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## NTE284 (NPN) & NTE285 (PNP) Silicon Complementary Transistors Audio Amplifier Output

### **Description:**

The NTE284 (NPN) and NTE285 (PNP) are silicon complementary power transistors in a TO3 type package designed for use in power amplifier applications.

### **Applications:**

- Recommended for 100W High-Fidelity Audio Frequency Amplifier Output Stage

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

Collector to Base Voltage, $V_{CBO}$ .....	180V
Collector to Emitter Voltage, $V_{CEO}$ .....	180V
Emitter to Base Voltage, $V_{EBO}$ .....	5V
Collector Current, $I_C$ .....	16A
Emitter Current, $I_E$ .....	16A
Power Dissipation, $P_C$ .....	150W
Junction Temperature, $T_j$ .....	+150°C
Storage Temperature, $T_{stg}$ .....	-65°C to +150°C

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

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 90V, I_E = 0$	-	-	100	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 5V, I_C = 0$	-	-	100	$\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 0.1A, I_B = 0$	180	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10mA, I_C = 0$	5	-	-	V
DC Current Gain	$h_{FE}$	$V_{CE} = 5V, I_C = 2A$	70	-	140	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10A, I_B = 1A$	-	-	3.0	V
Base to Emitter Voltage	$V_{BE}$	$V_{CE} = 5V, I_C = 10A$	-	-	2.5	V
Current Gain Bandwidth Product	$f_T$	$V_{CE} = 5V, I_C = 2A$	-	6	-	MHz
Output Capacitance NTE284	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1MHz$	-	300	-	pF
NTE285			-	450	-	pF

Note 1. NTE284MP is a matched pair of NTE284 with their DC Current Gain ( $h_{FE}$ ) matched to within 10% of each other.

Note 2. NTE285MP is a matched pair of NTE285 with their DC Current Gain ( $h_{FE}$ ) matched to within 10% of each other.

Note 3. NTE285MCP is a matched complementary pair containing 1 each of NTE284 (NPN) and NTE285 (PNP).

