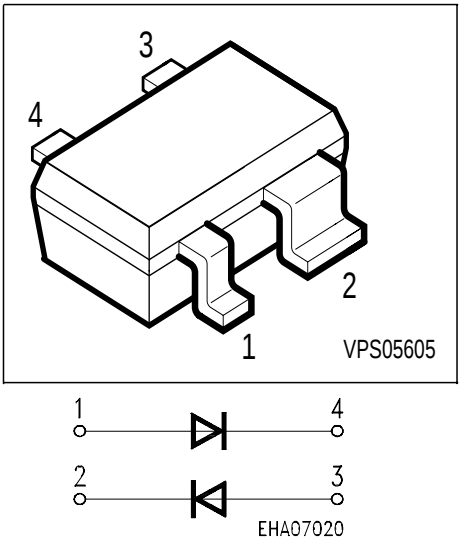


Silicon RF Switching Diode

Preliminary data

- Design for use in shunt configuration
- High shunt signal isolation
- Low shunt insertion loss



Type	Marking	Ordering Code	Pin Configuration				Package
BAR 81W	BBs	Q62702-A1270	1 = A1	2 = C2	3 = A2	4 = C1	SOT-343

Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	30	V
Forward current	I_F	100	mA
Total power dissipation, $T_S = 138\text{ °C}$	P_{tot}	100	mW
Junction temperature	T_j	150	°C
Operating temperature range	T_{op}	-55 ... +125	°C
Storage temperature	T_{stg}	-55 ... +150	

Thermal Resistance

Junction - ambient ¹⁾	R_{thJA}	≤ 200	K/W
Junction - soldering point	R_{thJS}	≤ 120	

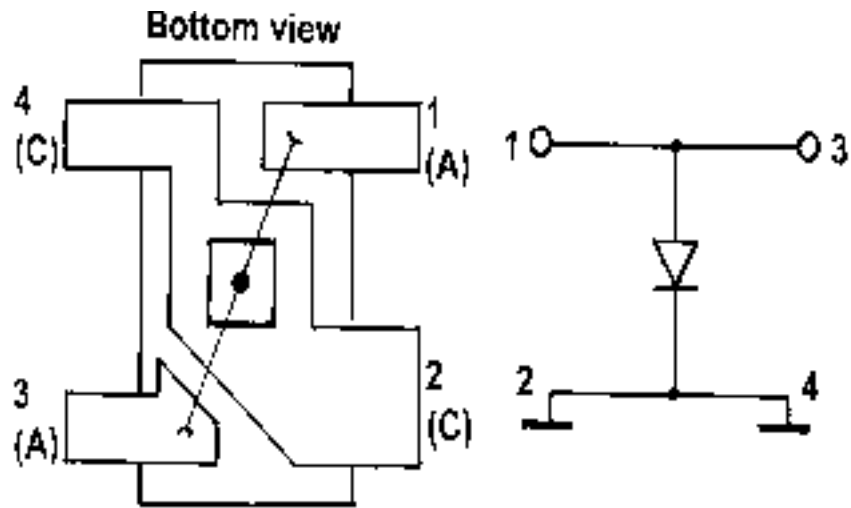
1) Package mounted on alumina 15mm x 16.7mm x 0.7mm

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Characteristics					
Reverse current $V_R = 20\text{ V}$	I_R	-	-	20	nA
Forward voltage $I_F = 100\text{ mA}$	V_F	-	0.93	1	V
AC characteristics					
Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 3\text{ V}, f = 1\text{ MHz}$	C_T	- -	0.6 0.57	- -	pF
Forward resistance $I_F = 5\text{ mA}, f = 100\text{ MHz}$	r_f	-	0.7	-	Ω
Series inductance	L_S	-	0.15	-	nH

