



ELECTRONICS, INC.
 44 FARRAND STREET
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NTE2550 Silicon NPN Transistor Darlington Driver, Switch

Absolute Maximum Ratings:

| | |
|--|----------------|
| Collector–Base Voltage, V_{CBO} | 500V |
| Collector–Emitter Voltage, V_{CEO} | 400V |
| Emitter–Base Voltage, V_{EBO} | 12V |
| Collector Current, I_C | |
| Continuous | 10A |
| Peak | 15A |
| Base Current, I_B | |
| Continuous | 0.5A |
| Peak | 1.0A |
| Collector Power Dissipation ($T_C = +25^\circ\text{C}$), P_C | 50W |
| Dielectric Strength (Terminal to case, AC1 minute), V_{dis} | 2kV |
| Operating Junction Temperature, T_J | +150°C |
| Storage Temperature Range, T_{stg} | –55° to +150°C |
| Maximum Thermal Resistance, Junction–to–Case, R_{thJC} | 2.5°C/W |
| Mounting Torque (Note 1), TOR | 5kg •cm |

Note 1. Recommended torque: 3kg • cm.

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

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|--|-----|-----|-----|---------|
| Collector–Emitter Sustaining Voltage | V_{CEO} | V_{CE} (Clamp) | 400 | – | – | V |
| Collector Cut–Off Current | I_{CBO} | $V_{CB} = 500V$ | – | – | 0.1 | mA |
| | I_{CEO} | $V_{CE} = 400V$ | – | – | 0.1 | mA |
| Emitter Cut–Off Current | I_{EBO} | $V_{EB} = 12V$ | – | – | 100 | mA |
| DC Current Gain | h_{FE} | $V_{CE} = 2V, I_C = 7A$ | 150 | – | – | |
| Collector–Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 7A, I_B = 70mA$ | – | – | 1.5 | V |
| Base–Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C = 7A, I_B = 70mA$ | – | – | 2.0 | V |
| Gain–Bandwidth Product | f_T | $V_{CE} = 10V, I_C = 1A$ | – | 10 | – | MHz |
| Turn–On Time | t_{on} | $I_{B1} = I_{B2} = 70mA,$ $I_C = 7A, R_L = 10\Omega,$ $V_{BB2} = 4V$ | – | – | 2.0 | μs |
| Storage Time | t_s | | – | – | 15 | μs |
| Fall Time | t_f | | – | – | 15 | μs |

Schematic Diagram

