



TR BUT11A;ST;TO220;tranzystor; NPN;450V;5A;800ns;100W;Pbf



Dane techniczne:

Nazwa: BUT11A

Typ tranzystora: bipolarny

Kierunek przewodnictwa: NPN

Prąd kolektora: 5A

Napięcie kolektor-emiter: 450V

Moc: 100W

Montaż: przewlekany(THT)

Obudowa: TO220

Producent: ST

HIGH VOLTAGE FAST-SWITCHING NPN POWER TRANSISTOR

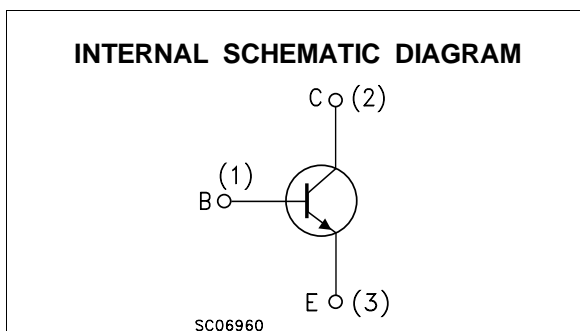
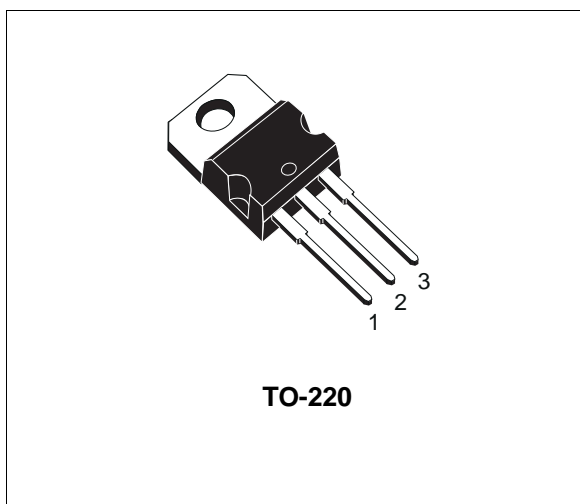
- SGS-THOMSON PREFERRED SALESTYPE
- NPN TRANSISTOR
- HIGH VOLTAGE CAPABILITY
- FAST SWITCHING SPEED

APPLICATIONS:

- FLYBACK AND FORWARD SINGLE TRANSISTOR LOW POWER CONVERTERS

DESCRIPTION

The BUT11A is a silicon multiepitaxial mesa NPN transistor in Jedec TO-220 plastic package, particularly intended for switching application.


ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | Unit |
|-----------|--|------------|------------------|
| V_{CES} | Collector-Emitter Voltage ($V_{BE} = 0\text{ V}$) | 1000 | V |
| V_{CEO} | Collector-Emitter Voltage ($I_B = 0$) | 450 | V |
| V_{EBO} | Emitter-Base Voltage ($I_C = 0$) | 9 | V |
| I_C | Collector Current | 5 | A |
| I_{CM} | Collector Peak Current | 10 | A |
| I_B | Base Current | 2 | A |
| I_{BM} | Base Peak Current | 4 | A |
| P_{tot} | Total Power Dissipation at $T_c \leq 25\text{ }^\circ\text{C}$ | 83 | W |
| T_{stg} | Storage Temperature | -65 to 150 | $^\circ\text{C}$ |
| T_j | Max. Operating Junction Temperature | 150 | $^\circ\text{C}$ |

BUT11A

THERMAL DATA

| | | | | |
|----------------|----------------------------------|-----|-----|---------------|
| $R_{thj-case}$ | Thermal Resistance Junction-case | Max | 1.5 | $^{\circ}C/W$ |
|----------------|----------------------------------|-----|-----|---------------|

