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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	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 5V, I_C = 0$	–	–	100	$\mu A$
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).

