

Silicon PIN Diodes

- PIN diode for high speed switching of RF signals
- Very low forward resistance (low insertion loss)
- Very low capacitance (high isolation)
- For frequencies up to 3GHz

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Top View
Marking Code: "G"
Simplified outline SOD-523 and symbol

Absolute Maximum Ratings ($T_a = 25\text{ }^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Reverse Voltage	V_R	50	V
Forward Current	I_F	100	mA
Power Dissipation	P_D	200	mW
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Operating Temperature Range	T_{op}	- 55 to + 125	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^{\circ}\text{C}$

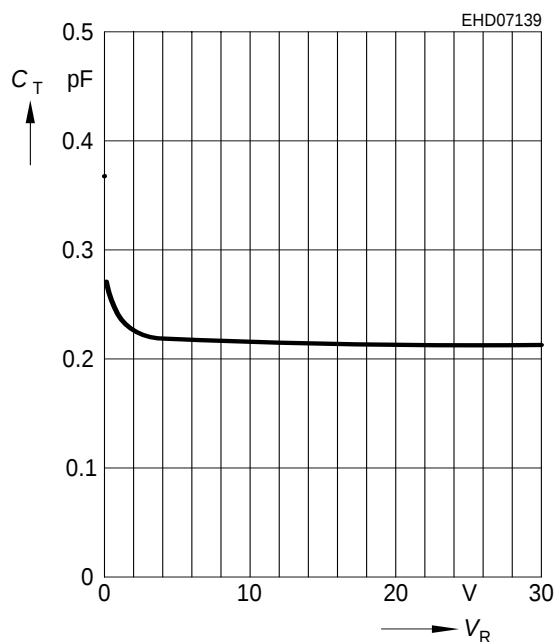
Characteristics at $T_a = 25\text{ }^{\circ}\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
Breakdown Voltage at $I_R = 10\text{ }\mu\text{A}$	$V_{(BR)}$	50	-	-	V
Reverse Current at $V_R = 35\text{ V}$	I_R	-	-	20	nA
Forward Voltage at $I_F = 100\text{ mA}$	V_F	-	-	1.2	V
Diode Capacitance at $V_R = 5\text{ V}$, $f = 1\text{ MHz}$ at $V_R = 0\text{ V}$, $f = 100\text{ MHz}$	C_T	- -	- 0.3	0.5 -	pF
Charge carrier life time at $I_F = 5\text{ mA}$, $f = 100\text{ MHz}$ at $I_F = 10\text{ mA}$, $f = 100\text{ MHz}$	τ_f	- -	- 1	2 -	Ω
Forward Resistance at $I_F = 10\text{ mA}$, $I_f = 6\text{ mA}$, measured at $I_R = 3\text{ mA}$, $R_L = 100\text{ }\Omega$	t_{rr}	-	75	-	ns
Series Inductance	L_s	-	0.6	-	nH



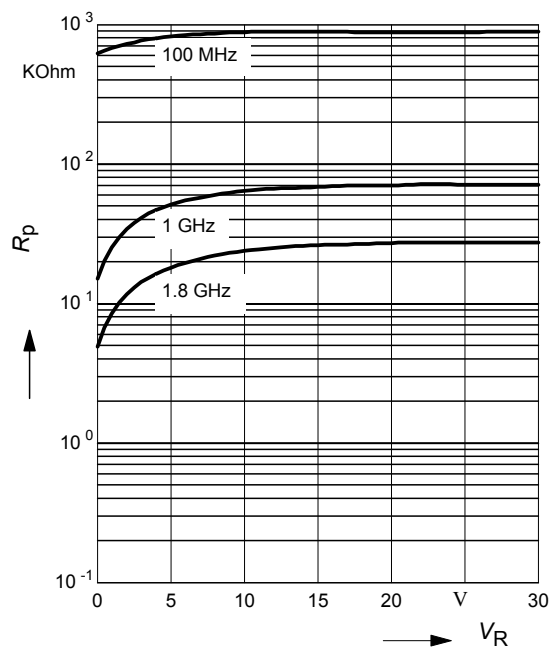
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz} - 1.8\text{GHz}$



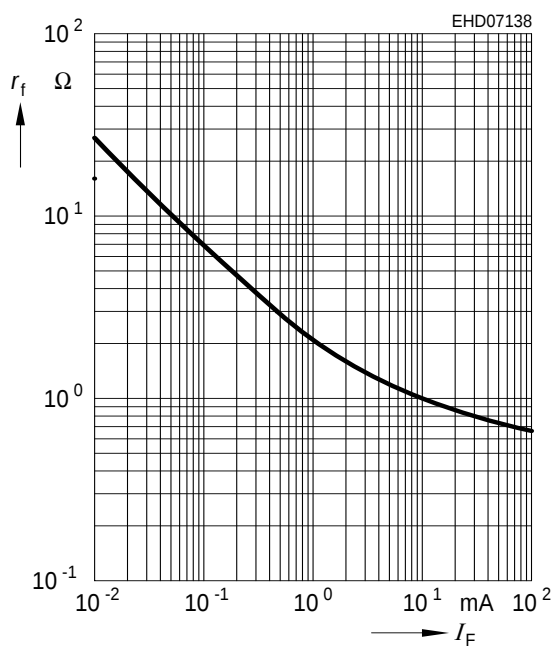
Reverse parallel resistance $R_P = f(V_R)$

$f = \text{Parameter}$



Forward resistance $r_f = f(I_F)$

$f = 100\text{MHz}$



Forward current $I_F = f(V_F)$

$T_A = \text{Parameter}$

