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## 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°C
Storage Temperature Range, $T_{stg}$ .....	-65° to +150°
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°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
<b>Static Characteristics</b>						
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	$\mu\text{A}$
<b>Dynamic Characteristics</b>						
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.



