



HIGH VOLTAGE NPN POWER TRANSISTOR

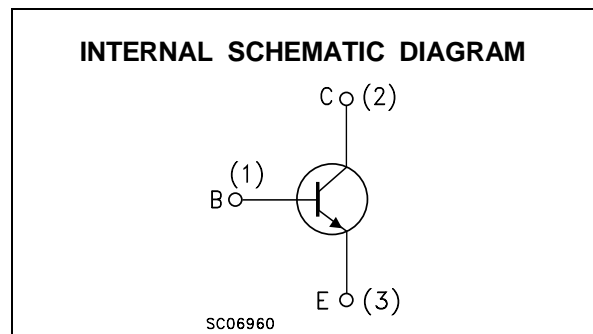
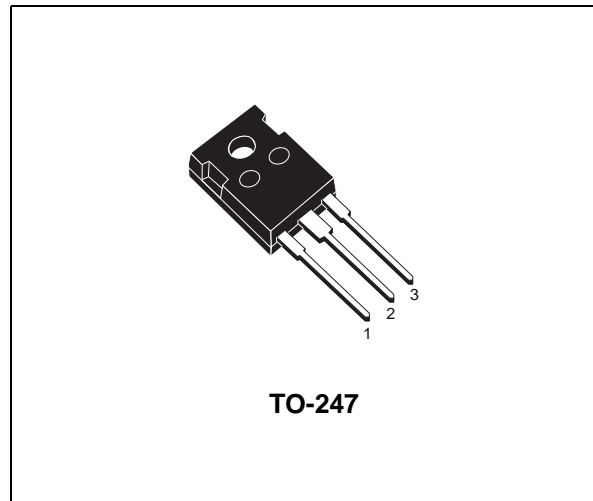
- STMicroelectronics PREFERRED SALESTYPE
- NPN TRANSISTOR
- HIGH VOLTAGE CAPABILITY
- HIGH CURRENT CAPABILITY
- FAST SWITCHING SPEED

APPLICATIONS

- HIGH FREQUENCY AND EFFICIENCY CONVERTERS
- LINEAR AND SWITCHING INDUSTRIAL EQUIPMENT

DESCRIPTION

The BUX98APW is a silicon Multiepitaxial Mesa NPN transistor in TO-247 plastic package. It is intended for use in industrial applications from single and three-phase mains operation.



ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | Unit |
|-----------|---|------------|------|
| V_{CER} | Collector-Emitter Voltage ($R_{BE} = \leq 10 \Omega$) | 1000 | V |
| V_{CES} | Collector-Base Voltage ($V_{BE} = 0$) | 1000 | V |
| V_{CEO} | Collector-Emitter Voltage ($I_B = 0$) | 450 | V |
| V_{EBO} | Emitter-Base Voltage ($I_C = 0$) | 7 | V |
| I_C | Collector Current | 24 | A |
| I_{CM} | Collector Peak Current ($t_p < 5$ ms) | 36 | A |
| I_B | Base Current | 5 | A |
| I_{BM} | Base Peak Current ($t_p < 5$ ms) | 8 | A |
| P_{tot} | Total Power Dissipation at $T_{case} < 25$ °C | 200 | W |
| T_{stg} | Storage Temperature | -65 to 150 | °C |
| T_j | Max Operating Junction Temperature | 150 | °C |

BUX98APW

THERMAL DATA

| | | | | |
|-----------------------|----------------------------------|-----|------|------|
| R _{thj-case} | Thermal Resistance Junction-case | Max | 0.63 | °C/W |
|-----------------------|----------------------------------|-----|------|------|

