

## NTE555 Silicon Pin Diode UHF/VHF Detector

**Description:**

The NTE555 is designed primarily for high-efficiency UHF and VHF detector applications. It is readily adaptable to many other fast switching RF and digital applications.

**Features:**

- Schottky Barrier Construction Provides Stable Characteristics by Eliminating the “Cat-Whisker” or “S-Bend” Contact
- Very Low Capacitance: 1.0pF
- Extremely Low Minority Carrier Lifetime: 100ps (Max)
- High Reverse Voltage:  $V_R = 50V$
- Low Reverse Leakage Current:  $I_R = 200nA$  (Max)

**Absolute Maximum Ratings:** ( $T_J = +125^\circ C$ , unless otherwise indicated)

Reverse Voltage, $V_R$ .....	50V
Forward Power Dissipation ( $T_A = 25^\circ C$ ), $P_F$ .....	400mW
Derate Above $25^\circ C$ .....	4mW/ $^\circ C$
Operating Junction Temperature Range, $T_J$ .....	$-55^\circ$ to $+125^\circ C$
Storage Temperature Range, $T_{stg}$ .....	$-65^\circ$ to $+150^\circ C$

**Electrical Characteristics:** ( $T_A = +25^\circ C$ , unless otherwise indicated)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R = 10\mu A$	50	–	–	V
Diode Capacitance	$C_T$	$V_R = 20V, f = 1MHz$	–	0.48	1.0	pF
Minority Carrier Lifetime	$\tau$	$I_F = 5mA$ , Krakauer Method	–	15	100	ps
Reverse Leakage Current	$I_R$	$V_R = 25V$	–	7	200	nA
Forward Voltage	$V_F$	$I_F = 10mA$	–	1.0	1.2	V
Case Capacitance	$C_C$	$f = 1MHz$	–	0.1	–	pF

