

## TO-252-2L Plastic-Encapsulate Diodes

SCHOTTKY BARRIER RECTIFIER

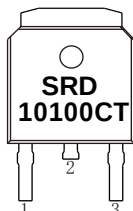
### FEATURES

- Low Power Loss, High Efficiency
- Guard Ring Die Construction for Transient Protection
- High Current Capability and Low Forward Voltage Drop

### MAIN CHARACTERISTICS

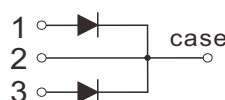
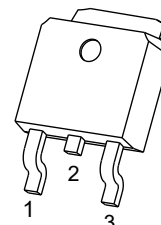
|              |                               |
|--------------|-------------------------------|
| $I_O$        | 10 (2×5) A                    |
| $V_{RRM}$    | 100 V                         |
| $T_j$        | 150 °C                        |
| $V_{F(typ)}$ | 0.63V (@ $T_j=125^{\circ}C$ ) |

### MARKING



TO-252-2L

1. ANODE
2. CATHODE
3. ANODE



### MAXIMUM RATINGS ( $T_a=25^{\circ}C$ unless otherwise noted )

| Symbol          | Parameter                                                        | Value    | Unit |
|-----------------|------------------------------------------------------------------|----------|------|
| $V_{RRM}$       | Peak repetitive reverse voltage                                  | 100      | V    |
| $V_{RWM}$       | Working peak reverse voltage                                     |          |      |
| $V_R$           | DC blocking voltage                                              |          |      |
| $V_{R(RMS)}$    | RMS reverse voltage                                              | 70       | V    |
| $I_O$           | Average rectified output current                                 | 10       | A    |
| $I_{FSM}$       | Non-Repetitive peak forward surge current (8.3ms half sine wave) | 120      | A    |
| $R_{\theta JC}$ | Thermal resistance from junction to case                         | 5.0      | °C/W |
| $R_{\theta JA}$ | Thermal resistance from junction to ambient                      | 100      | °C/W |
| $T_j$           | Junction temperature                                             | 150      | °C   |
| $T_{stg}$       | Storage temperature                                              | -55~+150 | °C   |

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

| Parameter       | Symbol     | Test conditions | Min                | Typ  | Max  | Unit |
|-----------------|------------|-----------------|--------------------|------|------|------|
| Reverse voltage | $V_{(BR)}$ | $I_R=0.1mA$     | 100                |      |      | V    |
| Reverse current | $I_R$      | $V_R=100V$      | $T_j=25^{\circ}C$  | 2.0  | 100  | uA   |
|                 |            |                 | $T_j=125^{\circ}C$ | 2.0  |      | mA   |
| Forward voltage | $V_F$      | $I_F=3A$        | $T_j=25^{\circ}C$  | 0.71 |      | V    |
|                 |            |                 | $T_j=125^{\circ}C$ | 0.57 |      | V    |
|                 |            | $I_F=5A$        | $T_j=25^{\circ}C$  | 0.77 | 0.85 | V    |
|                 |            |                 | $T_j=125^{\circ}C$ | 0.63 |      | V    |

## Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

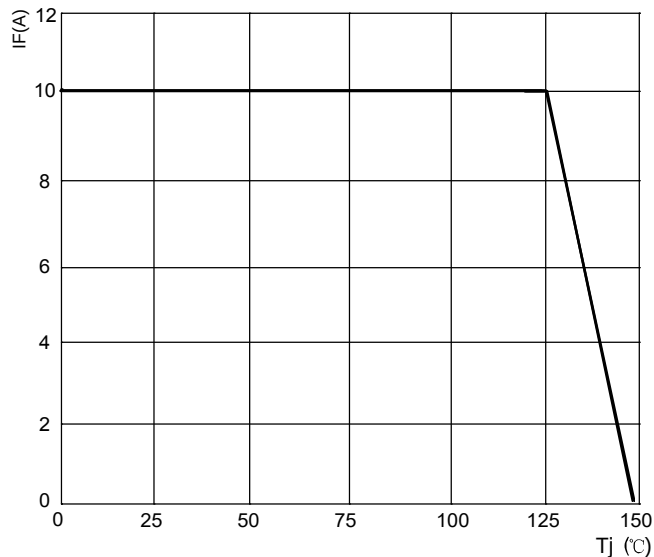


FIG.2: TYPICAL FORWARD CHARACTERISTICS

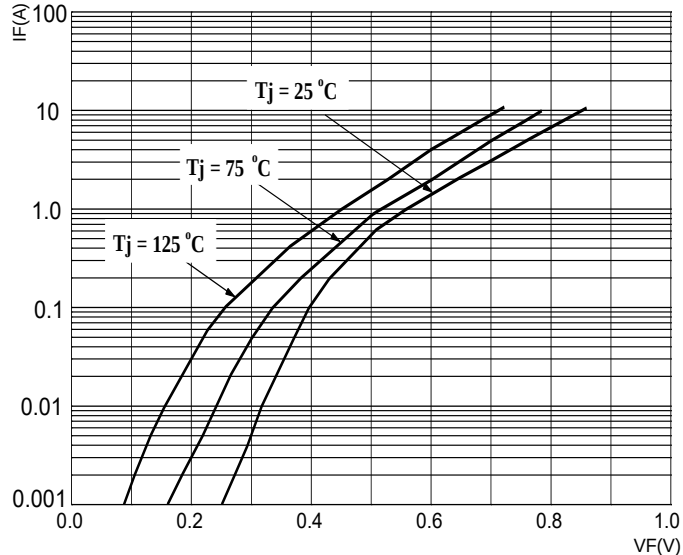


FIG.3: TOTAL CAPACITANCE DERATING CURVE

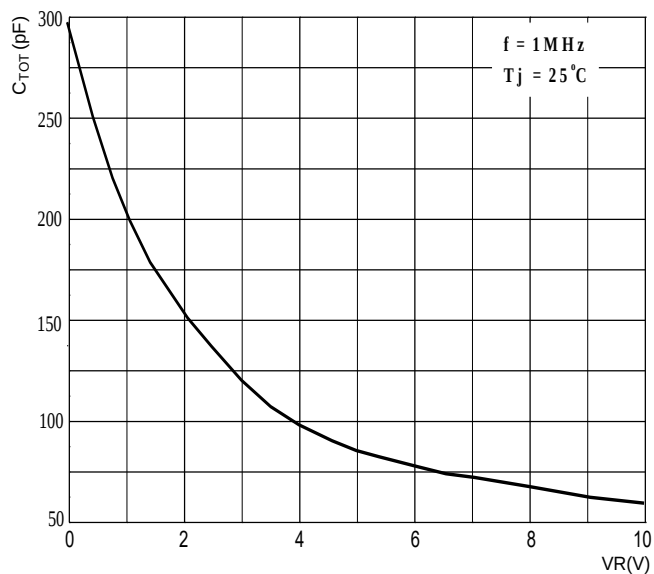
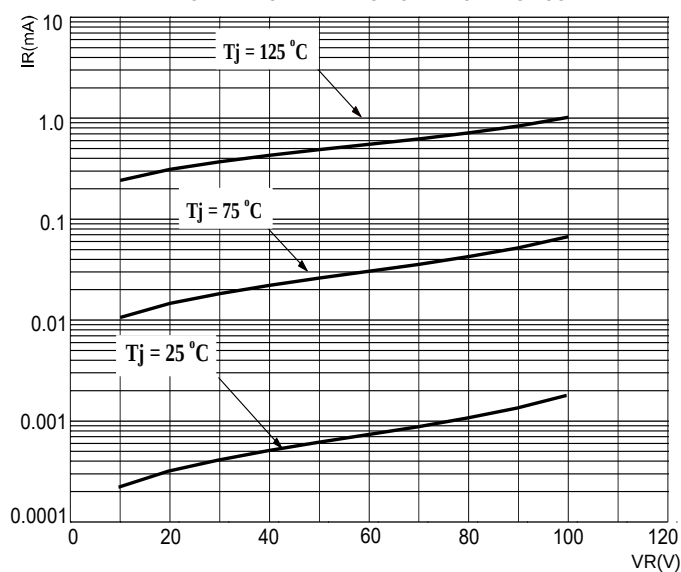
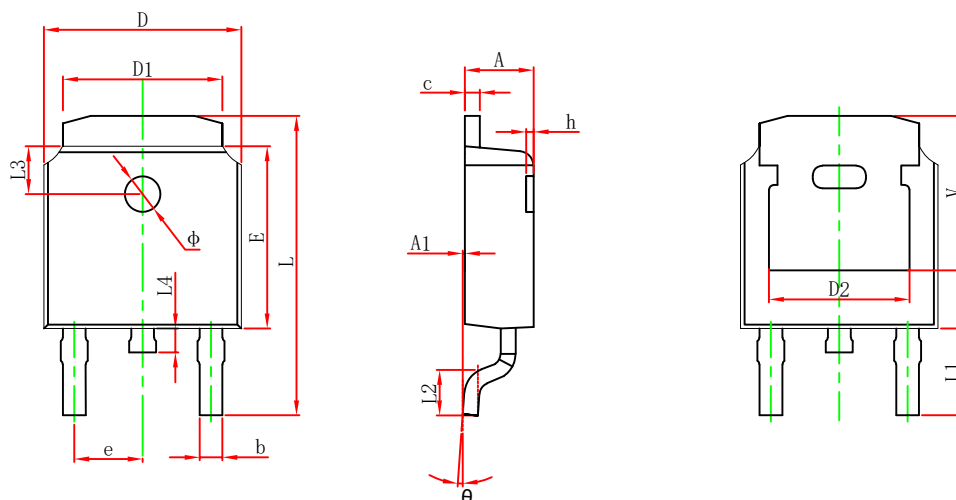


FIG.4: TYPICAL REVERSE CHARACTERISTICS

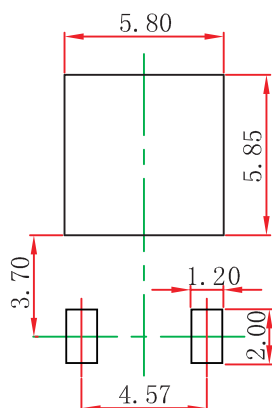


## TO-252-2L Package Outline Dimensions



| Symbol | Dimensions In Millimeters |        | Dimensions In Inches |       |
|--------|---------------------------|--------|----------------------|-------|
|        | Min.                      | Max.   | Min.                 | Max.  |
| A      | 2.200                     | 2.400  | 0.087                | 0.094 |
| A1     | 0.000                     | 0.127  | 0.000                | 0.005 |
| b      | 0.635                     | 0.770  | 0.025                | 0.030 |
| c      | 0.460                     | 0.580  | 0.018                | 0.023 |
| D      | 6.500                     | 6.700  | 0.256                | 0.264 |
| D1     | 5.100                     | 5.460  | 0.201                | 0.215 |
| D2     | 4.830 REF.                |        | 0.190 REF.           |       |
| E      | 6.000                     | 6.200  | 0.236                | 0.244 |
| e      | 2.186                     | 2.386  | 0.086                | 0.094 |
| L      | 9.712                     | 10.312 | 0.382                | 0.406 |
| L1     | 2.900 REF.                |        | 0.114 REF.           |       |
| L2     | 1.400                     | 1.700  | 0.055                | 0.067 |
| L3     | 1.600 REF.                |        | 0.063 REF.           |       |
| L4     | 0.600                     | 1.000  | 0.024                | 0.039 |
| Φ      | 1.100                     | 1.300  | 0.043                | 0.051 |
| θ      | 0°                        | 8°     | 0°                   | 8°    |
| h      | 0.000                     | 0.300  | 0.000                | 0.012 |
| V      | 5.250 REF.                |        | 0.207 REF.           |       |

