



BU911

MEDIUM VOLTAGE NPN IGNITION DARLINGTON

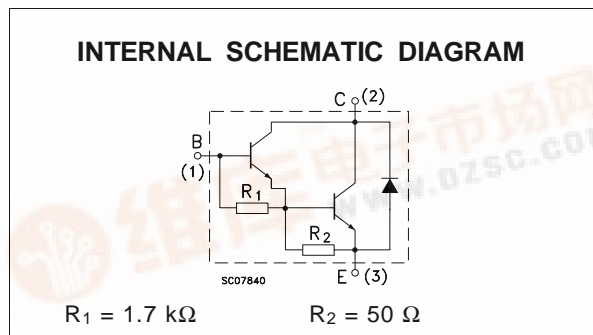
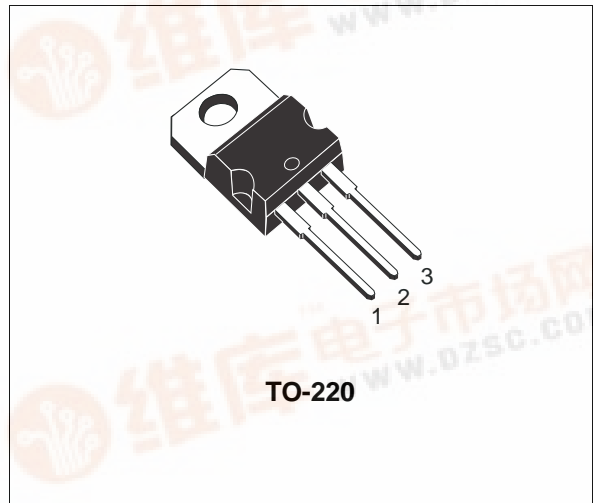
- SGS-THOMSON PREFERRED SALESTYPE
- NPN DARLINGTON
- LOW BASE-DRIVE REQUIREMENTS
- INTEGRATED ANTIPARALLEL COLLECTOR-EMITTER DIODE

APPLICATIONS:

- SOLENOID / RELAY DRIVERS
- MOTOR CONTROL
- ELECTRONIC AUTOMOTIVE IGNITION

DESCRIPTION

The BU911 is an NPN transistor in monolithic Darlington configuration Jedec TO-220 plastic package, designed for applications such as electronic ignition, DC and AC motor controls, solenoid drivers, etc.



ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | Unit |
|------------------|---|------------|------|
| V _{CES} | Collector-Emitter Voltage (V _{BE} = 0) | 450 | V |
| V _{CEO} | Collector-Emitter Voltage (I _B = 0) | 400 | V |
| V _{EBO} | Emitter-Base Voltage (I _C = 0) | 5 | V |
| I _C | Collector Current | 6 | A |
| I _{CM} | Collector Peak Current | 10 | A |
| I _B | Base Current | 1 | A |
| P _{tot} | Total Dissipation at T _c ≤ 25 °C | 60 | W |
| T _{stg} | Storage Temperature | -65 to 150 | °C |
| T _j | Max. Operating Junction Temperature | 150 | °C |

BU911

THERMAL DATA

| | | | | |
|----------------|----------------------------------|-----|------|------|
| $R_{thj-case}$ | Thermal Resistance Junction-case | Max | 2.08 | °C/W |
|----------------|----------------------------------|-----|------|------|

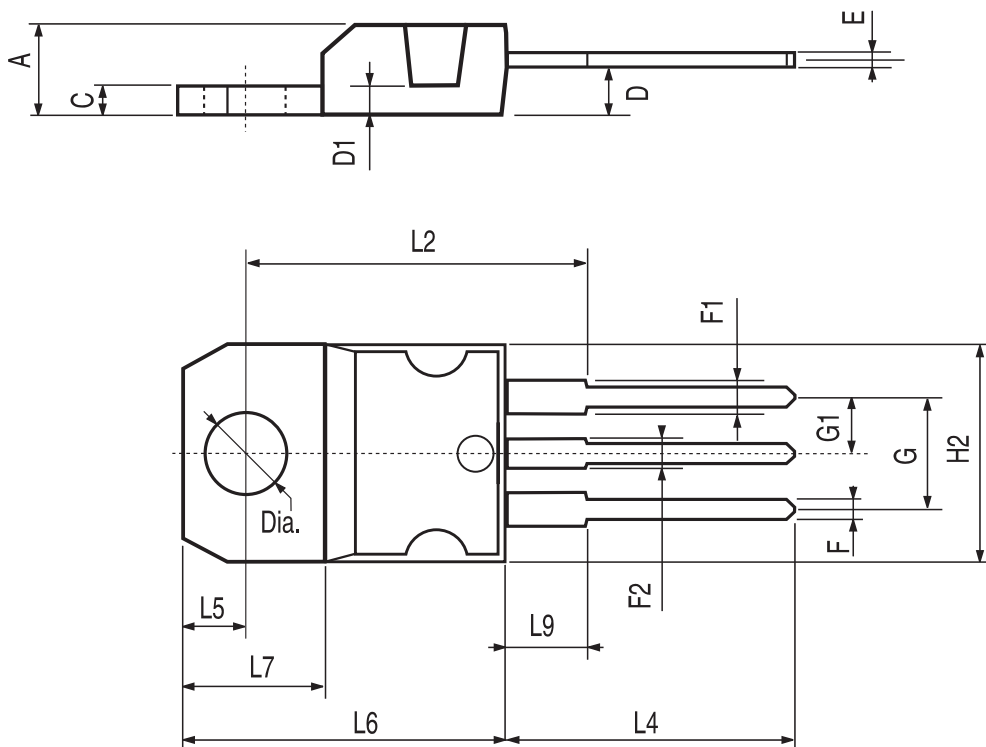
ELECTRICAL CHARACTERISTICS ($T_{case} = 25\text{ °C}$ unless otherwise specified)

| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|-----------------|--|---|------|------|------------|----------|
| I_{CES} | Collector Cut-off Current ($V_{BE} = 0$) | $V_{CE} = 450\text{ V}$ $V_{CE} = 450\text{ V}$ $T_{case} = 125\text{ °C}$ | | | 1 5 | mA mA |
| I_{CEO} | Collector Cut-off Current ($I_B = 0$) | $V_{CE} = 400\text{ V}$ | | | 1 | mA |
| I_{EBO} | Emitter Cut-off Current ($I_C = 0$) | $V_{EB} = 5\text{ V}$ | | | 5 | mA |
| $V_{CEO(sus)*}$ | Collector-emitter Sustaining Voltage ($I_B = 0$) | $I_C = 100\text{ mA}$ | 400 | | | V |
| $V_{CE(sat)*}$ | Collector-emitter Saturation Voltage | $I_C = 2.5\text{ A}$ $I_B = 50\text{ mA}$ $I_C = 4\text{ A}$ $I_B = 200\text{ mA}$ | | | 1.8 1.8 | V V |
| $V_{BE(sat)*}$ | Base-emitter Saturation Voltage | $I_C = 2.5\text{ A}$ $I_B = 50\text{ mA}$ $I_C = 4\text{ A}$ $I_B = 200\text{ mA}$ | | | 2.2 2.5 | V V |
| V_F* | Diode Forward Voltage | $I_F = 4\text{ A}$ | | | 2.5 | V |

* 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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