

NTE23 Silicon NPN Transistor Ultra High Frequency Amp

Description:

The NTE23 is suitable for a low noise amplifier in the VHF to UHF band.

Features:

- Low Noise Figure: NF 3.0dB Typ. @ $f = 500\text{MHz}$
- High Power Gain: G_{pe} 15dB Typ. @ $f = 500\text{MHz}$
- High Cutoff Frequency: $f_T = 2.0\text{GHz}$ Typ

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

Collector–Base Voltage, V_{CBO}	30V
Collector–Emitter Voltage, V_{CEO}	14V
Emitter–Base Voltage, V_{EBO}	3.0V
Collector Current, I_C	50mA
Total Power Dissipation, P_T	250mW
Junction Temperature, T_J	$+150^\circ\text{C}$
Storage Temperature Range, T_{stg}	-55° to $+150^\circ\text{C}$

Electrical Characteristics:

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = 15\text{V}, I_E = 0$	–	–	0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 2\text{V}, I_C = 0$	–	–	0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 10\text{V}, I_C = 10\text{mA}$	25	80	200	–
Gain–Bandwidth Product	f_T	$V_{CE} = 10\text{V}, I_C = 10\text{mA}$	1.5	2.0	–	GHz
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$	–	0.75	1.1	pF
Maximum Available Power Gain	G_{pe}	$V_{CE} = 10\text{V}, I_C = 10\text{mA}, f = 500\text{MHz}$	13	15	–	dB
Noise Figure	NF	$V_{CE} = 10\text{V}, I_C = 3\text{mA}, f = 500\text{MHz}$	–	3.0	4.0	dB

