

## NTE289A (NPN) & NTE290A (PNP) Silicon Complementary Transistors Audio Power Amplifier

### Features:

- High Breakdown Voltage:  $V_{(BR)CEO} = 80V$  Min
- High Current:  $I_C = 500mA$
- Low Saturation Voltage

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

Collector–Base Voltage, $V_{CBO}$ .....	100V
Collector–Emitter Voltage, $V_{CEO}$ .....	80V
Emitter–Base Voltage, $V_{EBO}$ .....	5V
Collector Current, $I_C$	
Continuous .....	500mA
Peak .....	800mA
Collector Dissipation, $P_C$ .....	600mW
Operating Junction Temperature, $T_J$ .....	+150°C
Storage Temperature Range, $T_{stg}$ .....	–55° to +150°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu A, I_E = 0$	100	–	–	V	
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1mA, R_{BE} = \text{Open}$	80	–	–	V	
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu A, I_C = 0$	5	–	–	V	
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 40V, I_E = 0$	–	–	1.0	$\mu A$	
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 4V, I_C = 0$	–	–	1.0	$\mu A$	
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 5V, I_C = 50mA$	100	–	200		
		$V_{CE} = 5V, I_C = 400mA$ (Pulse)	35	–	–		
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 400mA, I_B = 40mA$	NTE289A	–	0.2	0.6	V
			NTE290A	–	0.25	0.60	V
Current–Gain Bandwidth Product	$f_T$	$V_{CE} = 10V, I_C = 10mA$	–	120	–	MHz	
Output Capacitance	$C_{ob}$	$V_{CB} = 10V, f = 1MHz$	NTE289A	–	5	–	pF
			NTE290A	–	9	–	pF

Note 1. NTE289AMP is a matched pair of NTE289A with their DC Current Gain ( $h_{FE}$ ) matched to within 10% of each other.

Note 2. NTE290AMCP is a matched complementary pair containing 1 each of NTE289A (NPN) and NTE290A (PNP).

