

## TO-220-3L Plastic-Encapsulate Thyristors

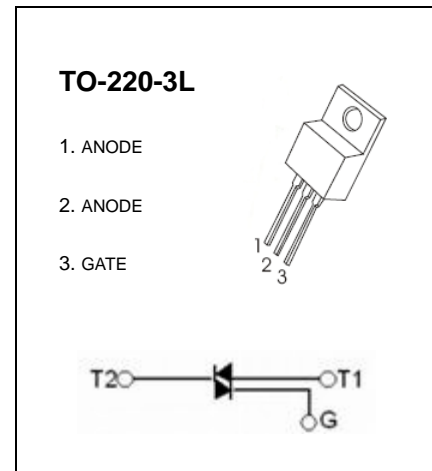
### BT136 TRIAC

#### MAIN FEATURES

| Symbol            | value | unit |
|-------------------|-------|------|
| $I_{T(RMS)}$      | 6     | A    |
| $V_{DRM}/V_{RRM}$ | 600   | V    |
| $I_{TSM}$         | 25    | A    |

#### GENERAL DESCRIPTION

Glass passivated triacs in a plastic envelope, intended for use in applications requiring high bidirectional transient and blocking voltage capability and high thermal cycling performance. Typical applications include motor control, industrial and domestic lighting, heating and static switching.



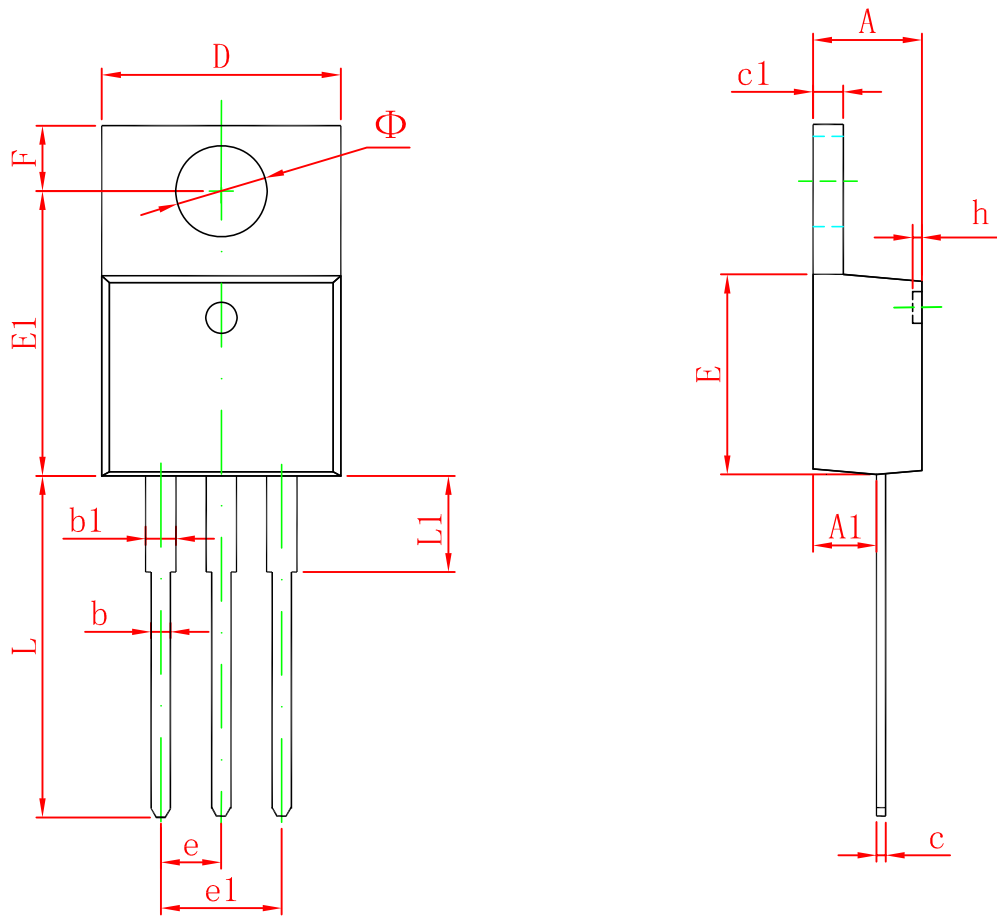
#### ABSOLUTE MAXIMUM RATINGS (Ta=25 °C unless otherwise noted)

