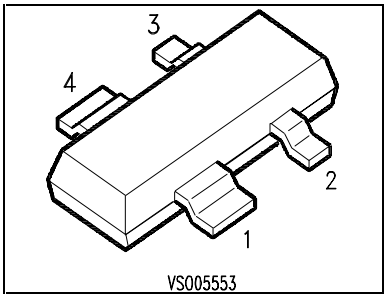
Silicon RF Switching Diode

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



Type	Marking	Ordering code (tape and reel)	Pin configuration 1	2	3	4	Package [1]
BAR 80	AAs	Q62702-A1084	C	A	C	A	MW-4

Maximum ratings

Parameter	Symbol	BAR 80	Unit
Reverse voltage	V_R	35	V
Forward current	I_F	100	mA
Operating temperature range	T_{op}	-55...+125	°C
Storage temperature range	T_{stg}	-55...+150	°C

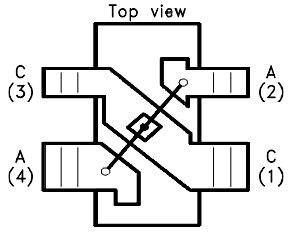
1) Package mounted on alumina 15mm x 16.7mm x 0.7mm

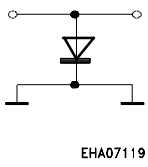
Electrical characteristics

at T_A = 25 °C, unless otherwise specified.

Parameter	Symbol	Value			Unit
		min.	typ.	max.	
Reverse current V_R = 20 V	I_R	- -	- -	- 20	nA
Forward voltage I_F = 100 mA	V_F	- -	- 0.92	- 1	V
Diode capacitance V_R = 1 V, f = 1 MHz V_R = 3 V, f = 1 MHz	C_T	- - 0.6	- 1 0.92	- 1.6 1.3	pF
Forward resistance f = 100MHz I_F = 5 mA	r_f	- -	- 0.5	- 0.7	Ω
Series inductance to ground	L_s	- -	- 0.14	- -	nH
Application information					
Shunt signal isolation I_F = 10 mA, f = 2 GHz, R_G = R_L = 50 Ω	-	- -	- 23	- -	dB
Shunt insertion loss V_R = 5 V, f = 2 GHz, R_G = R_L = 50 Ω	IL	- -	- 0.15	- -	dB