## TO-252-2L Suggested Pad Layout

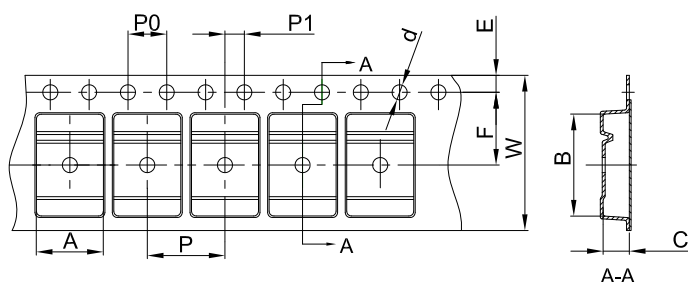


**Note:**

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

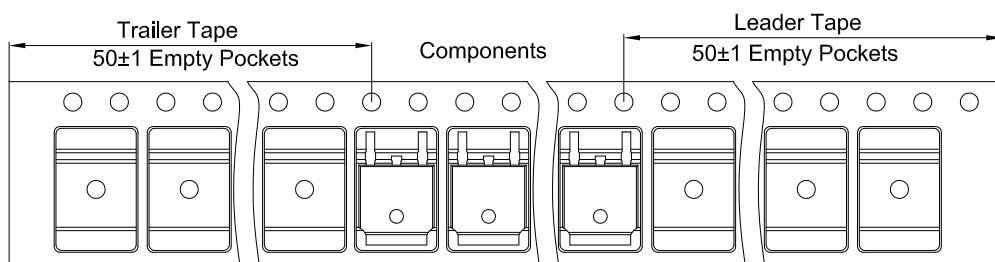
## TO-252-2L Tape and Reel

### TO-252 Embossed Carrier Tape

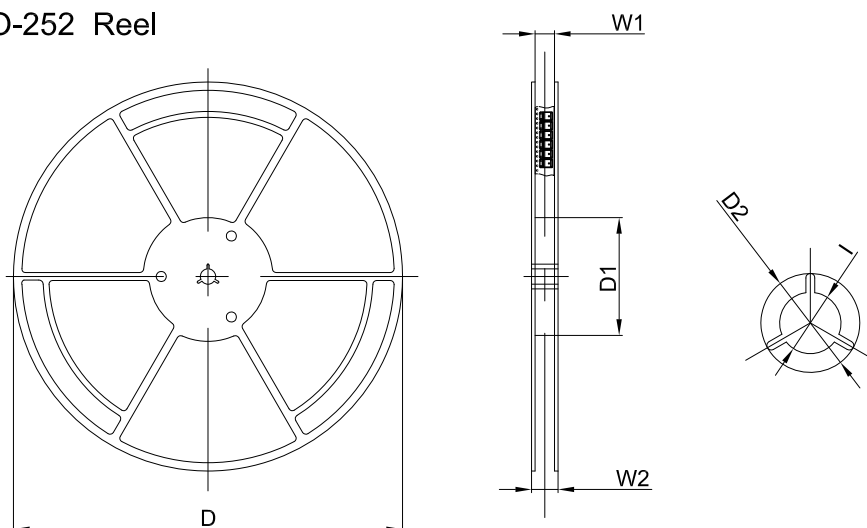


| Dimensions are in millimeter |      |       |      |       |      |      |      |      |      |       |
|------------------------------|------|-------|------|-------|------|------|------|------|------|-------|
| Pkg type                     | A    | B     | C    | d     | E    | F    | P0   | P   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

### 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 |

| 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     |          |