

NTE313
Silicon NPN Transistor
High Gain, Low Noise,
VHF Mixer and VHF/RF Amp

Description:

The NTE 313 is a silicon NPN transistor specifically designed for VHF mixer and VHF/RF amplifier applications. This device features high power gain, low noise, and excellent forward AGC characteristics.

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

Collector–Base Voltage, V_{CBO}	30V
Collector–Emitter Voltage, V_{CEO}	30V
Emitter–Base Voltage, V_{EBO}	4V
Collector Current, I_C	20mA
Total Power Dissipation, P_T	150mW
Maximum Junction Temperature, T_J	+150°C
Storage Temperature Range, T_{stg}	-60° to +150°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = 20V, I_E = 0$	–	–	0.2	μA
DC Current Gain	h_{FE}	$V_{CE} = 10V, I_C = 2mA$	20	60	200	
Current–Gain Bandwidth Product	f_T	$V_{CE} = 10V, I_E = -2mA$	400	530	–	MHz
Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	–	0.5	1.0	pF
Noise Figure	NF	$I_E = -2mA, f = 200MHz$	–	2.5	3.3	dB
Power Gain	PG	$I_E = -2mA, f = 200MHz$	20	23	–	dB
AGC Current	I_{AGC}	$PG = -30dB$	–	-9	-11	mA

