$ V, $f = 100$ MHz $V_R = 5$ V, $f = 1$ MHz	C_T	- -	0.3 0.21	- 0.3	pF
Case capacitance $f = 1$ MHz	C_C	-	0.09	-	
Forward resistance $I_F = 5$ mA, $f = 100$ MHz $I_F = 10$ mA, $f = 100$ MHz	r_f	- -	1.2 1	2 -	Ω
Charge carrier life time $I_F = 10$ mA, $I_R = 6$ mA, $I_R = 3$ mA	τ_{rr}	-	75	-	µs
Series inductance	L_s	-	0.6	-	nH

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

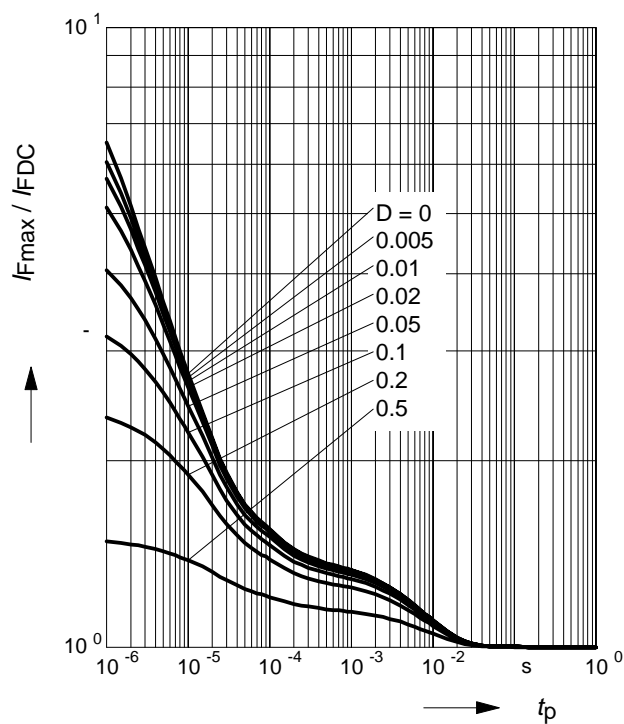*): mounted on alumina 15mm x 16.7mm x 0.7mm

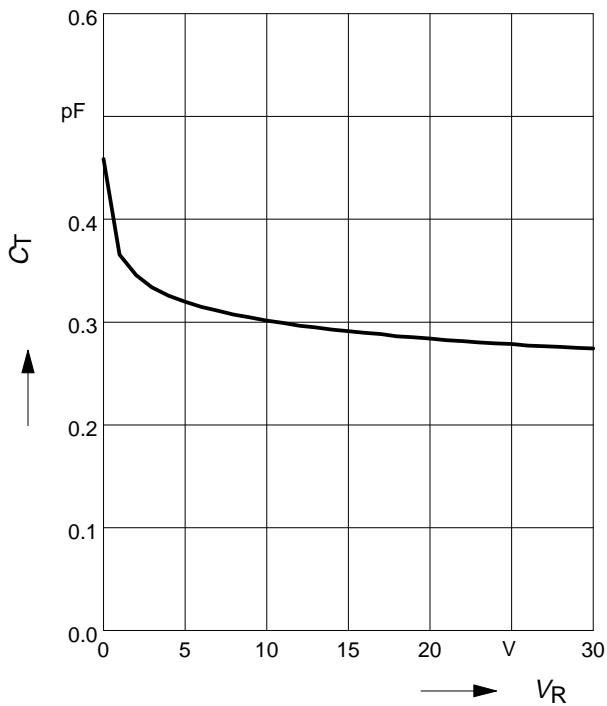**Permissible Pulse Load** $R_{thJS} = f(t_p)$

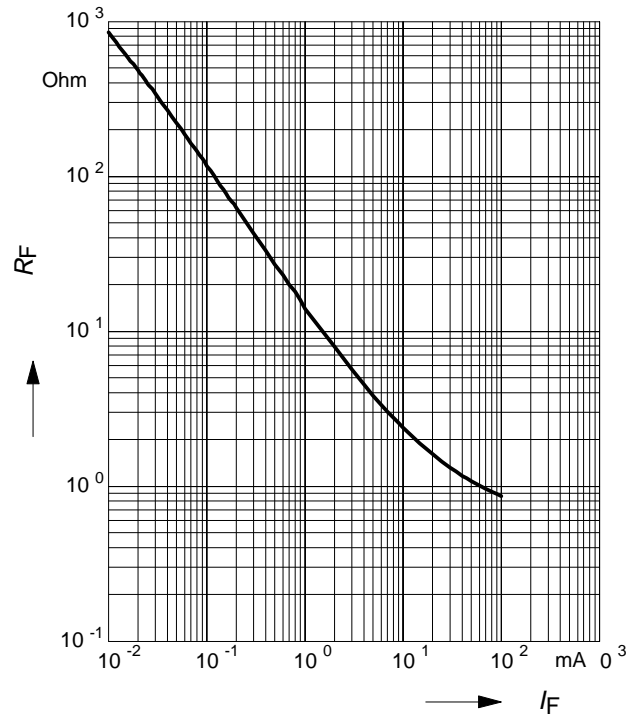**Permissible Pulse Load**

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

Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$

Forward resistance $r_f = f(I_F)$

$f = 100\text{MHz}$

Forward current $I_F = f(V_F)$

$T_A = 25°C$