

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	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 4V, I_C = 0$	–	–	1.0	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 5V, I_C = 50mA$	100	–	200	
	$h_{FE(2)}$	$V_{CE} = 5V, I_C = 400mA$ (Pulse)	35	–	–	
Collector–Emitter Saturation Voltage NTE289A	$V_{CE(sat)}$	$I_C = 400mA, I_B = 40mA$	–	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 NTE289A	C_{ob}	$V_{CB} = 10V, f = 1MHz$	–	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).