| symbol           | parameter   |                           |                       | value       | unit |
|------------------|---|---------------------------|-----------------------|-------------|------|
| $I_{T(RMS)}$     | RMS on-state current (full sine wave)   | D <sup>2</sup> PAK/TO-220 | T <sub>C</sub> =107°C | 6           | A    |
| $I_{TSM}$        | Non repetitive surge peak on-state current (full sine wave, T <sub>j</sub> =25°C) |                           | t=20ms                | 25          | A    |
|                  |   |                           | t=16.7ms              | 27          |      |
| $I_{GM}$         | Peak gate current   |                           |                       | 2           | A    |
| $P_{G(AV)}$      | Average gate power dissipation  |                           | T <sub>j</sub> =125°C | 0.5         | W    |
| T <sub>stg</sub> | Storage junction temperature range  |                           |                       | -40 to +150 | °C   |
| T <sub>j</sub>   | Operating junction temperature range  |                           |                       | -40 to +125 |      |

#### ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

| Parameter                                       |     | Symbol             | Test conditions          | Min                          | Max  | Unit    |
|---|-----|--------------------|--------------------------|------------------------------|------|---------|
| Rated repetitive peak off-state/reverse voltage |     | $V_{DRM}, V_{RRM}$ | $I_D=10\mu A$            | 600                          |      | V       |
| Rated repetitive peak off-state current         |     | $I_{DRM}, I_{RRM}$ | $V_D=620V$               |                              | 10   | $\mu A$ |
| On-state voltage                                |     | $V_{TM}$           | $I_T=5A$                 |                              | 1.7  | V       |
| Gate trigger current                            | I   | $I_{GT}$           | T <sub>2</sub> (+), G(+) | $V_D=12V$<br>$R_L=100\Omega$ | 10   | mA      |
|   | II  |                    | T <sub>2</sub> (+), G(-) |                              | 10   | mA      |
|   | III |                    | T <sub>2</sub> (-), G(-) |                              | 10   | mA      |
|   | IV  |                    | T <sub>2</sub> (-), G(+) |                              | -    | mA      |
| Gate trigger voltage                            | I   | $V_{GT}$           | T <sub>2</sub> (+), G(+) | $V_D=12V$<br>$R_L=100\Omega$ | 1.45 | V       |
|   | II  |                    | T <sub>2</sub> (+), G(-) |                              | 1.45 | V       |
|   | III |                    | T <sub>2</sub> (-), G(-) |                              | 1.45 | V       |
|   | IV  |                    | T <sub>2</sub> (-), G(+) |                              | -    | V       |
| Holding current                                 |     | $I_H$              | $I_T=100mA$ $I_G=20mA$   |                              | 20   | mA      |

# TO-220-3L Package Outline Dimensions



| Symbol | Dimensions In Millimeters |        | Dimensions In Inches |       |
|--------|---------------------------|--------|----------------------|-------|
|        | Min                       | Max    | Min                  | Max   |
| A      | 4.470                     | 4.670  | 0.176                | 0.184 |
| A1     | 2.520                     | 2.820  | 0.099                | 0.111 |
| b      | 0.710                     | 0.910  | 0.028                | 0.036 |
| b1     | 1.170                     | 1.370  | 0.046                | 0.054 |
| c      | 0.310                     | 0.530  | 0.012                | 0.021 |
| c1     | 1.170                     | 1.370  | 0.046                | 0.054 |
| D      | 10.010                    | 10.310 | 0.394                | 0.406 |
| E      | 8.500                     | 8.900  | 0.335                | 0.350 |
| E1     | 12.060                    | 12.460 | 0.475                | 0.491 |
| e      | 2.540 TYP                 |        | 0.100 TYP            |       |
| e1     | 4.980                     | 5.180  | 0.196                | 0.204 |
| F      | 2.590                     | 2.890  | 0.102                | 0.114 |
| h      | 0.000                     | 0.300  | 0.000                | 0.012 |
| L      | 13.400                    | 13.800 | 0.528                | 0.543 |
| L1     | 3.560                     | 3.960  | 0.140                | 0.156 |
| $\Phi$ | 3.735                     | 3.935  | 0.147                | 0.155 |