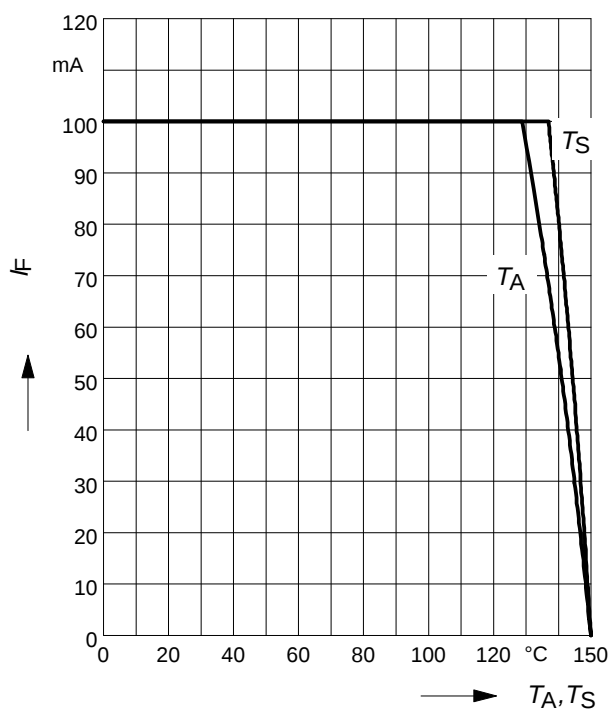
Configuration of the shunt-diode

- A perfect ground is essential for optimum isolation
- The anode pins should be used as passage for RF

