

## NTE255 Silicon NPN Transistor Horizontal Driver, Amp

**Absolute Maximum Ratings:**

|   |          |
|---|----------|
| Collector–Base Voltage, $V_{CBO}$ .....   | 325V     |
| Collector–Emitter Voltage, $V_{CEO}$ .....  | 300V     |
| Emitter–Base Voltage, $V_{EBO}$ .....   | 6V       |
| Collector Current, $I_C$ .....  | 500mA    |
| Power Dissipation ( $T_A = +25^\circ\text{C}$ ), $P_{Dmax}$ .....                                   | 850mW    |
| Power Dissipation ( $T_{COLLECTOR LEAD} = +25^\circ\text{C}$ ), $P_{Dmax}$ .....                    | 2W       |
| Maximum Operating Junction Temperature, $T_{Jmax}$ .....  | +150°C   |
| Thermal Resistance, Junction–to–Case ( $T_{COLLECTOR LEAD} = +25^\circ\text{C}$ ), $R_{thJC}$ ..... | 62.5°C/W |
| Thermal Resistance, Junction–to–Ambient ( $T_A = +25^\circ\text{C}$ ), $R_{thJA}$ .....             | 147°C/W  |

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

| Parameter                            | Symbol        | Test Conditions                                      | Min | Typ | Max | Unit          |
|--------------------------------------|---------------|--|-----|-----|-----|---------------|
| Collector Cutoff Current             | $I_{CBO}$     | $V_{CB} = 300V$                                      | –   | –   | 1.0 | $\mu\text{A}$ |
| DC Current Gain                      | $h_{FE}$      | $I_C = 50\text{mA}$ , $V_{CE} = 10V$ , Note 1        | 25  | –   | –   |               |
|                                      |               | $I_C = 100\text{mA}$ , $V_{CE} = 10V$ , Note 1       | 30  | –   | –   |               |
|                                      |               | $I_C = 250\text{mA}$ , $V_{CE} = 10V$ , Note 1       | 15  | –   | –   |               |
|                                      |               | $I_C = 500\text{mA}$ , $V_{CE} = 10V$ , Note 1       | 10  | –   | 50  |               |
| Collector–Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 100\text{mA}$ , $I_B = 10\text{mA}$ , Note 1  | –   | 0.2 | 0.5 | V             |
| Base–Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C = 500\text{mA}$ , $I_B = 100\text{mA}$ , Note 1 | –   | 0.9 | 1.2 | V             |
| Transition Frequency                 | $f_T$         | $I_C = 50\text{mA}$                                  | 30  | –   | 300 | MHz           |
| Output Capacitance                   | $C_{ob}$      | $V_{CB} = 10V$ , $f = 1\text{MHz}$                   | –   | –   | 15  | pF            |
| Input Capacitance                    | $C_{ib}$      | $V_{BE} = 0.5V$ , $f = 1\text{MHz}$                  | –   | –   | 125 | pF            |

Note 1. Pulse Test: Pulse Width = 300 $\mu\text{s}$ .

