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NTE234
Silicon PNP Transistor
Low Noise, High Gain Amplifier
TO–92 Type Package
(Compl to NTE2696)

Description:

The NTE234 is a silicon PNP transistor in a TO92 type package designed especially for low noise preamplifier and small signal industrial amplifier applications. This device features low collector saturation voltage, tight beta control, and excellent low noise characteristics.

Features:

- Low Noise
- High DC Current Gain
- High Breakdown Voltage
- Low Pulse Noise

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

Collector–Emitter Voltage, V_{CEO} 120V
Collector–Base Voltage, V_{CBO} 120V
Emitter–Base Voltage, V_{EBO} 5V
Steady State Collector Current, I_C 100mA
Emitter Current, I_E 100mA
Collector Power Dissipation, P_C 300mW
Operating Junction Temperature Range, T_J . . . . –55° to +125°C
Storage Temperature Range, T_{stg} . . . . –55° to +125°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} = 120V, I_E = 0	–	–	100	nA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 5V, I_C = 0	–	–	100	nA
Breakdown Voltage Collector–to–Emitter	$V_{(BR)CEO}$	I_C = 1mA, I_B = 0	120	–	–	V
DC Current Gain	h_{FE}	V_{CE} = 6V, I_C = 2mA	350	–	700	

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Saturation Voltage Collector–to–Emitter	$V_{CE(sat)}$	I_C = 10mA, I_B = 1mA	–	–	0.3	V
Base–to–Emitter Voltage	V_{BE}	V_{CE} = 6V, I_C = 2mA	–	0.65	–	V
Transition Frequency	f_T	V_{CE} = 6V, I_C = 1mA	–	100	–	MHz
Collector Output Capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz	–	4	–	pF
Noise Figure	NF	V_{CE} = 6V, I_C = 100μA, f = 10Hz, R_g = 10kΩ	–	–	6	dB
		V_{CE} = 6V, I_C = 100μA, f = 1Hz, R_g = 10kΩ	–	–	2	
		V_{CE} = 6V, I_C = 100μA, f = 1Hz, R_g = 100kΩ	–	3	–