

## NTE2541 (NPN) & NTE2542 (PNP) Silicon Complementary Transistors Darlington, Motor/Relay Driver

### **Absolute Maximum Ratings:**

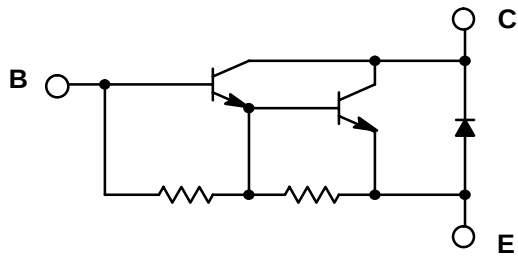
|                                                                       |                |
|-----------------------------------------------------------------------|----------------|
| Collector Base Voltage, $V_{CBO}$                                     | 120V           |
| Collector Emitter Voltage, $V_{CEO}$                                  | 120V           |
| Emitter Base Voltage, $V_{EBO}$                                       | 6V             |
| Collector Current, $I_C$                                              |                |
| Continuous                                                            | 25A            |
| Pulse                                                                 | 40A            |
| Continuous Base Current, $I_B$                                        | 2A             |
| Collector Power Dissipation ( $T_{FL} = +25^{\circ}\text{C}$ ), $P_C$ | 120W           |
| Operating Junction Temperature, $T_J$                                 | +150°C         |
| Storage Temperature Range, $T_{stg}$                                  | -55° to +150°C |

### **Electrical Characteristics:** (Note 1)

| Parameter                            | Symbol        | Test Conditions                        | Min  | Typ | Max | Unit          |
|--------------------------------------|---------------|----------------------------------------|------|-----|-----|---------------|
| Collector Cutoff Current             | $I_{CBO}$     | $V_{CB} = 120\text{V}, I_E = 0$        | —    | —   | 10  | $\mu\text{A}$ |
| Emitter Cutoff Current               | $I_{EBO}$     | $V_{EB} = 6\text{V}, I_C = 0$          | 10   | —   | —   | mA            |
| Collector–Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | $I_C = 25\text{mA}, R_{BE} = \infty$   | 120  | —   | —   | V             |
| DC Current Gain                      | $h_{FE}$      | $V_{CE} = 4\text{V}, I_C = 12\text{A}$ | 2000 | —   | —   |               |
| Collector–Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 12\text{A}, I_B = 24\text{mA}$  | —    | —   | 1.8 | V             |
| Base–Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C = 12\text{A}, I_B = 24\text{mA}$  | —    | —   | 2.5 | V             |

Note 1. For NTE2542, the polarity is reversed.

**NTE2541**  
(NPN)



**NTE2542**  
(PNP)

