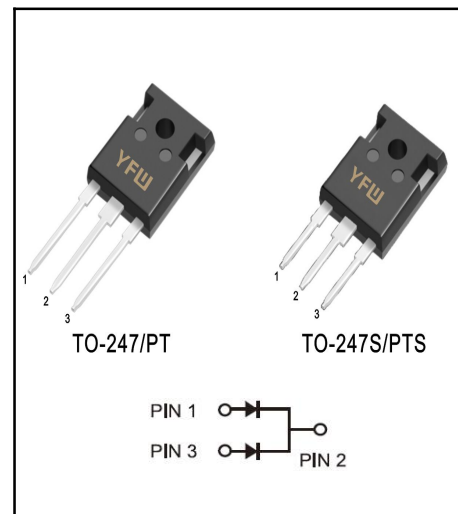


**ULTRAFST RECOVERY RECTIFIERS**
**Reverse Voltage - 200 V**
**Forward Current - 30 A**
**FEATURES**

- ◆High speed switching capability
- ◆High current capability
- ◆High forward surge capability
- ◆Low power losses, High efficiency
- ◆For use in low voltage, high frequency inverters
- ◆Lead free in comply with EU RoHS 2011/65/EU directives

**MECHANICAL DATA**

- ◆Case: TO-247/PT TO-247S/PTS
- ◆Solder bath temperature 275°C maximum, 10s per JESD22-106


**Primary Characteristic**

|                          |              |
|--------------------------|--------------|
| <b>I<sub>o</sub></b>     | <b>2*15A</b> |
| <b>V<sub>RRM</sub></b>   | <b>200V</b>  |
| <b>I<sub>FSM</sub></b>   | <b>150A</b>  |
| <b>V<sub>F</sub></b>     | <b>0.88V</b> |
| <b>T<sub>J</sub> Max</b> | <b>175°C</b> |

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

| Parameter                                               |         | Symbols                                 | Value      | Units       |
|---------------------------------------------------------|---------|-----------------------------------------|------------|-------------|
| Maximum Repetitive Peak Reverse Voltage                 |         | <b>V<sub>RRM</sub></b>                  | 200        | <b>V</b>    |
| Maximum RMS voltage                                     |         | <b>V<sub>RMS</sub></b>                  | 140        | <b>V</b>    |
| Maximum DC Blocking Voltage                             |         | <b>V<sub>DC</sub></b>                   | 200        | <b>V</b>    |
| Maximum Average Forward Rectified Current               | Per Leg | <b>I<sub>o</sub></b>                    | 15         | <b>A</b>    |
|                                                         | Total   |                                         | 30         |             |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave |         | <b>I<sub>FSM</sub></b>                  | 150        | <b>A</b>    |
| Operating Temperature Range                             |         | <b>T<sub>J</sub></b>                    | 175        | <b>°C</b>   |
| Storage Temperature Range                               |         | <b>T<sub>STG</sub></b>                  | -55 ~ +175 | <b>°C</b>   |
| Typical Thermal Resistance (Note1) TO-247/PT TO-247/PTS |         | <b>R<sub>θJA</sub>/ R<sub>θJC</sub></b> | 2          | <b>°C/W</b> |

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

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

| Characteristics                                            |          | Symbols               | Value      |            | Units     |
|------------------------------------------------------------|----------|-----------------------|------------|------------|-----------|
| Forward Voltage Drop(Note2)                                |          | <b>V<sub>F</sub></b>  | <b>Typ</b> | <b>Max</b> | <b>V</b>  |
| at IF=3A                                                   | TA=25°C  |                       | 0.79       | -          |           |
|                                                            | TA=125°C |                       | 0.65       | -          |           |
| at IF=5A                                                   | TA=25°C  |                       | 0.84       | -          |           |
|                                                            | TA=125°C |                       | 0.71       | -          |           |
| at IF=15A                                                  | TA=25°C  |                       | 0.98       | 1.05       |           |
|                                                            | TA=125°C |                       | 0.88       | -          |           |
| Maximum Reverse Current at V <sub>R</sub> =200V            | TA=25°C  | <b>I<sub>R</sub></b>  | 0.1        | 10         | <b>uA</b> |
|                                                            | TA=125°C |                       | 2          | -          | <b>uA</b> |
| Maximum Reverse Recovery Time at IF=0.5A, IR=1A, IRR=0.25A |          | <b>T<sub>RR</sub></b> | -          | 25         | <b>nS</b> |

