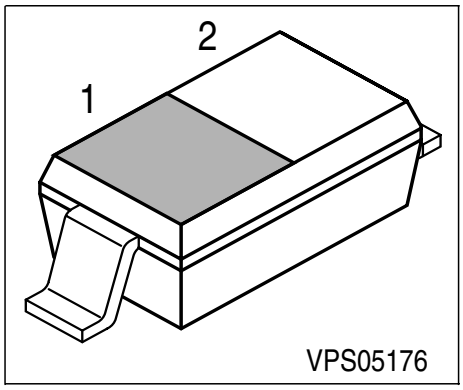
Silicon PIN Diode

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



Type	Marking	Pin Configuration		Package
BAR 63-03W	G	1 = C	2 = A	SOD-323

Maximum Ratings

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

Thermal Resistance

Junction - ambient [1)]	R_{thJA}	≤ 235	K/W
Junction - soldering point	R_{thJS}	≤ 155	

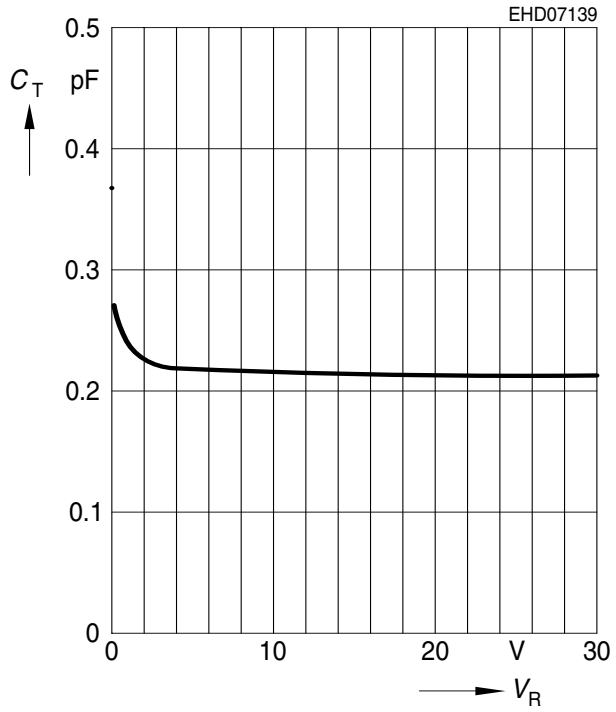
1) Package mounted on alumina 15mm x 16.7mm x 0.7mm

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 = 20 V	I_R	-	-	50	nA
Forward voltage I_F = 100 mA	V_F	-	0.95	1.2	V
AC characteristics					
Diode capacitance	C_T				pF
V_R = 0 V, f = 100 MHz		-	0.3	-	
V_R = 5 V, f = 1 MHz		-	0.21	0.3	
Forward resistance	r_f				Ω
I_F = 5 mA, f = 100 MHz		-	1.2	2	
I_F = 10 mA, f = 100 MHz		-	1	-	
Charge carrier life time I_F = 10 mA, I_R = 6 mA, I_R = 3 mA	τ_{rr}	-	75	-	ns
Series inductance	L_s	-	2	-	nH