Configuration of the shunt-diode

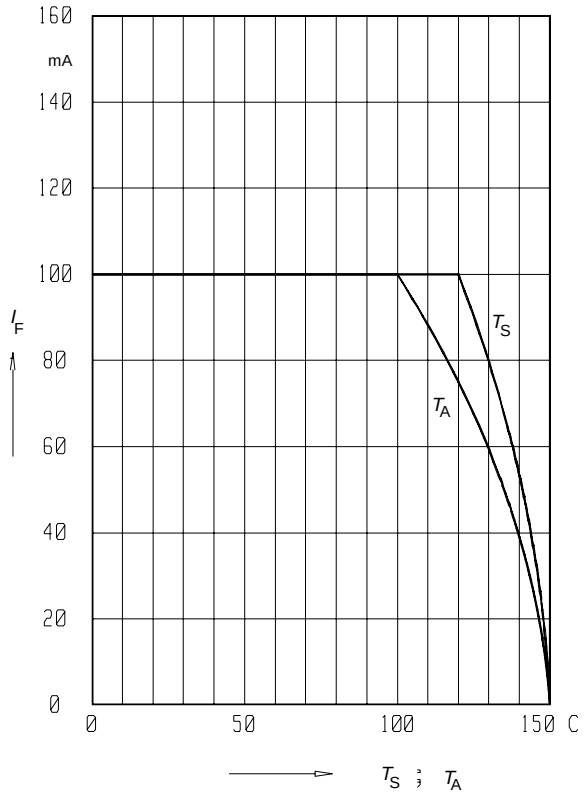




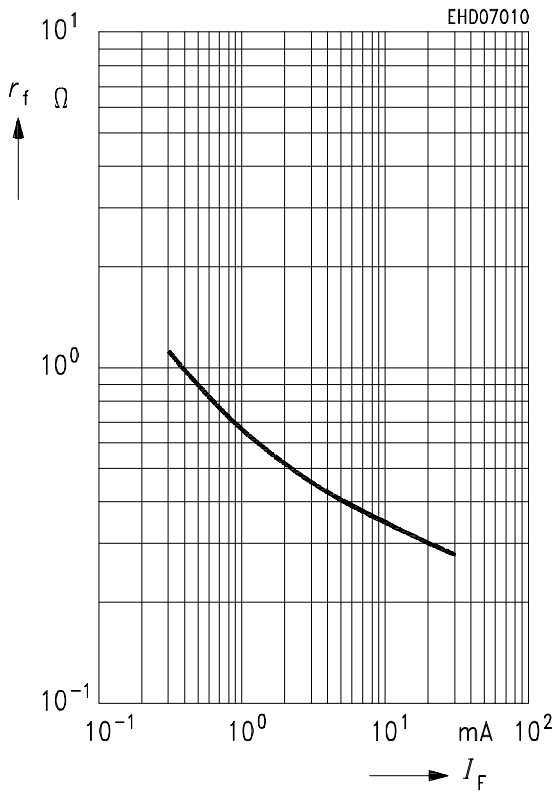
-A perfect ground is essential for optimum isolation

-The anode pins should be used as passage for RF

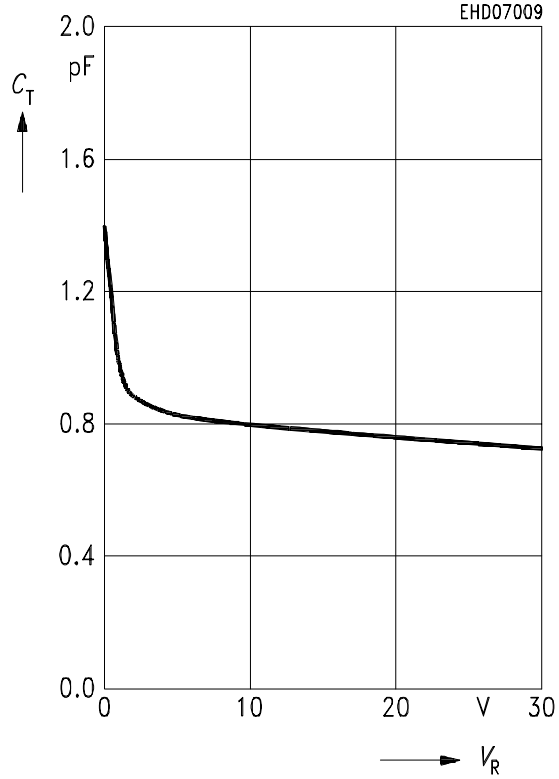
Forward current $I_F = f(T_S, T_A)$



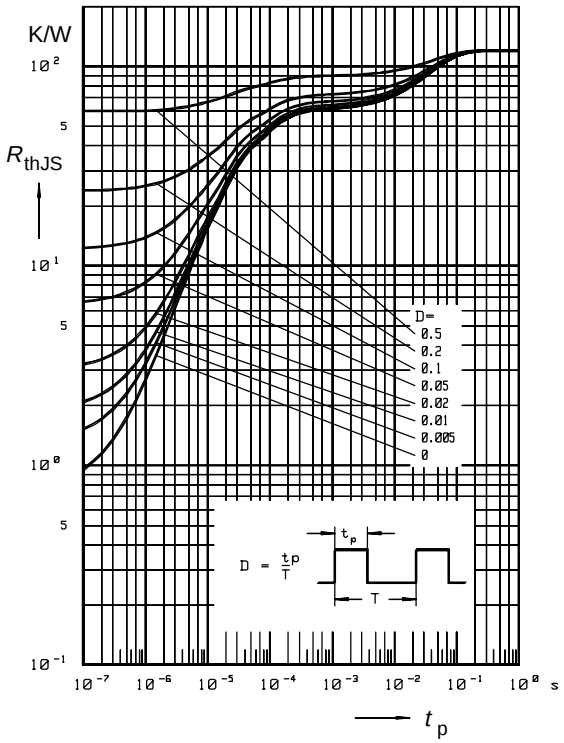
Forward resistance $r_f = (I_F)$
$f = 100$ MHz



Dioden capacitance $C_T = f(V_R)$
$f = 1$ MHz



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



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