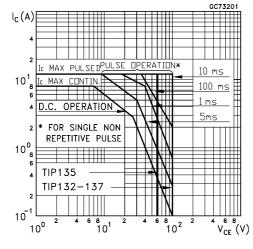
THERMAL DATA

| R _{thj-case} | Thermal Resistance Junction-case | Max | 1.78 | °C/W |
|-----------------------|-------------------------------------|-----|------|------|
| R _{thj-amb} | Thermal Resistance Junction-ambient | Max | 63.5 | °C/W |

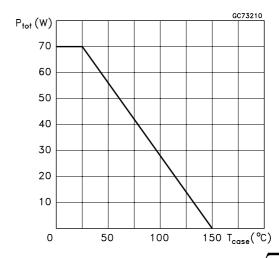
ELECTRICAL CHARACTERISTICS (Tcase = 25 °C unless otherwise specified)

| Symbol | Parameter | Test Conditions | | Min. | Тур. | Max. | Unit |
|-------------------------|---|---|--|-------------|------|--------|--------|
| I _{CEO} | Collector Cut-off Current (I _B = 0) | V _{CE} = Half Rated V | CEO | | | 0.5 | mA |
| I _{CBO} | Collector Cut-off Current (I _E = 0) | V_{CB} = Rated V_{CBO} | | | | 0.2 | mA |
| I _{EBO} | Emitter Cut-off Current (Ic = 0) | V _{EB} = 5 V | | | | 5 | mA |
| V _{CEO(sus)} * | Collector-Emitter Sustaining Voltage (I _B = 0) | I _C = 30 mA for TIP135 for TIP132/TIP137 | | 60 100 | | | V V |
| V _{CE(sat)} * | Collector-Emitter Saturation Voltage | I _C = 4 A I _C = 6 A | $I_B = 16 \text{ mA}$ $I_B = 30 \text{ mA}$ | | | 2 4 | V V |
| V _{BE} * | Base-Emitter Voltage | I _C = 4 A | V _{CE} = 4 V | | | 2.5 | V |
| h _{FE} * | DC Current Gain | I _C = 1 A I _C = 4 A | V _{CE} = 4 V V _{CE} = 4 V | 500 1000 | | 15000 | |

Safe Operating Areas



Power Derating Curve

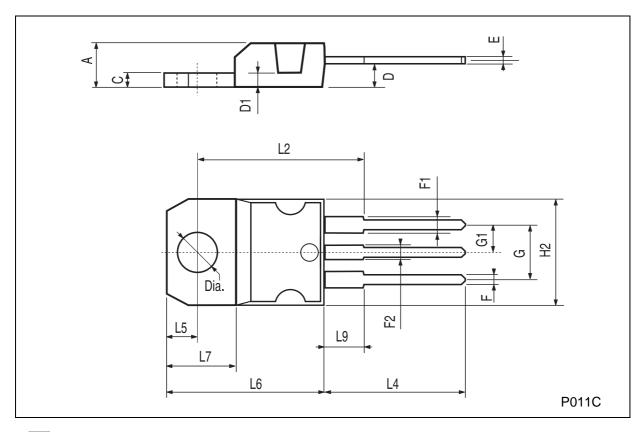


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^{*} Pulsed: Pulse duration = 300 μs, duty cycle 1.5 % For PNP types voltage and current values are negative.

TO-220 MECHANICAL DATA

| DIM. | mm | | | inch | | | |
|------|-------|------|-------|-------|-------|-------|--|
| | MIN. | TYP. | MAX. | MIN. | TYP. | MAX. | |
| А | 4.40 | | 4.60 | 0.173 | | 0.181 | |
| С | 1.23 | | 1.32 | 0.048 | | 0.051 | |
| D | 2.40 | | 2.72 | 0.094 | | 0.107 | |
| D1 | | 1.27 | | | 0.050 | | |
| Е | 0.49 | | 0.70 | 0.019 | | 0.027 | |
| F | 0.61 | | 0.88 | 0.024 | | 0.034 | |
| F1 | 1.14 | | 1.70 | 0.044 | | 0.067 | |
| F2 | 1.14 | | 1.70 | 0.044 | | 0.067 | |
| G | 4.95 | | 5.15 | 0.194 | | 0.203 | |
| G1 | 2.4 | | 2.7 | 0.094 | | 0.106 | |
| H2 | 10.0 | | 10.40 | 0.393 | | 0.409 | |
| L2 | | 16.4 | | | 0.645 | | |
| L4 | 13.0 | | 14.0 | 0.511 | | 0.551 | |
| L5 | 2.65 | | 2.95 | 0.104 | | 0.116 | |
| L6 | 15.25 | | 15.75 | 0.600 | | 0.620 | |
| L7 | 6.2 | | 6.6 | 0.244 | | 0.260 | |
| L9 | 3.5 | | 3.93 | 0.137 | | 0.154 | |
| DIA. | 3.75 | | 3.85 | 0.147 | | 0.151 | |



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