

**SCHOTTKY BARRIER RECTIFIER**
**Reverse Voltage - 150 V**
**Forward Current - 30 A**
**FEATURES**

- ◆ Low forward voltage
- ◆ High current capability
- ◆ High forward surge capability
- ◆ Low power losses, High efficiency
- ◆ Guarding for over voltage protection

**APPLICATIONS**

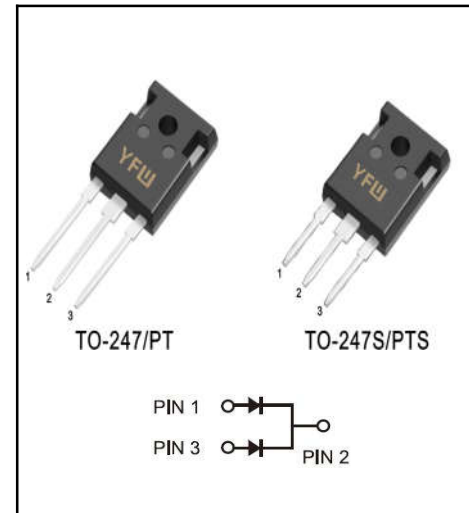
Low VF Schottky barrier rectifier are designed for high frequency, miniature switched mode power supplies such as adapters ,lighting and on-board DC/DC conerters

**MECHANICAL DATA**

- ◆ Case: Molded plastic
- ◆ Polarity: As marked
- ◆ Mounting Position: Any
- ◆ Molded Plastic: UL Flammability Classification Rating 94V-0
- ◆ Lead free in compliance with EU RoHS 2011/65/EU directive
- ◆ Solder bath temperature 275°C maximum,10s per JESD 22-B106

**Primary Characteristic**

|                         |              |
|-------------------------|--------------|
| <b>I<sub>o</sub></b>    | <b>2*15A</b> |
| <b>V<sub>RRM</sub></b>  | <b>150V</b>  |
| <b>I<sub>FSM</sub></b>  | <b>330A</b>  |
| <b>V<sub>F</sub></b>    | <b>0.73V</b> |
| <b>T<sub>J</sub>Max</b> | <b>150°C</b> |


**Maximum Ratings (Per Leg) at Ta=25°C unless otherwise specified**

| Characteristics   |         | Symbol           | Value       | Unit |
|---|---------|------------------|-------------|------|
| Maximum Repetitive Peak Reverse Voltage   |         | V <sub>RRM</sub> | 150         | V    |
| Working Peak Reverse Voltage  |         | V <sub>RWM</sub> | 105         | V    |
| Maximum DC Blocking Voltage   |         | V <sub>DC</sub>  | 150         | V    |
| Maximum Average Forward Rectified Current   | Per Leg | I <sub>o</sub>   | 15          | A    |
|   | Total   |                  | 30          |      |
| Peak Forward Surge Current,8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) |         | I <sub>FSM</sub> | 330         | A    |
| Operating Temperature Range   |         | T <sub>J</sub>   | 150         | °C   |
| Storage Temperature Range   |         | T <sub>STG</sub> | -40 to +150 | °C   |
| Typical Thermal Resistance (Note1)  |         | R <sub>θjc</sub> | 2           | °C/W |

Note1: Thermal resistance from Junction to case per leg mounted on heatsink.

**Electrical Characteristics (Per Leg) unless otherwise specified**

| Characteristics                                 |          | Symbol         | Value |      | Unit |
|---|----------|----------------|-------|------|------|
| <b>Forward Voltage Drop(Note2)</b>              |          | V <sub>F</sub> | Typ.  | Max. | V    |
| at I <sub>F</sub> =3A                           | TA=25°C  |                | 0.71  | -    |      |
|   | TA=125°C |                | 0.57  | -    |      |
| at I <sub>F</sub> =5A                           | TA=25°C  |                | 0.75  | -    |      |
|   | TA=125°C |                | 0.61  | -    |      |
| at I <sub>F</sub> =15A                          | TA=25°C  |                | 0.84  | 0.92 |      |
|   | TA=125°C | 0.73           | -     |      |      |
| Maximum Reverse Current at V <sub>R</sub> =150V | TA=25°C  | I <sub>R</sub> | 1.5   | 10   | μA   |
|   | TA=125°C |                | 1     | -    | mA   |

Note2:Pulse test: 300 μs pulse width, 1 % duty cycle.

