



**ELECTRONICS, INC.**  
44 FARRAND STREET  
BLOOMFIELD, NJ 07003  
(973) 748-5089

## NTE104 Germanium PNP Transistor Audio Frequency Power Amplifier

**Description:**

The NTE104 is a Germanium PNP Alloy Junction transistor in a TO3 type package designed as an audio frequency power output amplifier.

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

Collector–Base Voltage, $V_{CBO}$ .....	50V
Collector–Emitter Voltage ( $R_{BE} = 68\Omega$ ), $V_{CER}$ .....	35V
Emitter–Base Voltage, $V_{EBO}$ .....	10V
Collector Current, $I_C$ .....	10A
Emitter Current, $I_E$ .....	10A
Base Current, $I_B$ .....	3A
Power Dissipation ( $T_C \leq +55^\circ\text{C}$ ), $P_D$ .....	90W
Operating Junction Temperature, $T_J$ .....	+100°C
Storage Temperature Range, $T_{stg}$ .....	-55° to +100°C

Note 1. Matched pairs are available upon request (NTE104MP). Matched pairs have their gain specification ( $h_{FE}$ ) matched to within 10% of each other.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Breakdown Voltage	$V_{(BR)CER}$	$I_{C(peak)} = -0.6A, R_{BE} = 68\Omega$	35	–	–	V
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 30V, I_E = 0$	–	–	1.0	mA
DC Current Gain	$h_{FE}$	$V_{CE} = 2V, I_C = 20mA$	50	90	165	
Base–Emitter Input Voltage	$V_{BE}$	$V_{CE} = 2V, I_C = 1A$	–	0.38	–	V
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 4A, I_B = 0.4A$	–	0.29	–	V
Transition Frequency	$f_T$	$V_{CB} = 2V, I_E = 1A$	–	300	–	kHz



