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NTE280 (NPN) & NTE281 (PNP) Silicon Complementary Transistors Audio Power Amplifier

Description:

The NTE280 (NPN) and NTE281 (PNP) are silicon complementary transistors in a TO3 type package designed for use in high power, high fidelity audio frequency amplifier applications.

Features:

- High Power Dissipation: $P_C = 100W$
- Collector–Emitter Breakdown Voltage: $V_{(BR)CEO} = 140V$

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

Collector–Emitter Voltage, V_{CEO}	140V
Collector–Base Voltage, V_{CBO}	140V
Emitter–Base Voltage, V_{EBO}	5V
Collector Current, I_C	12A
Emitter Current, I_E	–12A
Collector Power Dissipation ($T_C = +25^\circ C$), P_C	100W
Operating Junction Temperature, T_J	+150°C
Storage Temperature Range, T_{stg}	–65° to +150°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 100mA, I_B = 0$	140	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10mA, I_C = 0$	5	–	–	V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 60V, I_E = 0$	–	–	100	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5V, I_C = 0$	–	–	100	μA
DC Current Gain	h_{FE}	$V_{CE} = 5V, I_C = 2A$	40	–	140	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 7A, I_B = 700mA$	–	–	3.0	V
Base–Emitter ON Voltage	$V_{BE(on)}$	$V_{CE} = 5V, I_C = 7A$	–	–	2.5	V
Current–Gain Bandwidth Product	f_T	$V_{CE} = 5V, I_C = 2A$	–	5	–	MHz
Output Capacitance	C_{cb}	$V_{CE} = 10V, I_E = 0, f = 1MHz$	–	220	–	pF

Note 1. NTE280MP is a matched pair of NTE280 with their DC Current Gain (h_{FE}) matched to within 10% of each other.

Note 2. NTE281MCP is a matched complementary pair containing 1 each of NTE280 (NPN) and NTE281 (PNP).

