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NTE2696
Silicon NPN Transistor
Low Noise Audio Amplifier
TO–92 Type Package
(Compl to NTE234)

Description:

The NTE2696 is a silicon NPN transistor in a TO–92 type package designed for use in low frequency and low noise applications. The function of this device is to lower the noise figure in the region of low signal source impedance, and to lower the pulse noise. The NTE2696 can also be used in the first stages of equalizer amplifiers.

Features:

- Low Noise:
  NF = 4db (Typ), R_G = 100Ω, V_{CE} = 6V, I_C = 100μA, f = 1kHz
  NF = 0.5db (Typ), R_G = 1kΩ, V_{CE} = 6V, I_C = 100μA, f = 1kHz
- Low Pulse Noise: Low l/f Noise
- High DC Current Gain: h_{FE} = 350 to 700
- High Breakdown Voltage: V_{CEO} = 120V

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

Collector–Base Voltage, V_{CBO} 120V
Collector–Emitter Voltage, V_{CEO} 120V
Emitter–Base Voltage, V_{EBO} 5V
Collector Current, I_C 100mA
Base Current, I_B 20mA
Collector Power Dissipation, P_C 300mW
Operating Junction Temperature, T_J . . . . . +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	–	–	0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 5V, I_C = 0	–	–	0.1	μA
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 1mA, I_C = 2mA	120	–	–	V

RoHS 2002/95/EC

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

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
DC Current Gain	h_{FE}	V_{CE} = 6V, I_C = 2mA		350	–	700	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 10mA, I_B = 1mA		–	–	0.3	V
Base–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		–	3.0	–	pF
Noise Figure	NF	V_{CE} = 6V, I_C = 0.1mA	f = 10Hz, R_G = 10kΩ	–	–	6	dB
			f = 1kHz, R_G = 10kΩ	–	–	2	dB
			f = 1kHz, R_G = 100Ω	–	4	–	dB