

**TO-252-2L Plastic-Encapsulate Thyristors**

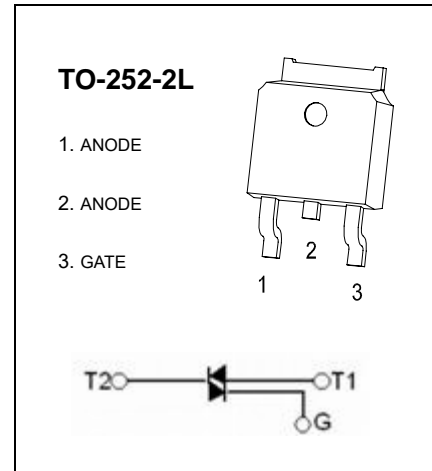
**BT136S TRIAC**

**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.



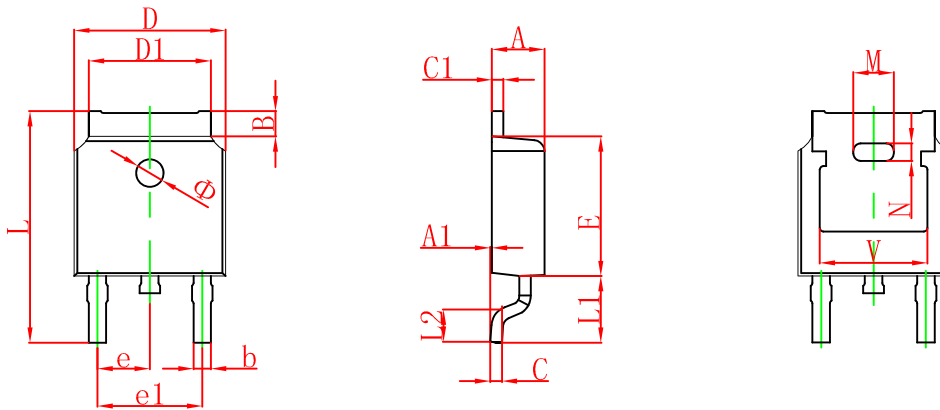
**ABSOLUTE MAXIMUM RATINGS (Ta=25°C unless otherwise noted)**

| 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)**

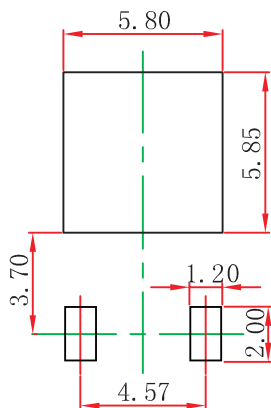
| Parameter                                       |     | Symbol             | Test conditions          | Min                          | Max  | Unit    |
|---|-----|--------------------|--------------------------|------------------------------|------|---------|
| Rated repetitive peak off-state/reverse 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-252(4R)-2L Package Outline Dimensions



| Symbol | Dimensions In Millimeters |        | Dimensions In Inches |       |
|--------|---------------------------|--------|----------------------|-------|
|        | Min.                      | Max.   | Min.                 | Max.  |
| A      | 2.200                     | 2.380  | 0.087                | 0.094 |
| A1     | 0.000                     | 0.100  | 0.000                | 0.004 |
| B      | 0.800                     | 1.400  | 0.031                | 0.055 |
| b      | 0.710                     | 0.810  | 0.028                | 0.032 |
| c      | 0.460                     | 0.560  | 0.018                | 0.022 |
| c1     | 0.460                     | 0.560  | 0.018                | 0.022 |
| D      | 6.500                     | 6.700  | 0.256                | 0.264 |
| D1     | 5.130                     | 5.460  | 0.202                | 0.215 |
| E      | 6.000                     | 6.200  | 0.236                | 0.244 |
| e      | 2.286 TYP.                |        | 0.090 TYP.           |       |
| e1     | 4.327                     | 4.727  | 0.170                | 0.186 |
| M      | 1.778REF.                 |        | 0.070REF.            |       |
| N      | 0.762REF.                 |        | 0.018REF.            |       |
| L      | 9.800                     | 10.400 | 0.386                | 0.409 |
| L1     | 2.9REF.                   |        | 0.114REF.            |       |
| L2     | 1.400                     | 1.700  | 0.055                | 0.067 |
| V      | 4.830 REF.                |        | 0.190 REF.           |       |
| Φ      | 1.100                     | 1.300  | 0.043                | 0.051 |

## TO-252(4R)-2L Suggested Pad Layout



**Note:**

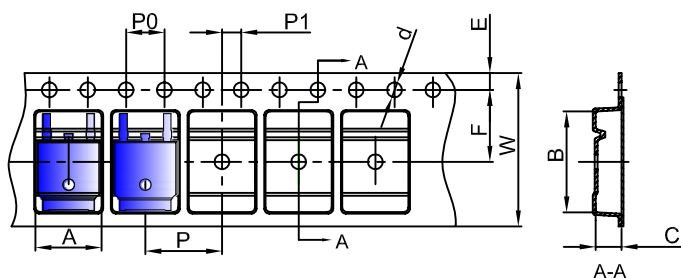
1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

**NOTICE**

JSCJ reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.

