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NTE102A (PNP) & NTE103A (NPN) Germanium Complementary Transistors Medium Power Amplifier

Description:

The NTE102A (PNP) and NTE103A (NPN) are Germanium complementary transistors in a TO1 type package designed for use as a medium power amplifier.

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

Collector-Base Voltage, V_{CBO} 32V
Emitter-Base Voltage, V_{EBO} 10V
Collector Current, I_C 1A
Power Dissipation, P_C 650mW
Operating Junction Temperature, T_J $+90^\circ\text{C}$
Storage Temperature Range, T_{stg} -55° to $+90^\circ\text{C}$

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

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|--------------------------------------|----------------|---|-----|------|-----|---------------|
| Collector-Base Voltage | V_{CBO} | $I_C = 200\mu\text{A}$, $I_E = 0$ | 32 | - | - | V |
| Collector Cutoff Current | I_{CBO} | $V_{CB} = 10\text{V}$, $I_E = 0$ | - | - | 25 | μA |
| DC Current Gain | h_{FE1} | $V_{CB} = 0$, $I_E = 50\text{mA}$ | 63 | - | 295 | |
| | h_{FE2} | $V_{CB} = 0$, $I_E = 300\text{mA}$ | 69 | - | 273 | |
| Common-Emitter Cutoff Frequency | $f_{\alpha e}$ | $V_{CB} = 2\text{V}$, $I_E = 10\text{mA}$ | 10 | - | - | kHz |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 500\text{mA}$, $I_B = 50\text{mA}$ | - | 0.17 | - | V |
| Noise Figure | NF | $V_{CB} = 5\text{V}$, $I_E = 5\text{mA}$, $f = 1\text{kHz}$ | - | - | 25 | dB |

