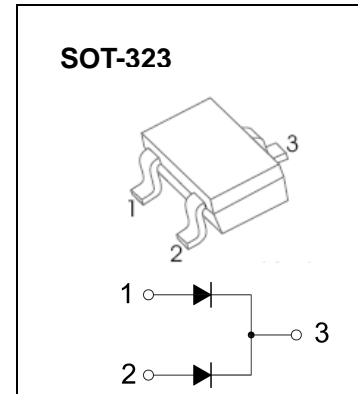


PIN DIODES

FEATURES

- High voltage, current controlled
- RF resistor for RF attenuators and switches
- Low diode capacitance
- Low diode forward resistance
- Low series inductance
- For applications up to 3 GHz
- RF attenuators and switches



Marking: 5W

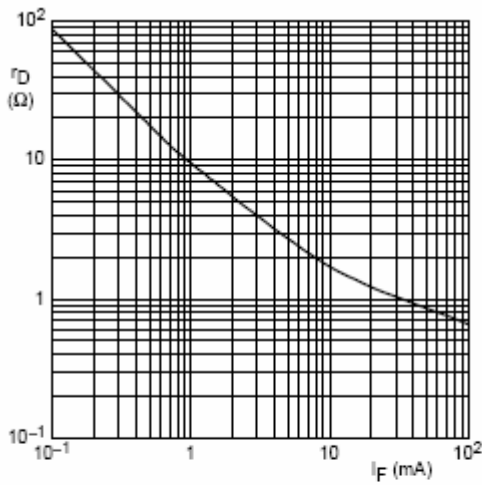
Maximum Ratings @ $T_A=25^{\circ}\text{C}$

Parameter	Symbol	Limits	Unit
Continuous reverse voltage	V_R	175	V
Continuous Forward Current	I_F	100	mA
Power Dissipation	P_D	200	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	625	$^{\circ}\text{C}/\text{W}$
Junction temperature	T_j	150	$^{\circ}\text{C}$
Storage temperature	T_{STG}	-65~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

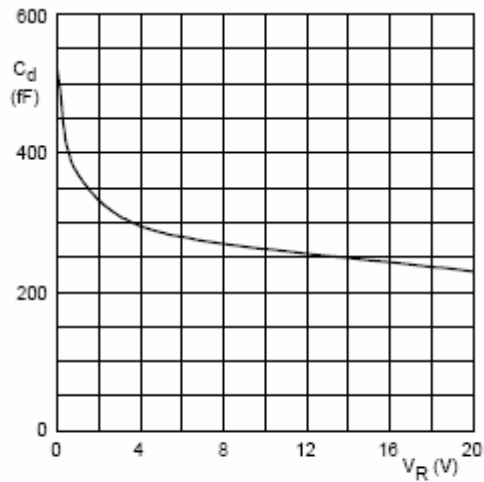
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Reverse voltage leakage current	I_R	$V_R=175\text{V}$ $V_R=20\text{V}$			10 1	μA
Forward voltage	V_F	$I_F=50\text{mA}$			1.1	V
Diode capacitance	C_d	$V_R=0, f=1\text{MHz}$ $V_R=1\text{V}, f=1\text{MHz}$ $V_R=20\text{V}, f=1\text{MHz}$		0.52 0.37 0.23		0.35 pF
Diode forward resistance	r_D	$I_F=0.5\text{mA}, f=100\text{MHz}; \text{note1}$ $I_F=1\text{mA}, f=100\text{MHz}; \text{note1}$ $I_F=10\text{mA}, f=100\text{MHz}; \text{note1}$ $I_F=100\text{mA}, f=100\text{MHz}; \text{note1}$		20 10 2 0.7	40 20 3.8 1.35	Ω
Charge carrier life time	τ_L	when switched from $I_F = 10 \text{ mA}$ to $I_R = 6 \text{ mA}$; $R_L = 100 \Omega$; measured at $I_R = 3\text{mA}$		1.55		μS
Series inductance	L_S	$I_F=100\text{mA}, f=100\text{MHz}$		1.4		nH

Note 1. Guaranteed on AQL basis: inspection level S4,AQL 1.0.



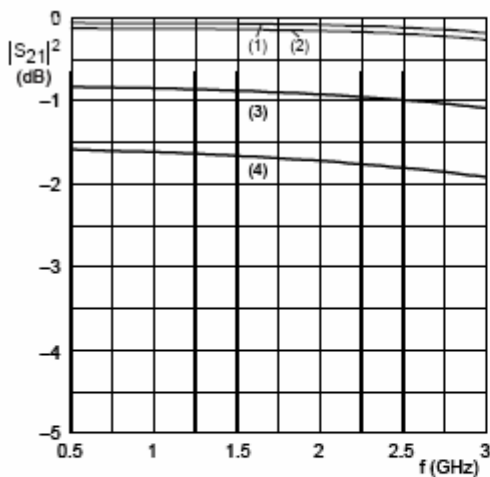
$f = 100 \text{ MHz}; T_j = 25 \text{ }^\circ\text{C}.$

Forward resistance as a function of forward current; typical values.



$f = 1 \text{ MHz}; T_j = 25 \text{ }^\circ\text{C}.$

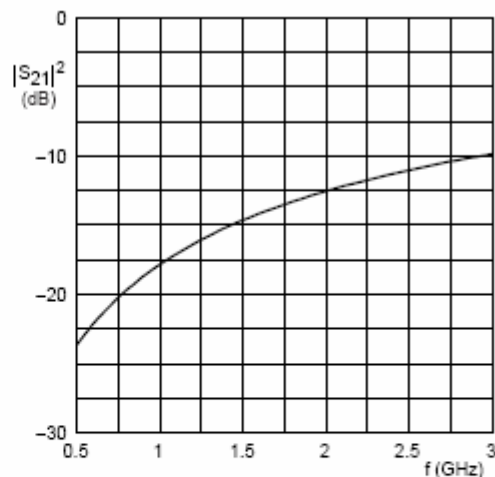
Diode capacitance as a function of reverse voltage; typical values.



- (1) $I_F = 100 \text{ mA}.$
- (2) $I_F = 10 \text{ mA}.$
- (3) $I_F = 1 \text{ mA}.$
- (4) $I_F = 0.5 \text{ mA}.$

Diode inserted in series with a $50 \text{ } \Omega$ stripline circuit and biased via the analyzer Tee network.
 $T_{amb} = 25 \text{ }^\circ\text{C}.$

Insertion loss ($|S_{21}|^2$) of the diode as a function of frequency; typical values.



Diode zero biased and inserted in series with a $50 \text{ } \Omega$ stripline circuit.
 $T_{amb} = 25 \text{ }^\circ\text{C}.$

Isolation ($|S_{21}|^2$) of the diode as a function of frequency; typical values.