

NTE112 Silicon Small Signal Schottky Diode

Description:

The NTE112 is a metal to silicon junction diode in a DO35 type package primarily intended for UHF mixers and ultrafast switching applications.

Absolute Maximum Ratings:

Repetitive Peak Reverse Voltage, V_{RRM} 5V
 Forward Continuous Current ($T_A = +25^\circ\text{C}$, Note 1), I_F 30mA
 Surge Non-Repetitive Forward Current ($t_p \leq 1\text{s}$, Note 1), I_{FSM} 60mA
 Operating Junction Temperature, T_J $+125^\circ\text{C}$
 Storage Temperature Range, T_{stg} -65° to $+150^\circ$
 Thermal Resistance, Junction-to-Ambient (Note 1), $R_{th(j-a)}$ 400°C/W
 Maximum Lead Temperature (During soldering, 4mm from case, 10s max), T_L $+230^\circ\text{C}$

Note 1. On infinite heatsink with 4mm lead length.

Electrical Characteristics: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Breakdown Voltage	$V_{(BR)}$	$I_R = 100\mu\text{A}$	5	–	–	V
Forward Voltage Drop	V_F	$I_F = 10\text{mA}$, Note 2	–	–	0.55	V
Reverse Current	I_R	$V_R = 1\text{V}$, Note 2	–	–	0.05	μA
Dynamic Characteristics						
Capacitance	C	$V_R = 0\text{V}$, $f = 1\text{MHz}$	–	–	1	pF
Stored Charge	Q_S	$I_F = 10\text{mA}$, Note 3	–	–	3	pC
Frequency	F	$f = 1\text{GHz}$, Note 4	–	6	7	dB

Note 2. Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $< 2\%$.

Note 3. Measured on a B-line Electronics QS-3 stored charge meter.

Note 4. Noise Figure Test: – Diode is inserted in a tuned stripline circuit.
 Local oscillator frequency 1GHz
 Local oscillator power 1mW
 Intermediate frequency amplifier, tuned on 30MHz, has a noise figure, 1.5dB.

