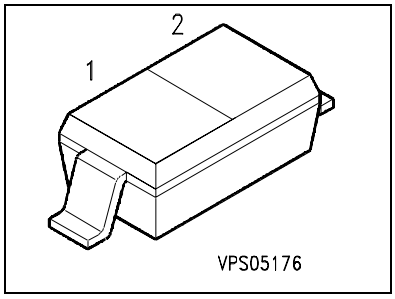
Silicon PIN Diode

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



Type	Marking	Ordering Code (tape and reel)	Pin Configuration 1		2	Package [1]
BAR 63-03W	G	Q62702-A1025	A		C	SOD-323

Maximum Ratings

Parameter	Symbol	BAR 63-03W	Unit
Reverse voltage	V_R	50	V
Forward current	I_F	100	mA
Total Power dissipation $T_S \leq 111°C$	P_{tot}	250	mW
Operating temperature range	T_{op}	-55 +150°C	°C
Storage temperature range	T_{stg}	-55...+150°C	°C

Thermal Resistance

Junction-ambient [1]	$R_{th\ JA}$	≤ 235	K/W
Junction-soldering point	$R_{th\ JS}$	≤ 155	K/W

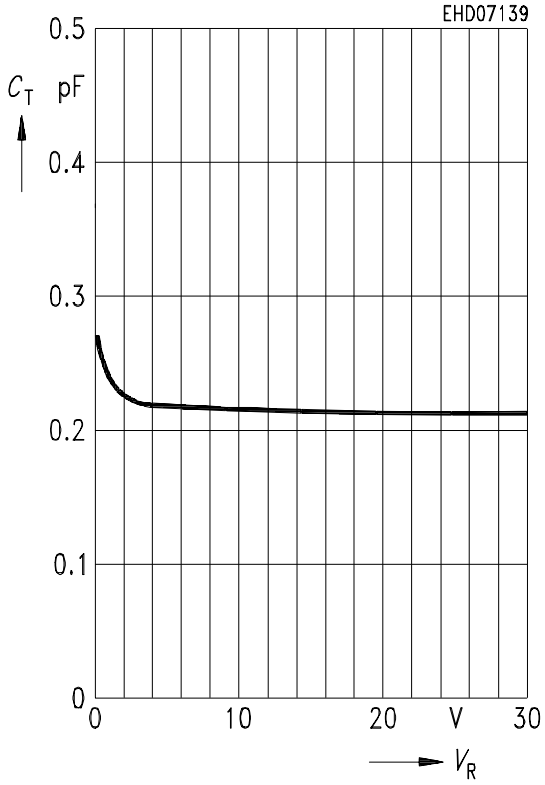
1)Package mounted on alumina 15mm x 16.7mm x 0.7mm

Electrical Characteristics

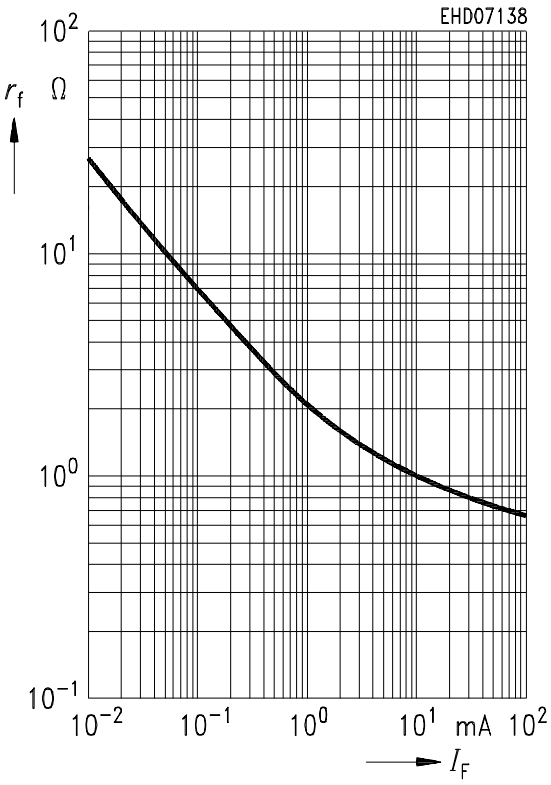
at T_A = 25 °C, unless otherwise specified.

