

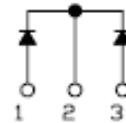
## STF30150C(R) SCHOTTKY RECTIFIER

### Applications:

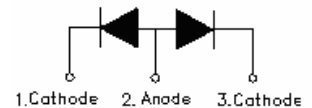
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

### Features:

- 150 °C T<sub>J</sub> operation
- Center tap configuration
- Ultralow forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

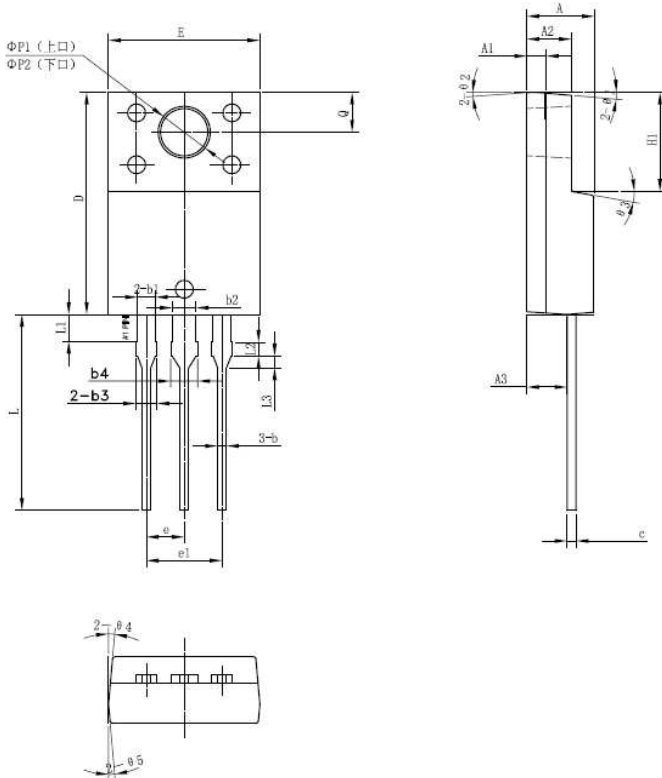


**STF30150C**



**STF30150CR**

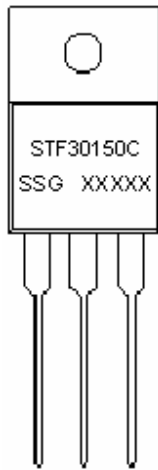
### Mechanical Dimensions: In mm



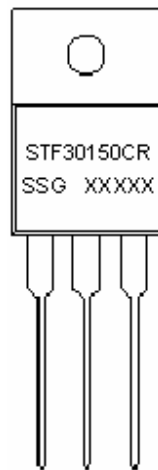
| SYMBOL  | MIN.  | TYP.  | MAX.  |
|---------|-------|-------|-------|
| A       | 4.30  | 4.50  | 4.70  |
| A1      | 1.10  | 1.30  | 1.50  |
| A2      | 2.80  | 3.00  | 3.20  |
| A3      | 2.50  | 2.70  | 2.90  |
| b       | 0.50  | 0.60  | 0.75  |
| b1      | 1.10  | 1.20  | 1.35  |
| b2      | 1.50  | 1.60  | 1.75  |
| b3      | 1.20  | 1.30  | 1.45  |
| b4      | 1.60  | 1.70  | 1.85  |
| c       | 0.55  | 0.60  | 0.75  |
| D       | 14.80 | 15.00 | 15.20 |
| E       | 9.96  | 10.16 | 10.36 |
| e       |       | 2.55  |       |
| e1      |       | 5.10  |       |
| H1      | 6.50  | 6.70  | 6.90  |
| L       | 12.70 | 13.20 | 13.70 |
| L1      | 1.60  | 1.80  | 2.00  |
| L2      | 0.80  | 1.00  | 1.20  |
| L3      | 0.60  | 0.80  | 1.00  |
| ΦP1(上□) | 3.30  | 3.50  | 3.70  |
| ΦP2(下□) | 2.99  | 3.19  | 3.39  |
| Q       | 2.50  | 2.70  | 2.90  |
| Θ1      |       | 5°    |       |
| Θ2      |       | 4°    |       |
| Θ3      |       | 10°   |       |
| Θ4      |       | 5°    |       |
| Θ5      |       | 5°    |       |

