

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	$+125^\circ\text{C}$
Storage Temperature Range, T_{stg}	-55° to $+125^\circ\text{C}$

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	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 3\text{V}$	–	–	0.5	μA
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_{dbb}	$I_C = 10\text{mA}$, $V_{CB} = 5\text{V}$, $f = 31.8\text{MHz}$	–	10	15	pS