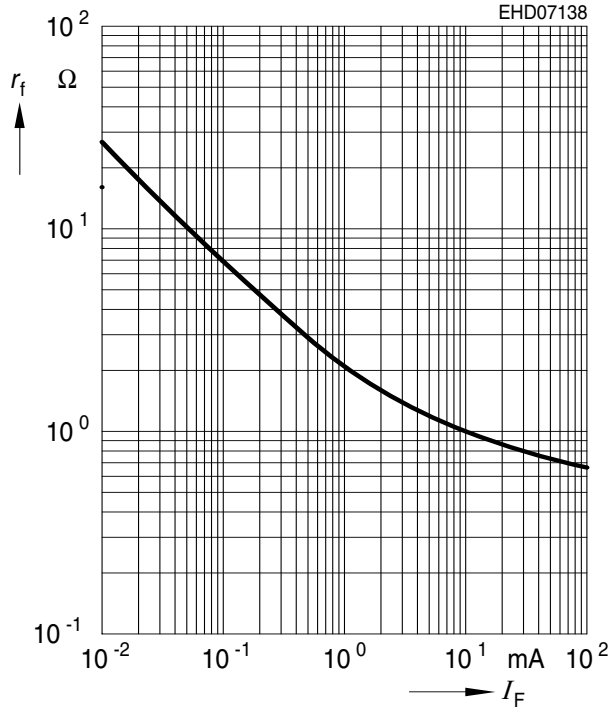
Diode capacitance $C_T = f(V_R)$

f = 1MHz



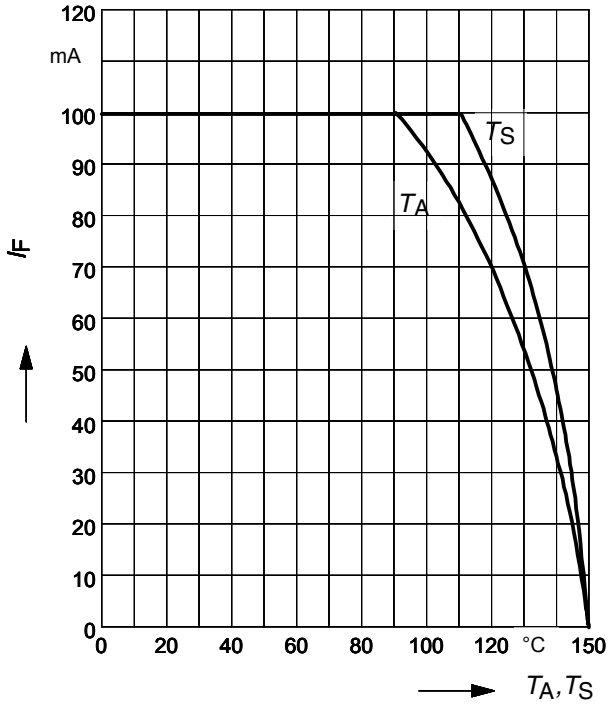
Forward resistance $r_f = f(I_F)$

f = 100MHz

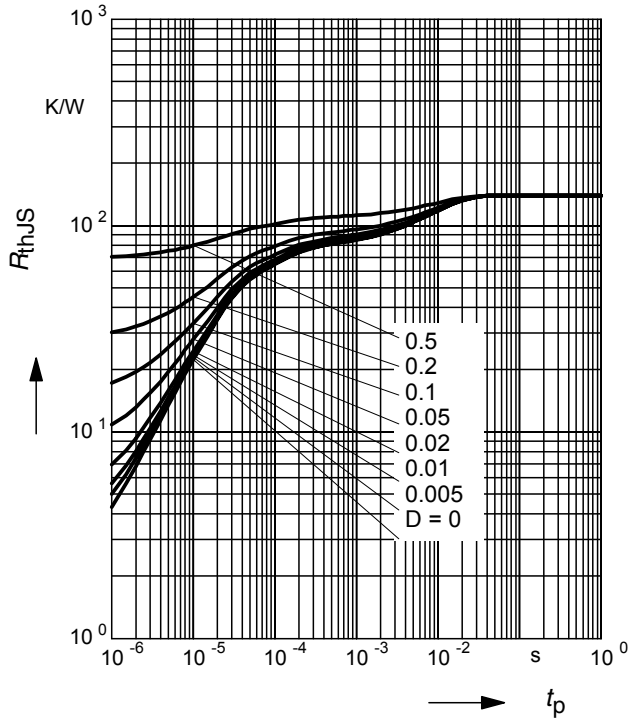


Forward current $I_F = f(T_A^*; T_S)$

* mounted on alumina



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



Permissible Pulse Load

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