ELECTRONICS, INC.
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NTE10
Silicon NPN Transistor
UHF Low Noise Wide–Band Amplifier

Features:
- Low Noise Figure: NF = 2.2dB Typ (f = 0.9GHz)
- High Power Gain: MAG = 14dB Typ (f = 0.9GHz)
- High Cutoff Frequency: f_T = 5GHz Typ

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Collector–Base Voltage, V_{CBO} 20V
Collector–Emitter Voltage, V_{CER} 12V
Emitter–Base Voltage, V_{EBO} 3V
Collector Current, I_C 70mA
Base Current, I_B 30mA
Collector Power Dissipation, P_C 500mW
Junction Temperature, T_j . . . . . +150°C
Storage Temperature Range, T_{stg} . . . . . –55° to +150°C

Electrical Characteristics: (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	V_{CB} = 12V, I_E = 0	–	–	1.0	µA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 2V, I_C = 0	–	–	10	µA
DC Current Gain	h_{FE}	V_{CE} = 10V, I_C = 20mA	40	–	200	
Gain–Bandwidth Product	f_T	V_{CE} = 10V, I_C = 20mA	–	5.0	–	GHz
Output Capacitance	C_{ob}	V_{CB} = 10V, f = 1MHz	–	0.8	1.1	pF
Reverse Transfer Capacitance	C_{re}	V_{CB} = 10V, f = 1MHz	–	0.5	–	pF
Forward Transfer Gain	$\|S_{21e}\|^2$	V_{CE} = 10V, I_C = 20mA, f = 0.9GHz	8	10	–	dB
Maximum Available Power Gain	MAG	V_{CE} = 10V, I_C = 5mA, f = 0.9GHz	–	14	–	dB
Noise Figure	NF	V_{CE} = 10V, I_C = 5mA, f = 0.9GHz	–	2.2	4.5	dB