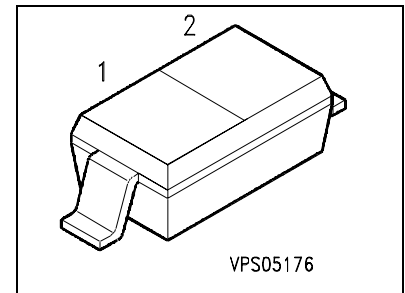


Silicon PIN Diode

- 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			Package ¹⁾
			1		2	
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 $T_S \leq 111^\circ\text{C}$	P_{tot}	250	mW
Operating temperature range	T_{op}	-55 +150°C	°C
Storage temperature range	T_{stg}	-55...+150°C	°C

Thermal Resistance

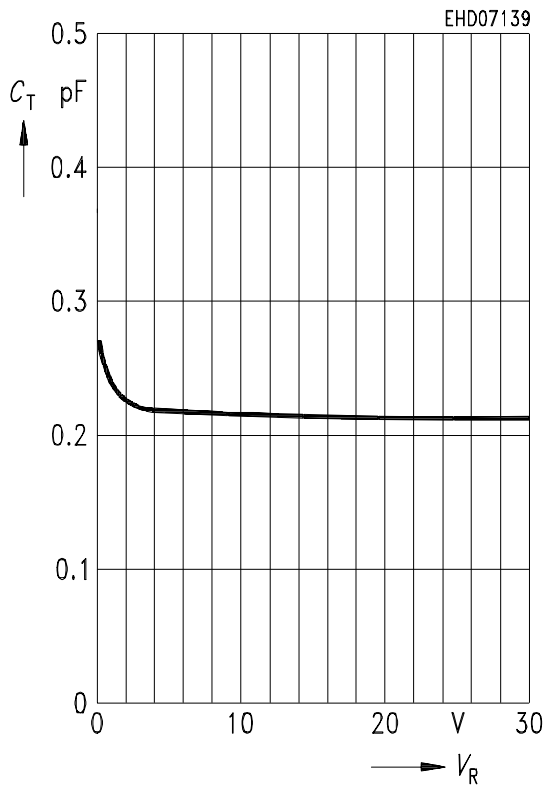
Junction-ambient ¹⁾	$R_{th JA}$	≤ 235	K/W
Junction-soldering point	$R_{th JS}$	≤ 155	K/W

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

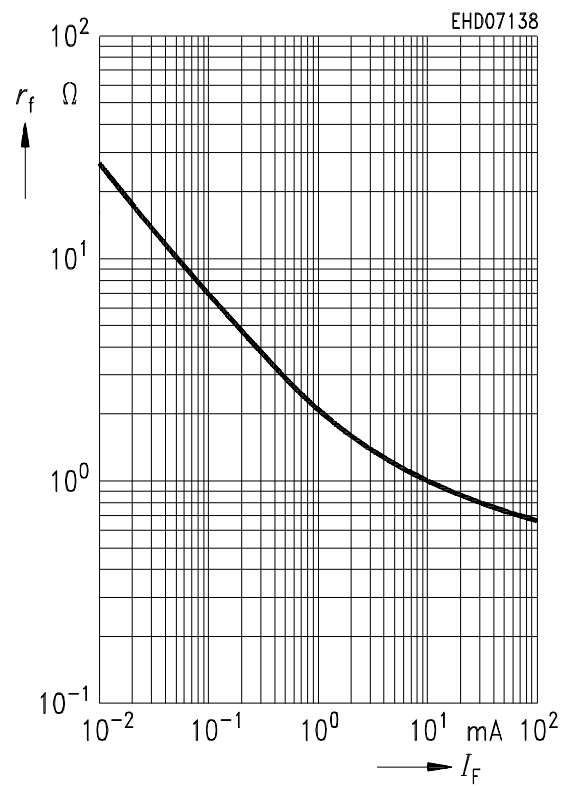
Electrical Characteristicsat $T_A = 25\text{ °C}$, unless otherwise specified.