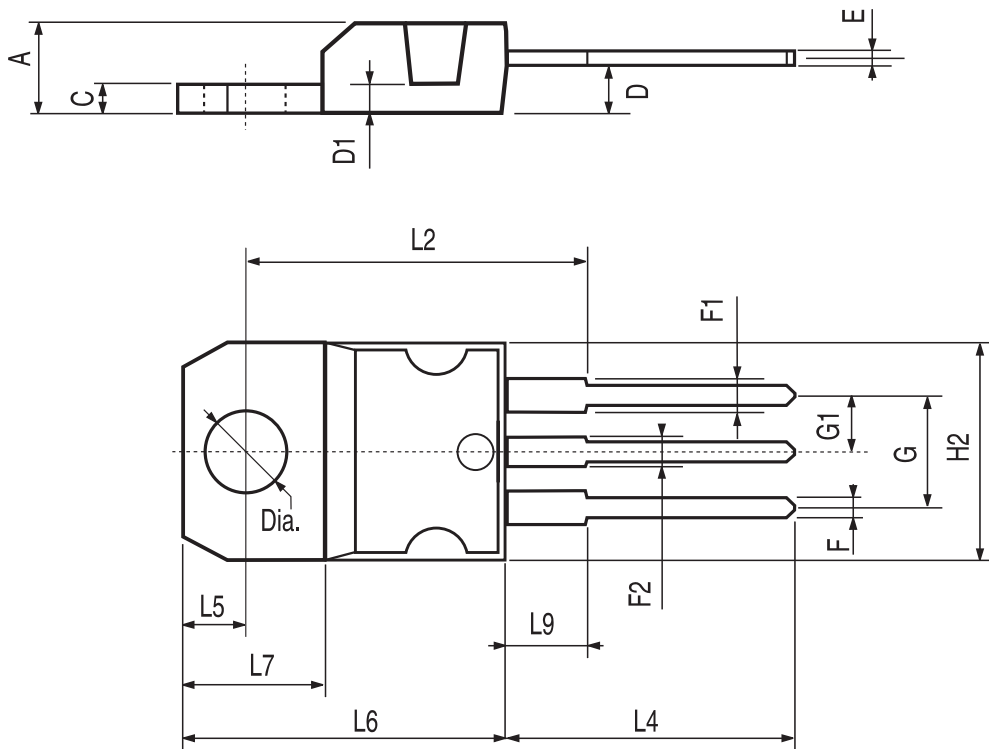
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|-----------------|--|--|------|------|--------|----------|
| I_{CES} | Collector Cut-off Current ($V_{BE} = 0$) | $V_{CE} = \text{rated } V_{CES}$ at $T_{case} = 125^{\circ}C$ | | | 1 2 | mA mA |
| I_{EBO} | Emitter Cut-off Current | $I_C = 0$ $V_{BE} = 9 V$ | | | 10 | mA |
| $V_{CEO(sus)*}$ | Collector-emitter Sustaining Voltage | $I_{B(off)} = 0$ $I_C = 100 mA$ | 450 | | | V |
| $V_{CE(sat)*}$ | Collector-emitter Saturation Voltage | $I_C = 2.5 A$ $I_B = 0.5 A$ | | | 1.5 | V |
| $V_{BE(sat)*}$ | Base-emitter Saturation Voltage | $I_C = 2.5 A$ $I_B = 0.5 A$ | | | 1.3 | V |
| t_{on} | Turn on Time | $I_C = 2.5 A$ $V_{CC} = 250 V$ | | | 1 | μs |
| t_s | Storage Time | $I_B = I_{B2} = 0.5 A$ | | | 4 | μs |
| t_f | Fall Time | | | | 0.8 | μs |

* Pulsed: Pulse duration = 300 μs , duty cycle 1.5 %.

TO-220 MECHANICAL DATA

| DIM. | mm | | | inch | | |
|------|-------|------|-------|-------|-------|-------|
| | MIN. | TYP. | MAX. | MIN. | TYP. | MAX. |
| A | 4.40 | | 4.60 | 0.173 | | 0.181 |
| C | 1.23 | | 1.32 | 0.048 | | 0.051 |
| D | 2.40 | | 2.72 | 0.094 | | 0.107 |
| D1 | | 1.27 | | | 0.050 | |
| E | 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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