**RATINGS AND CHARACTERISTIC CURVES**

FIG. 1 MAXIMUM FORWARD CURRENT DERATING CURVE

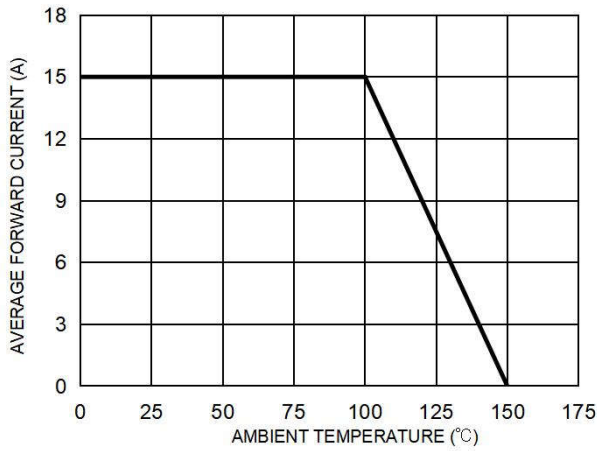


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

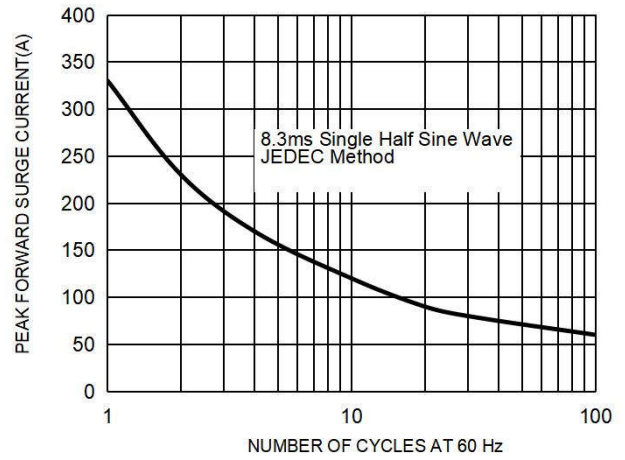


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

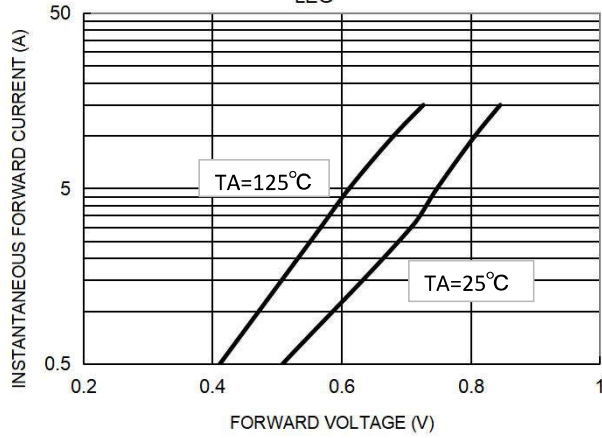
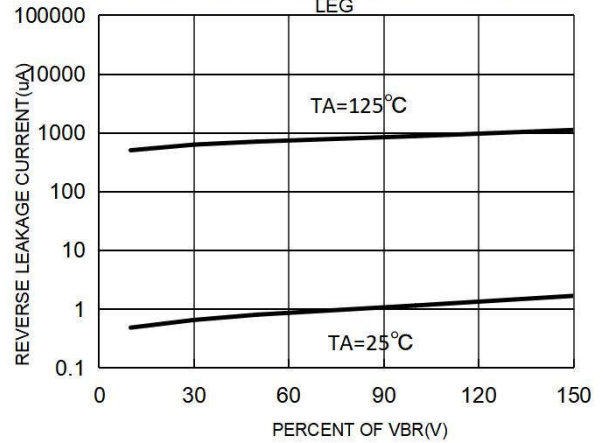
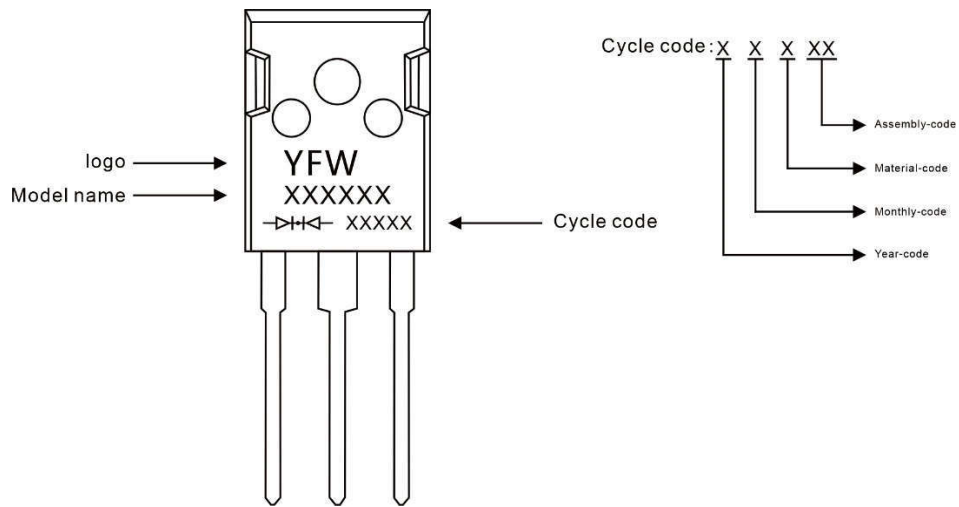


