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## NTE56 Silicon NPN Transistor High Gain Switch and Pass Regulator

**Absolute Maximum Ratings:**

|  |                |
|--|----------------|
| Collector–Emitter Voltage, $V_{CEO}$ .....                         | 80V            |
| Collector–Base Voltage, $V_{CB}$ .....                             | 100V           |
| Emitter–Base Voltage, $V_{EB}$ .....                               | 6V             |
| Collector Current, $I_C$ .....                                     | 3A             |
| Base Current, $I_B$ .....  | 1A             |
| Total Power Dissipation ( $T_C = +25^\circ\text{C}$ ), $P_D$ ..... | 30W            |
| Junction Temperature, $T_J$ .....                                  | +150°C         |
| Storage Temperature Range, $T_{stg}$ .....                         | –55° to +150°C |

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

| Parameter                            | Symbol        | Test Conditions                           | Min | Typ | Max | Unit          |
|--------------------------------------|---------------|---|-----|-----|-----|---------------|
| Collector Cutoff Current             | $I_{CBO}$     | $V_{CB} = 100\text{V}$                    | –   | –   | 10  | $\mu\text{A}$ |
| Emitter Cutoff Current               | $I_{EBO}$     | $V_{EB} = 6\text{V}$                      | –   | –   | 100 | $\mu\text{A}$ |
| Collector–Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | $I_C = 25\text{mA}$                       | 80  | –   | –   | V             |
| DC Current Gain                      | $h_{FE}$      | $V_{CE} = 4\text{V}, I_C = 0.5\text{A}$   | 500 | –   | –   |               |
| Collector–Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 2\text{A}, I_B = 50\text{mA}$      | –   | –   | 0.5 | V             |
| Current Gain–Bandwidth Product       | $f_T$         | $V_{CE} = 12\text{V}, I_E = -0.2\text{A}$ | –   | 15  | –   | MHz           |

