

NTE160 Germanium PNP Transistor RF-IF Amp, FM Mixer OSC

Description:

The NTE160 is a germanium mesa PNP transistor in a TO72 metal case designed for use as a preamplifier mixer and oscillator up to 900MHz.

Absolute Maximum Ratings:

Collector-Emitter Voltage ($V_{BE} = 0$), V_{CES}	20V
Collector-Emitter Voltage, ($I_B = 0$), V_{CEO}	16V
Emitter-Base Voltage ($I_C = 0$), V_{EBO}	0.3V
Collector Current, I_C	10mA
Total Power Dissipation ($T_A = +45^\circ\text{C}$), P_{tot}	60mW
Operating Junction Temperature, T_J	$+90^\circ\text{C}$
Storage Temperature Range, T_{stg}	-30° to $+75^\circ\text{C}$
Thermal Resistance, Junction-to-Case, R_{thJC}	400°C/W max
Thermal Resistance, Junction-to-Ambient, R_{thJA}	750°C/W max

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CES}	$V_{CE} = -20V, V_{BE} = 0$	—	—	-8	μA
	I_{CEO}	$V_{CE} = -15V, I_B = 0$	—	—	-500	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -0.3V, I_C = 0$	—	—	-100	μA
Base-Emitter Voltage	V_{BE}	$I_C = -2mA, V_{CE} = -10V$	—	-350	—	mV
		$I_C = -5mA, V_{CE} = -5V$	—	-400	—	mV
DC Current Gain	h_{FE}	$I_C = -2mA, V_{CE} = -10V$	—	50	—	
		$I_C = -5mA, V_{CE} = -5V$	—	42	—	
Transition Frequency	f_T	$I_C = -2mA, V_{CE} = -10V, f = 100MHz$	—	700	—	MHz
Reverse Capacitance	$-C_{re}$	$I_C = -2mA, V_{CE} = -10V, f = 450kHz$	—	0.23	—	pF
Noise Figure	NF	$I_C = -2mA, V_{CE} = -10V, R_g = 60\Omega, f = 800MHz$	—	5	6	dB
Power Gain	G_{pb}	$I_C = -2mA, V_{CE} = -10V, R_L = 2k\Omega, f = 800MHz$	11	14	—	dB