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



**Marking Diagram**



**Ordering information**

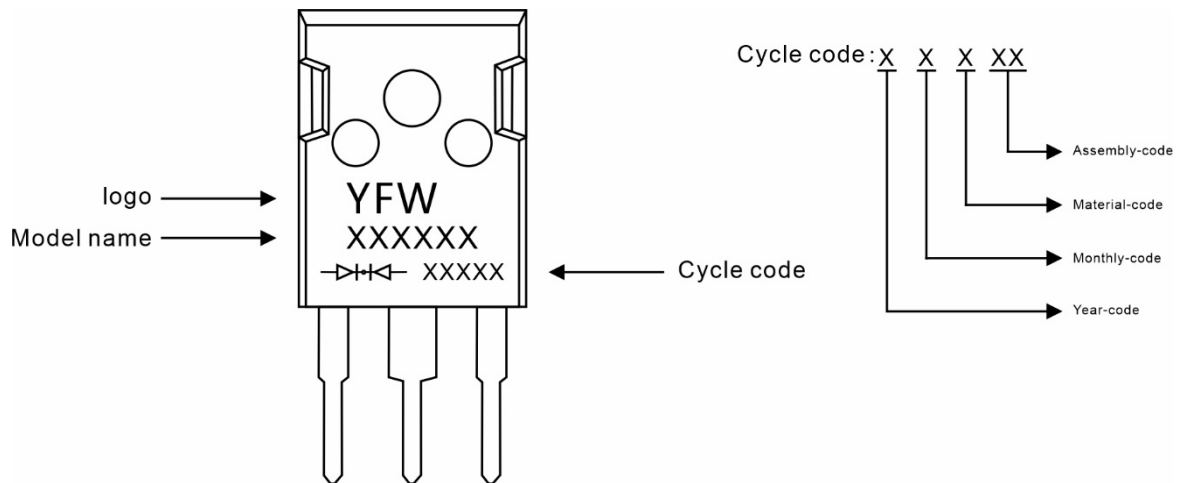
| Model name | Package | Unit Weight    | Base Quantity | Packing Quantity          |
|------------|---------|----------------|---------------|---------------------------|
| MBR30150PT | TO-247  | 0.209oz(5.93g) | 30pcs/tube    | 600PCS/Box 2400PCS/Carton |

