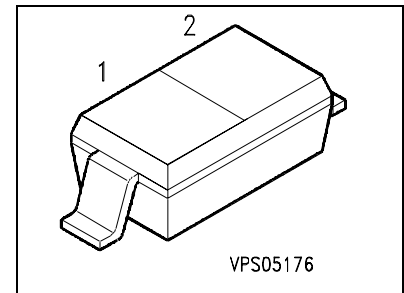


### Silicon PIN Diode

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

### Thermal Resistance

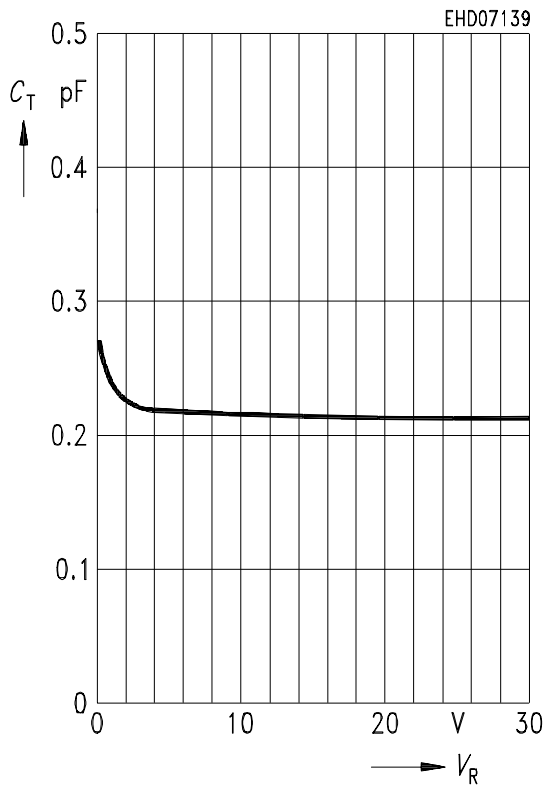
Junction-ambient <sup>1)</sup>	$R_{\text{th JA}}$	$\leq 235$	K/W
Junction-soldering point	$R_{\text{th JS}}$	$\leq 155$	K/W

<sup>1)</sup>Package mounted on alumina 15mm x 16.7mm x 0.7mm

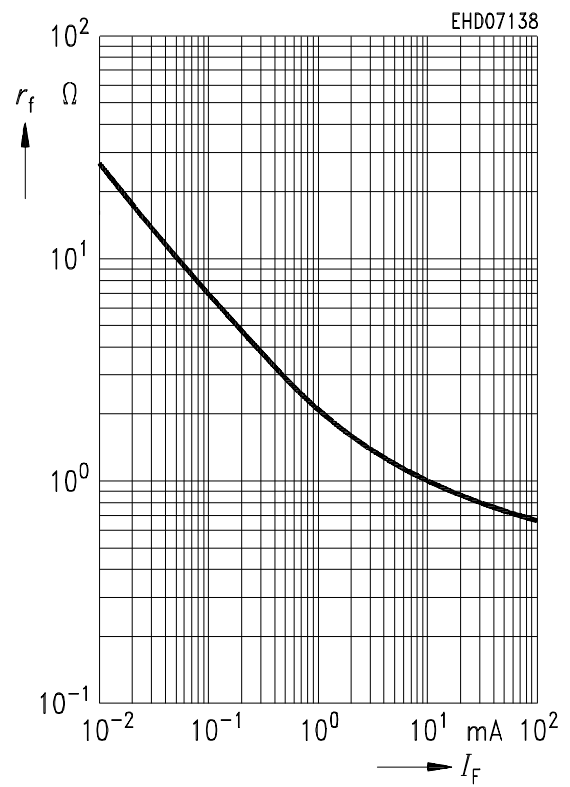
**Electrical Characteristics**at  $T_A = 25\text{ °C}$ , unless otherwise specified.

Parameter	Symbol	Value			Unit
		min.	typ.	max.	
<b>DC Characteristics</b>					
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 -	$\Omega$
Charge carrier lifetime $I_F = 10\ \text{mA}, I_R = 6\ \text{mA}, I_R = 3\ \text{mA}$	$\tau_L$	-	75	-	ns
Series inductance	$L_s$	-	2.0	-	nH

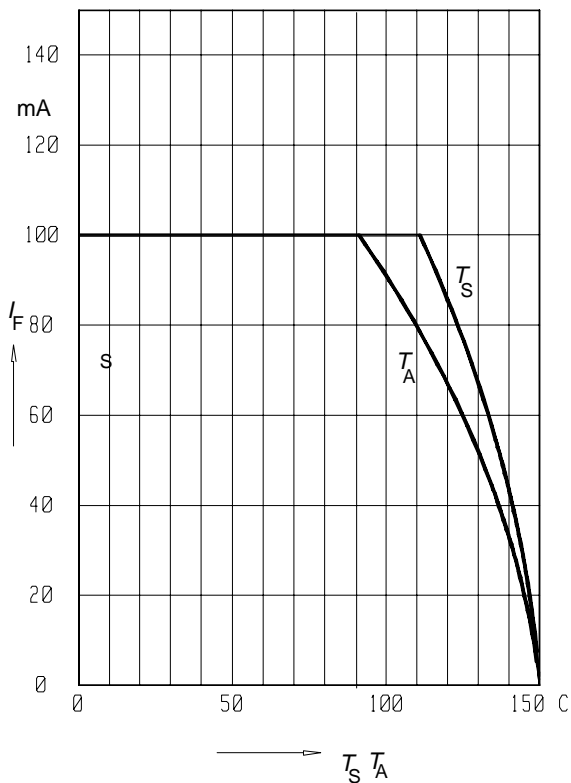
**Diode capacitance  $C_T = f(V_R)$**   
 $f = 1 \text{ MHz}$



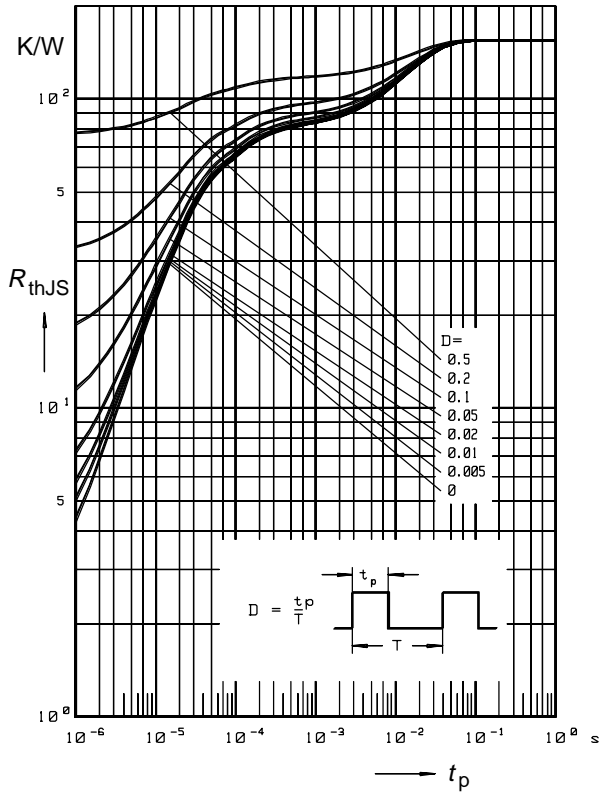
**Forward resistance  $r_f = f(I_F)$**   
 $f = 100 \text{ MHz}$



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



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



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