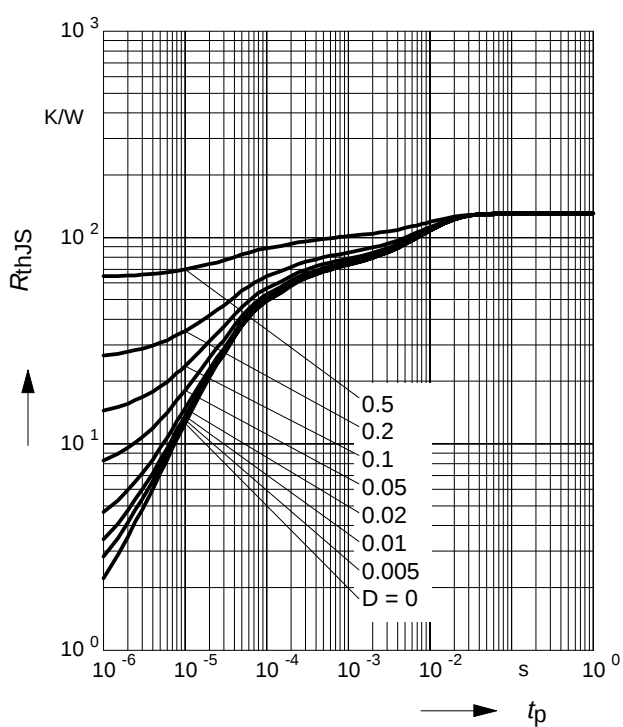


Forward current $I_F = f(T_A^*; T_S)$

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

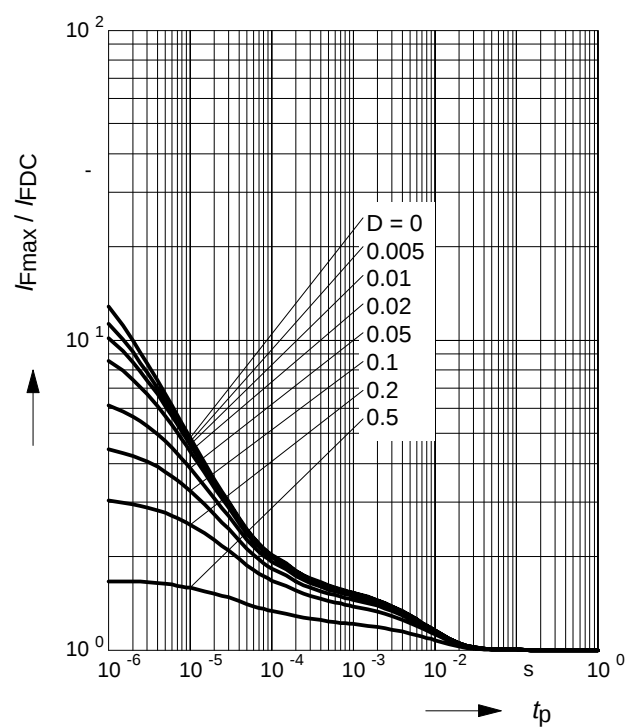


Permissible Pulse Load $R_{thJS} = f(t_p)$



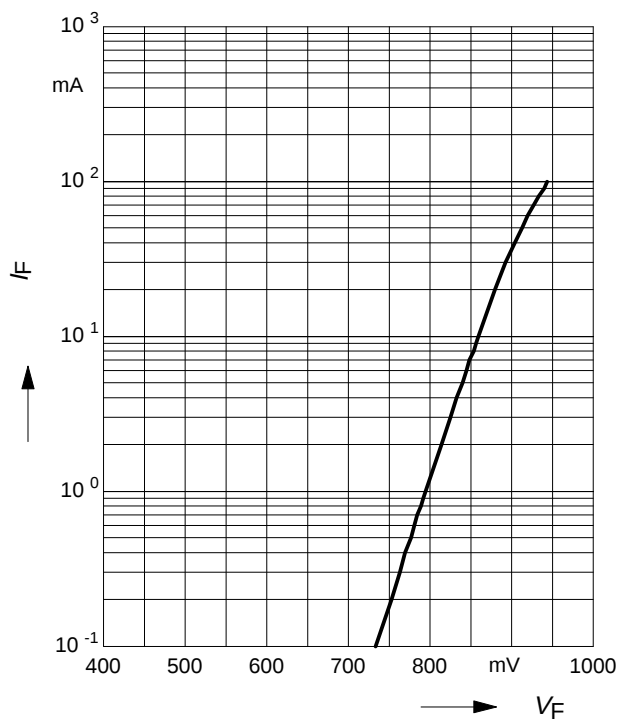
Permissible Pulse Load

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



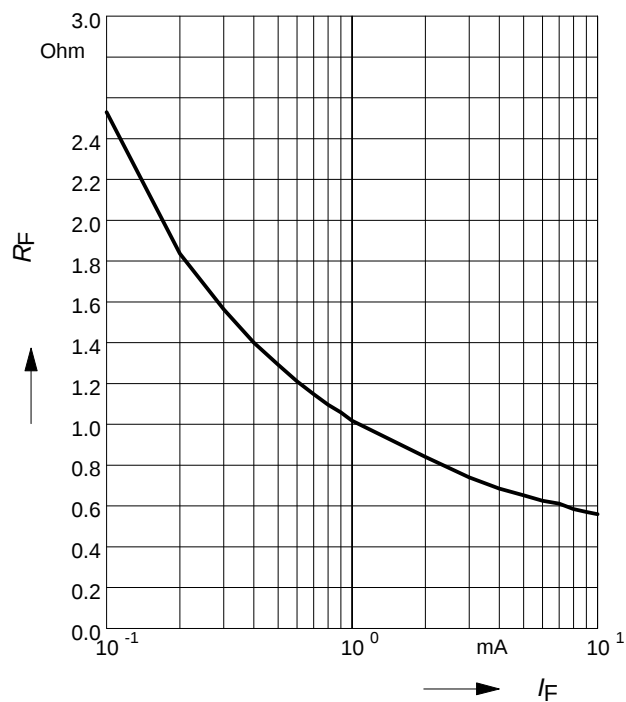
Forward current $I_F = f(V_F)$

$T_A = 25^\circ\text{C}$



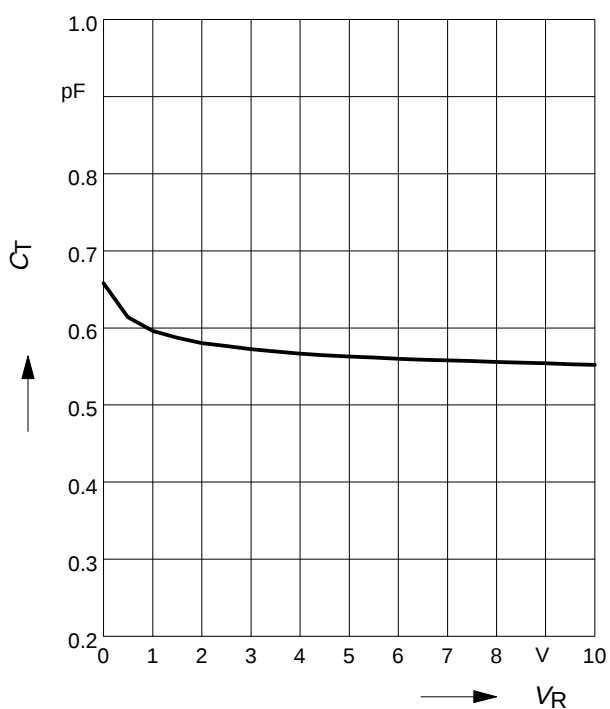
Forward resistance $r_f = f(I_F)$

$f = 100\text{MHz}$



Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



Diode capacitance $C_T = f(V_R)$

$f = 100\text{MHz}$

