



**ELECTRONICS, INC.**  
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## NTE15 Silicon NPN Transistor VHF Amp, Mixer, Oscillator, UHF OSC

**Features:**

- High Transition Frequency:  $f_T = 1.1\text{GHz}$
- Low Base Resistance and High Gain
- Excellent Noise Characteristics

**Applications:**

- VHF Mixers and Oscillators
- UHF Oscillators

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Collector–Base Voltage, $V_{CBO}$ .....	30V
Collector–Emitter Voltage, $V_{CEO}$ .....	19V
Emitter–Base Voltage, $V_{EBO}$ .....	4V
Collector Current, $I_C$ .....	50mA
Collector Dissipation, $P_C$ .....	300mW
Junction Temperature, $T_J$ .....	+125°C
Storage Temperature Range, $T_{stg}$ .....	–55° to +125°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}$	19	–	–	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 50\mu\text{A}$	30	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 50\mu\text{A}$	5	–	–	V
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 20\text{V}$	–	–	0.5	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 3\text{V}$	–	–	0.5	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = 10\text{V}, I_C = 5\text{mA}$	39	–	–	–
Collector Saturation Voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}, I_B = 1\text{mA}$	–	0.1	–	V
Transition Frequency	$f_T$	$V_{CE} = 5\text{V}, I_E = 10\text{mA}$	–	600	1100	MHz
Output Capacitance	$C_{ob}$	$V_{CB} = 10\text{V}, f = 1\text{MHz}$	–	1.2	1.5	pF
Collector–Base Time Constant	$C_{dcb}$	$I_C = 10\text{mA}, V_{CB} = 5\text{V}, f = 31.8\text{MHz}$	–	10	15	pS