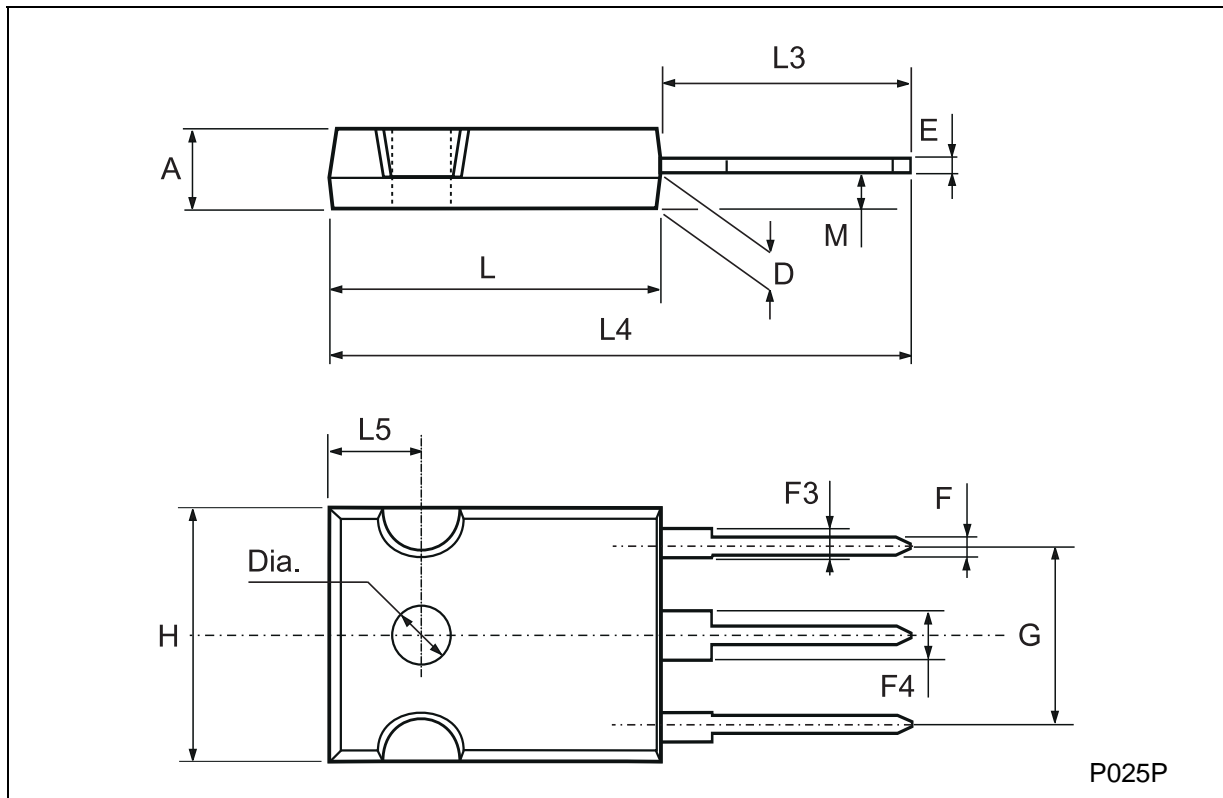
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|---|---|---|------|------|---------------|----------------|
| I _{CEr} | Collector Cut-off Current (R _{BE} = 5 Ω) | V _{CE} = 1000 V V _{CE} = 1000 V T _C = 125 °C | | | 200 2 | μA mA |
| I _{CES} | Collector Cut-off Current (V _{BE} = 0) | V _{CE} = 1000 V V _{CE} = 1000 V T _C = 125 °C | | | 200 2 | μA mA |
| I _{CEO} | Collector Cut-off Current (I _B = 0) | V _{CE} = 450 V | | | 2 | mA |
| I _{EBO} | Emitter Cut-off Current (I _C = 0) | V _{EB} = 5 V | | | 2 | mA |
| V _{(BR)EBO} | Emitter-Base Breakdown Voltage (I _C = 0) | I _E = 100 mA | 7 | | | V |
| V _{CEO(sus)*} | Collector-Emitter Sustaining Voltage (I _B = 0) | I _C = 200 mA L = 25 mH | 450 | | | V |
| V _{CE(sat)*} | Collector-Emitter Saturation Voltage | I _C = 16 A I _B = 3.2 A | | | 1.2 | V |
| V _{BE(sat)*} | Base-Emitter Saturation Voltage | I _C = 16 A I _B = 3.2 A | | | 1.5 | V |
| t _{on} t _s t _f | RESISTIVE LOAD Turn-on Time Storage Time Fall Time | V _{CC} = 150 V I _C = 16 A I _{B1} = - I _{B2} = 3.2 A | | | 1 3 0.8 | μs μs μs |

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

TO-247 MECHANICAL DATA

| DIM. | mm | | | inch | | |
|------|------|------|------|-------|-------|-------|
| | MIN. | TYP. | MAX. | MIN. | TYP. | MAX. |
| A | 4.7 | | 5.3 | 0.185 | | 0.209 |
| D | 2.2 | | 2.6 | 0.087 | | 0.102 |
| E | 0.4 | | 0.8 | 0.016 | | 0.031 |
| F | 1 | | 1.4 | 0.039 | | 0.055 |
| F3 | 2 | | 2.4 | 0.079 | | 0.094 |
| F4 | 3 | | 3.4 | 0.118 | | 0.134 |
| G | | 10.9 | | | 0.429 | |
| H | 15.3 | | 15.9 | 0.602 | | 0.626 |
| L | 19.7 | | 20.3 | 0.776 | | 0.779 |
| L3 | 14.2 | | 14.8 | 0.559 | | 0.582 |
| L4 | | 34.6 | | | 1.362 | |
| L5 | | 5.5 | | | 0.217 | |
| M | 2 | | 3 | 0.079 | | 0.118 |



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