**Package Dimensions**

**TO-247**

| Symbol | Dimensions in mm |       | Dimensions in Inch |       |
|--------|------------------|-------|--------------------|-------|
|        | Min.             | Max.  | Min.               | Max.  |
| A      | 4.90             | 5.10  | 0.193              | 0.201 |
| A1     | 1.90             | 2.10  | 0.075              | 0.083 |
| A2     | 2.29             | 2.54  | 0.090              | 0.100 |
| b      | 1.00             | 1.40  | 0.039              | 0.055 |
| b1     | 2.00             | 2.20  | 0.079              | 0.087 |
| b2     | 3.00             | 3.20  | 0.118              | 0.126 |
| c      | 0.50             | 0.70  | 0.020              | 0.028 |
| D      | 15.75            | 16.05 | 0.620              | 0.632 |
| E      | 20.20            | 20.80 | 0.795              | 0.819 |
| e      | 5.45 (BSC)       |       | 0.215 (BSC)        |       |
| e1     | 10.90 (BSC)      |       | 0.429 (BSC)        |       |
| F      | 6.05             | 6.25  | 0.238              | 0.246 |
| F1     | 5.80             | 6.00  | 0.228              | 0.236 |
| L      | 20.10            | 20.40 | 0.791              | 0.803 |
| L1     | 4.05             | 4.35  | 0.159              | 0.171 |
| Φ      | 3.50             | 3.70  | 0.138              | 0.146 |

**Marking Diagram**



**Ordering information**

| Model name  | Package | Unit Weight    | Base Quantity | Packing Quantity          |
|-------------|---------|----------------|---------------|---------------------------|
| MBR30150PTS | TO-247S | 0.158oz(4.48g) | 30pcs/tube    | 600PCS/Box 2400PCS/Carton |

**Package Dimensions**

**TO-247S**

| Symbol | Dimensions in mm |      | Dimensions in Inch |       |
|--------|------------------|------|--------------------|-------|
|        | Min.             | Max. | Min.               | Max.  |
| A      | 15.0             | 16.0 | 0.59               | 0.63  |
| B      | 19.5             | 20.5 | 0.77               | 0.81  |
| C      | 33.5             | 35.5 | 1.32               | 1.40  |
| D      | 5.0              | 6.0  | 0.20               | 0.24  |
| E      | 3.5              | 4.5  | 0.14               | 0.18  |
| F      | 2.5              | 3.5  | 0.10               | 0.14  |
| G      | 1.75             | 2.5  | 0.07               | 0.14  |
| H      | 3.0              | 4.0  | 0.12               | 0.16  |
| I      | 9.0              | 11.0 | 0.35               | 0.43  |
| J      | 4.9              | 5.1  | 0.19               | 0.20  |
| K      | 1.0              | 1.3  | 0.04               | 0.05  |
| L      | 3.75             | 4.25 | 0.15               | 0.17  |
| M      | 4.75             | 5.25 | 0.19               | 0.21  |
| N      | 1.8              | 2.2  | 0.07               | 0.09  |
| O      | 0.45             | 0.6  | 0.018              | 0.024 |
| P      | 5.08             |      | 0.2                |       |
| Q      | 1.2              | 1.3  | 0.05               | 0.051 |

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