Parameter	Symbol	Value			Unit
		min.	typ.	max.	
DC Characteristics					
Breakdown voltage $I_R = 5\ \mu\text{A}$	$V_{(BR)}$	50	-	-	V
Reverse leakage $V_R = 20\ \text{V}$	I_R	-	-	50	nA
Forward voltage $I_F = 100\ \text{mA}$	V_F	-	0.95	1.2	V
Diode capacitance $V_R = 0\ \text{V}, f = 100\ \text{MHz}$	C_T	-	0.3	-	pF
Diode capacitance $V_R = 5\ \text{V}, f = 1\ \text{MHz}$	C_T	-	0.21	0.3	pF
Forward resistance $I_F = 5\ \text{mA}, f = 100\ \text{MHz}$ $I_F = 10\ \text{mA}, f = 100\ \text{MHz}$	r_f	-	1.2 1	2 -	Ω
Charge carrier lifetime $I_F = 10\ \text{mA}, I_R = 6\ \text{mA}, I_R = 3\ \text{mA}$	τ_L	-	75	-	ns
Series inductance	L_s	-	2.0	-	nH

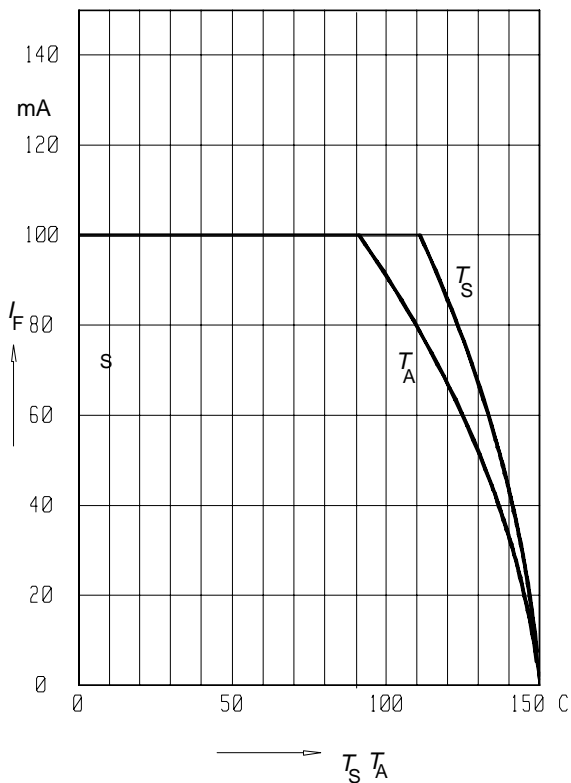
Diode capacitance $C_T = f(V_R)$
 $f = 1 \text{ MHz}$



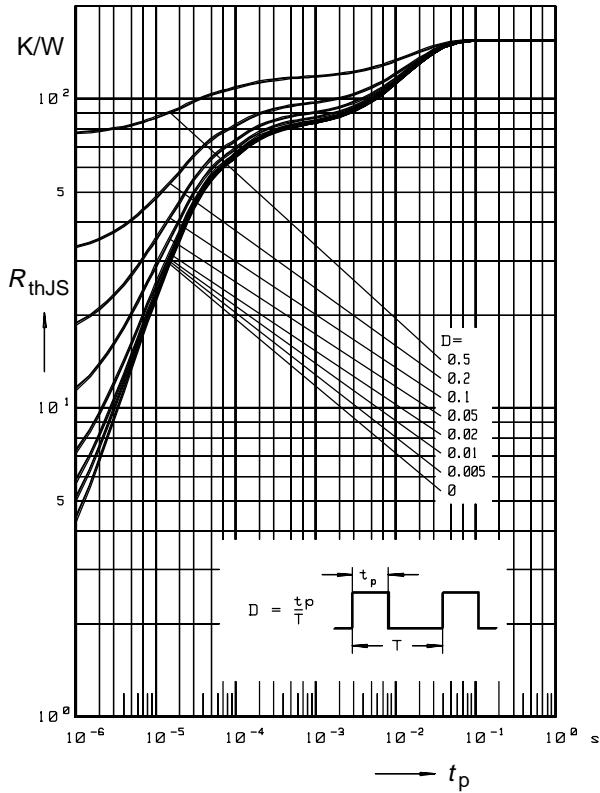
Forward resistance $r_f = f(I_F)$
 $f = 100 \text{ MHz}$



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



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



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