## TO-252 Tape and reel

### TO-252 Embossed Carrier Tape

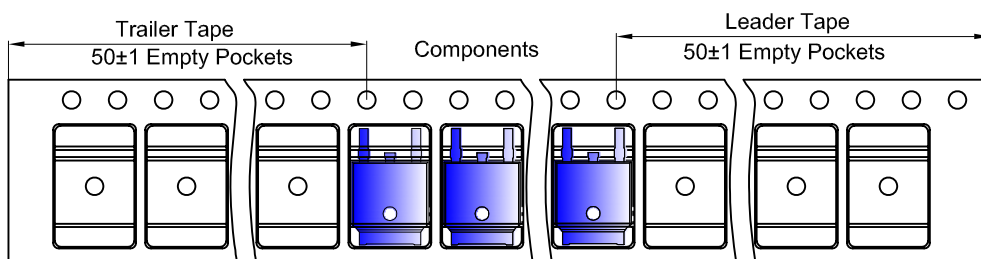


#### Packaging Description:

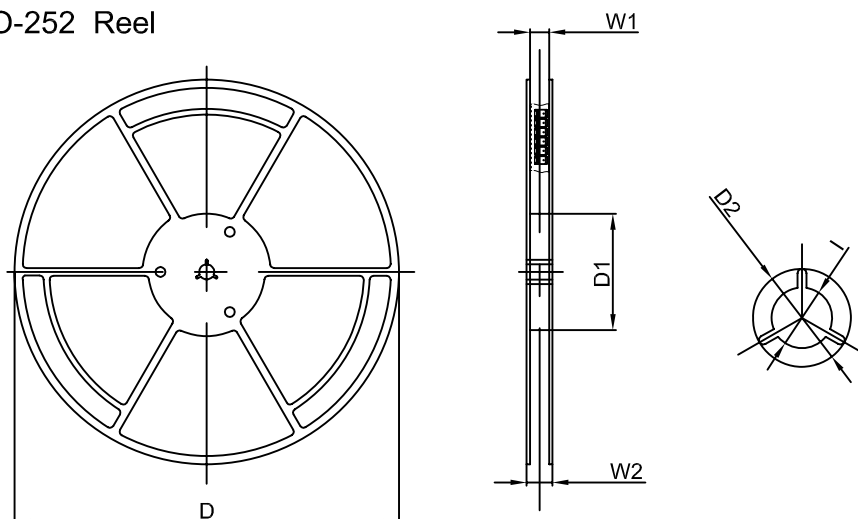
TO-252 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 25,00 units per 13" or 33.0 cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

| Dimensions are in millimeter |        |        |        |        |        |        |        |        |        |           |
|------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|
| Pkg type                     | A      | B      | C      | d      | E      | F      | P0     | P      | P1     | W         |
| TO-252                       | 6.90   | 10.50  | 2.70   | Ø1.55  | 1.75   | 7.50   | 4.00   | 8.00   | 2.00   | 16.00     |
| (Tolerance)                  | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +0.3/-0.1 |

### TO-252 Tape Leader and Trailer



### TO-252 Reel



| Dimensions are in millimeter |        |        |        |       |       |        |
|------------------------------|--------|--------|--------|-------|-------|--------|
| Reel Option                  | D      | D1     | D2     | W1    | W2    | I      |
| 13"Dia                       | 330.00 | 100.00 | Ø21.00 | 16.40 | 21.00 | Ø13.00 |
| Tolerance                    | +/-2   | +/-1   | +/-1   | +/-1  | +/-1  | +/-1   |

| REEL      | Reel Size | Box       | Box Size(mm) | Carton     | Carton Size(mm) | G.W.(kg) |
|-----------|-----------|-----------|--------------|------------|-----------------|----------|
| 2,500 pcs | 13inch    | 2,500 pcs | 340×336×29   | 25,000 pcs | 353×346×365     | 14.04    |