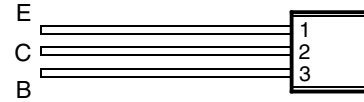




- 20 W Pulsed Power Dissipation
- 100 V Capability
- 2 A Continuous Collector Current
- 4 A Peak Collector Current

LP PACKAGE
(TOP VIEW)



MDTRAB

absolute maximum ratings at 25°C case temperature (unless otherwise noted)

| RATING | | SYMBOL | VALUE | UNIT |
|--|---------|-----------|-------------|------|
| Collector-base voltage ($I_E = 0$) | TIPP110 | V_{CBO} | 60 | V |
| | TIPP111 | | 80 | |
| | TIPP112 | | 100 | |
| Collector-emitter voltage ($I_B = 0$) | TIPP110 | V_{CEO} | 60 | V |
| | TIPP111 | | 80 | |
| | TIPP112 | | 100 | |
| Emitter-base voltage | | V_{EBO} | 5 | V |
| Continuous collector current | | I_C | 2 | A |
| Peak collector current (see Note 1) | | I_{CM} | 4 | A |
| Continuous base current | | I_B | 50 | mA |
| Continuous device dissipation at (or below) 25°C case temperature (see Note 2) | | P_{tot} | 0.8 | W |
| Pulsed power dissipation (see Note 3) | | P_T | 20 | W |
| Operating junction temperature range | | T_j | -55 to +150 | °C |
| Storage temperature range | | T_{stg} | -55 to +150 | °C |
| Lead temperature 3.2 mm from case for 10 seconds | | T_L | 260 | °C |

- NOTES: 1. This value applies for $t_p \leq 0.3$ ms, duty cycle $\leq 10\%$.
 2. Derate linearly to 150°C case temperature at the rate of 0.32 W/°C.
 3. $V_{CE} = 20$ V, $I_C = 1$ A, $P_W = 10$ ms, duty cycle $\leq 2\%$.

PRODUCT INFORMATION

electrical characteristics at 25°C case temperature

| PARAMETER | TEST CONDITIONS | | | MIN | TYP | MAX | UNIT |
|--|--|--|-------------------------------|-----------------|-----|-------------|------|
| $V_{(BR)CEO}$ Collector-emitter breakdown voltage | $I_C = 10 \text{ mA}$ (see Note 4) | $I_B = 0$ | TIPP110 TIPP111 TIPP112 | 60 80 100 | | | V |
| I_{CEO} Collector-emitter cut-off current | $V_{CE} = 30 \text{ V}$ $V_{CE} = 40 \text{ V}$ $V_{CE} = 50 \text{ V}$ | $V_{BE} = 0$ $V_{BE} = 0$ $V_{BE} = 0$ | TIPP110 TIPP111 TIPP112 | | | 2 2 2 | mA |
| I_{CBO} Collector-base cut-off current | $V_{CE} = 60 \text{ V}$ $V_{CE} = 80 \text{ V}$ $V_{CE} = 100 \text{ V}$ | $I_B = 0$ $I_B = 0$ $I_B = 0$ | TIPP110 TIPP111 TIPP112 | | | 1 1 1 | mA |
| I_{EBO} Emitter cut-off current | $V_{EB} = 5 \text{ V}$ | $I_C = 0$ | | | | 2 | mA |
| h_{FE} Forward current transfer ratio | $V_{CE} = 4 \text{ V}$ $V_{CE} = 4 \text{ V}$ | $I_C = 1 \text{ A}$ $I_C = 2 \text{ A}$ | (see Notes 4 and 5) | 1000 500 | | | |
| $V_{CE(sat)}$ Collector-emitter saturation voltage | $I_B = 8 \text{ mA}$ | $I_C = 2 \text{ A}$ | (see Notes 4 and 5) | | | 2.5 | V |
| V_{BE} Base-emitter voltage | $V_{CE} = 4 \text{ V}$ | $I_C = 2 \text{ A}$ | (see Notes 4 and 5) | | | 2.8 | V |
| V_{EC} Parallel diode forward voltage | $I_E = 4 \text{ A}$ | $I_B = 0$ | (see Notes 4 and 5) | | | 3.5 | V |

- NOTES: 4. These parameters must be measured using pulse techniques, $t_p = 300 \mu\text{s}$, duty cycle $\leq 2\%$.
5. These parameters must be measured using voltage-sensing contacts, separate from the current carrying contacts and located within 3.2 mm from device body.

OBSOLETE