### ITO-220AB

**Marking Diagram:**



**STF30150C**



**STF30150CR**

Where XXXXX is YYWWL

- S = Device Type
- T = Ultralow VF
- F = Package type
- 30 = Forward Current (30A)
- 150 = Reverse Voltage (150V)
- C(R) = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

**Cautions:** Molding resin  
Epoxy resin UL: 94V-0

**Ordering Information:**

| Device       | Package                | Shipping     |
|--------------|------------------------|--------------|
| STF30150C(R) | ITO-220AB<br>(Pb-Free) | 50pcs / tube |

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

**Maximum Ratings:**

| Characteristics                                       | Symbol      | Condition   | Max. | Units |
|---|-------------|---|------|-------|
| Peak Inverse Voltage                                  | $V_{RWM}$   | -   | 150  | V     |
| Average Forward Current                               | $I_{F(AV)}$ | 50% duty cycle @ $T_C=100^\circ\text{C}$<br>rectangular wave form | 30   | A     |
| Peak One Cycle Non-Repetitive Surge Current (per leg) | $I_{FSM}$   | 8.3 ms, half Sine pulse   | 200  | A     |



**Electrical Characteristics:**

| Characteristics  | Symbol           | Condition   | Max.   | Units |
|--|------------------|---|--------|-------|
| Forward Voltage Drop (per leg)*  | V <sub>F1</sub>  | @ 15A, Pulse, T <sub>J</sub> = 25 °C  | 1.36   | V     |
|  | V <sub>F2</sub>  | @ 15A, Pulse, T <sub>J</sub> = 125 °C   | 0.79   | V     |
| Reverse Current (per leg)  | I <sub>R1</sub>  | @V <sub>R</sub> = rated V <sub>R</sub><br>T <sub>J</sub> = 25 °C  | 0.2    | mA    |
| Reverse Current (per leg) *  | I <sub>R2</sub>  | @V <sub>R</sub> = rated V <sub>R</sub><br>T <sub>J</sub> = 125 °C                                       | 20     | mA    |
| Junction Capacitance (per leg)   | C <sub>T</sub>   | @V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C<br>f <sub>SIG</sub> = 1MHz                                 | 800    | pF    |
| Voltage Rate of Change   | dv/dt            | -   | 10,000 | V/μs  |
| RSM Isolation Voltage<br>(t = 1.0 second, R. H. < =30%,<br>T <sub>A</sub> = 25 °C) | V <sub>ISO</sub> | Clip mounting, the epoxy body away from the heatsink edge by more than 0.110" along the lead direction. | 4500   | V     |
|  |                  | Clip mounting, the epoxy body is inside the heatsink.   | 3500   |       |
|  |                  | Screw mounting, the epoxy body is inside the heatsink.  | 1500   |       |

\* Pulse Width < 300μs, Duty Cycle <2%

**Thermal-Mechanical Specifications:**

| Characteristics                                       | Symbol           | Condition    | Specification | Units |
|---|------------------|--------------|---------------|-------|
| Junction Temperature                                  | T <sub>J</sub>   | -            | -55 to +150   | °C    |
| Storage Temperature                                   | T <sub>stg</sub> | -            | -55 to +150   | °C    |
| Maximum Thermal Resistance Junction to Case (per leg) | R <sub>θJC</sub> | DC operation | 4.5           | °C/W  |
| Approximate Weight                                    | wt               | -            | 2             | g     |
| Case Style  | ITO-220AB        |              |               |       |



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