Parameter	Symbol	Value			Unit
		min.	typ.	max.	
DC Characteristics					
Breakdown voltage I_R = 5 µA	$V_{(BR)}$	50	-	-	V
Reverse leakage V_R = 20 V	I_R	-	-	50	nA
Forward voltage I_F = 100 mA	V_F	-	0.95	1.2	V
Diode capacitance V_R = 0 V, f = 100 MHz	C_T	-	0.3	-	pF
Diode capacitance V_R = 5 V, f = 1 MHz	C_T	-	0.21	0.3	pF
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 lifetime I_F = 10 mA, I_R = 6 mA, I_R = 3 mA	τ_L	-	75	-	ns
Series inductance	L_S	-	2.0	-	nH

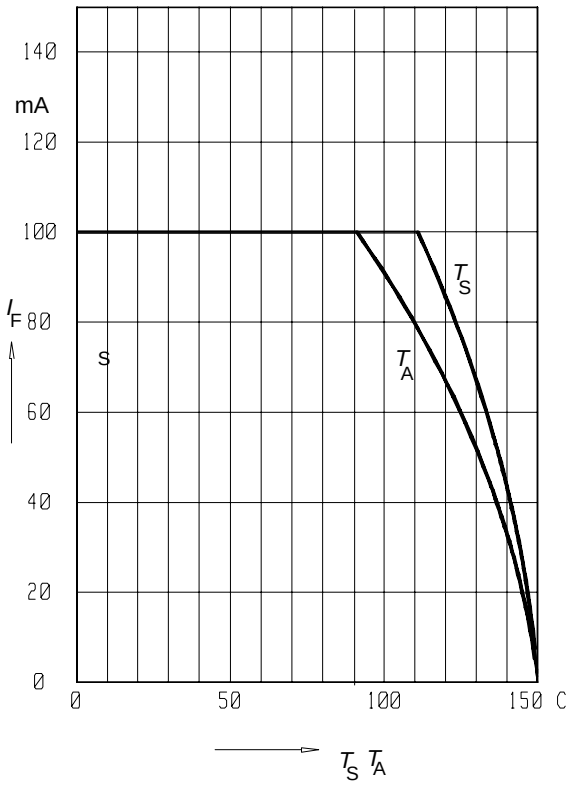
Diode capacitance $C_T = f(V_R)$
f = 1 MHz



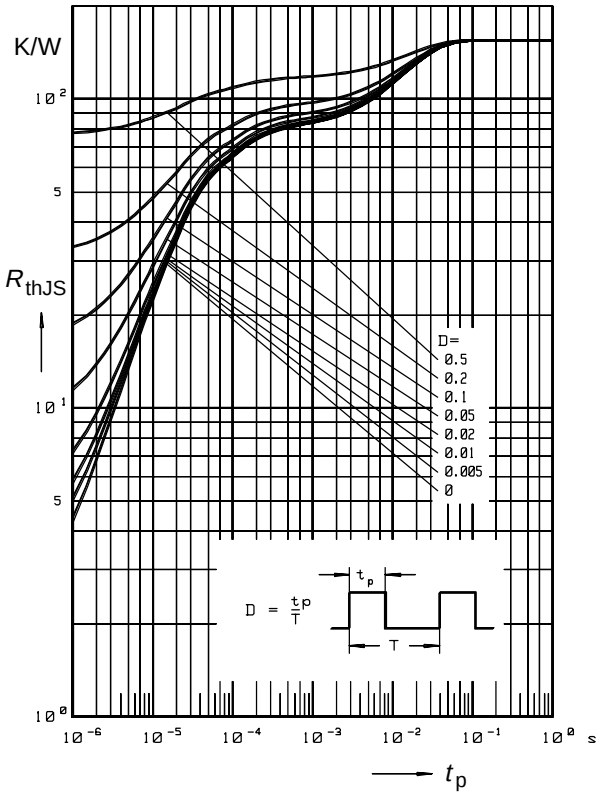
Forward resistance $r_f = f(I_F)$
f = 100 MHz



Forward current $I_F = f(T_A{*}T_S)$



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



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