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## NTE397 Silicon PNP Transistor Power Amplifier & High Speed Switch (Compl to NTE396)

### Absolute Maximum Ratings:

|   |                                     |
|---|-------------------------------------|
| Collector–Emitter Voltage, $V_{CEO}$ .....                          | 300V                                |
| Collector–Base Voltage, $V_{CBO}$ .....                             | 350V                                |
| Emitter–Base Voltage, $V_{EBO}$ .....                               | 6V                                  |
| Continuous Collector Current, $I_C$ .....                           | 1A                                  |
| Base Current, $I_B$ .....   | 500mA                               |
| Total Device Dissipation ( $T_C = +25^\circ\text{C}$ ), $P_D$ ..... | 10W                                 |
| Derate Above $25^\circ\text{C}$ .....                               | 57mW/ $^\circ\text{C}$              |
| Operating Junction Temperature Range, $T_J$ .....                   | $-65^\circ$ to $+200^\circ\text{C}$ |
| Storage Temperature Range, $T_{stg}$ .....                          | $-65^\circ$ to $+200^\circ\text{C}$ |
| Thermal Resistance, Junction–to–Case, $R_{thJC}$ .....              | 17.5 $^\circ\text{C/W}$             |
| Thermal Resistance, Junction–to–Ambient, $R_{thJA}$ .....           | 150 $^\circ\text{C/W}$              |

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

| Parameter                            | Symbol              | Test Conditions   | Min | Typ | Max | Unit          |
|--------------------------------------|---------------------|---|-----|-----|-----|---------------|
| <b>OFF Characteristics</b>           |                     |   |     |     |     |               |
| Collector–Emitter Sustaining Voltage | $V_{CEO(sus)}$      | $I_C = 50\text{mA}$ , $I_B = 0$ , Note 1                        | 300 | –   | –   | V             |
| Collector Cutoff Current             | $I_{CBO}$           | $V_{CB} = 280\text{V}$ , $I_E = 0$                              | –   | –   | 50  | $\mu\text{A}$ |
| Emitter Cutoff Current               | $I_{EBO}$           | $V_{EB} = 6\text{V}$ , $I_C = 0$                                | –   | –   | 20  | $\mu\text{A}$ |
| <b>ON Characteristics</b>            |                     |   |     |     |     |               |
| DC Current Gain                      | $h_{FE}$            | $I_C = 50\text{mA}$ , $V_{CE} = 10\text{V}$                     | 30  | –   | 120 |               |
| <b>Small–Signal Characteristics</b>  |                     |   |     |     |     |               |
| Output Capacitance                   | $C_{obo}$           | $V_{CB} = 10\text{V}$ , $I_E = 0$ , $f = 1\text{MHz}$           | –   | –   | 15  | pF            |
| Input Capacitance                    | $C_{ibo}$           | $V_{CB} = 5\text{V}$ , $I_C = 0$ , $f = 1\text{MHz}$            | –   | –   | 75  | pF            |
| Small–Signal Current Gain            | $h_{fe}$            | $I_C = 10\text{mA}$ , $V_{CE} = 10\text{V}$ , $f = 1\text{MHz}$ | 25  | –   | –   |               |
| Real Part of Input Impedance         | $\text{Re}(h_{ie})$ | $V_{CE} = 10\text{V}$ , $I_C = 5\text{mA}$ , $f = 1\text{MHz}$  | –   | –   | 300 | $\Omega$      |

Note 1. Pulse Test; Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$ .

**CAUTION:** The sustaining voltage ***must not*** be measured on a curve tracer.