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

**RATINGS AND CHARACTERISTIC CURVES**

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

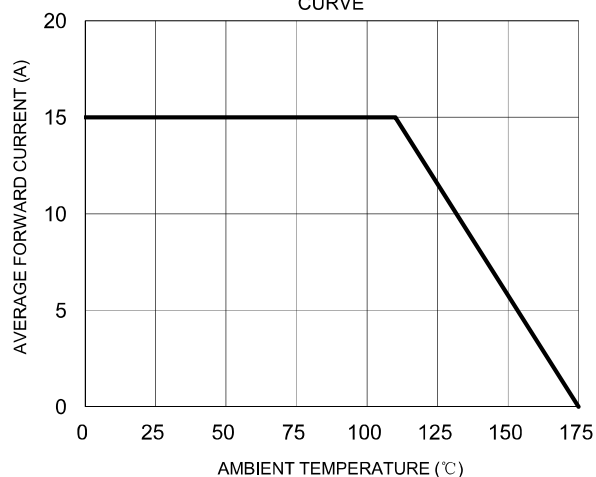


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

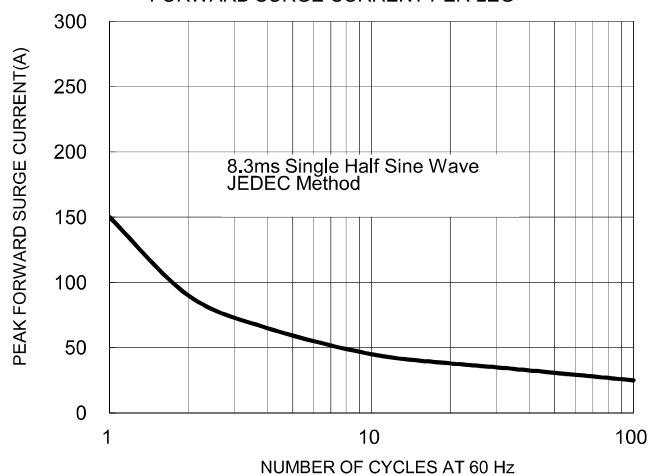


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

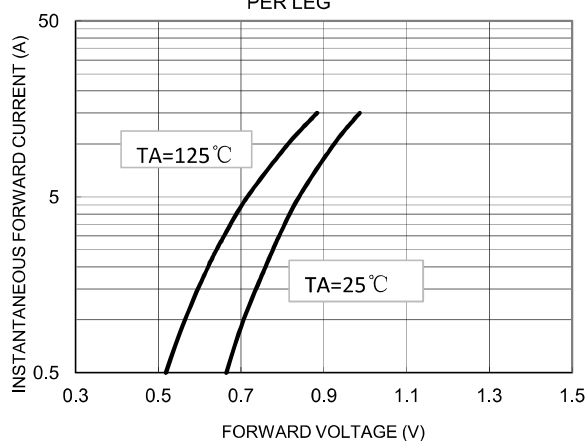
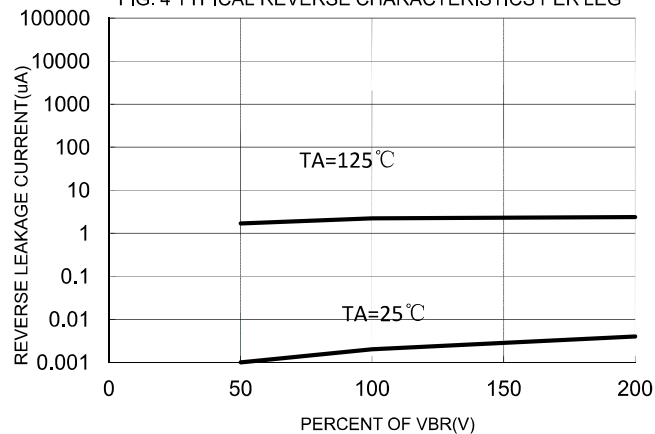
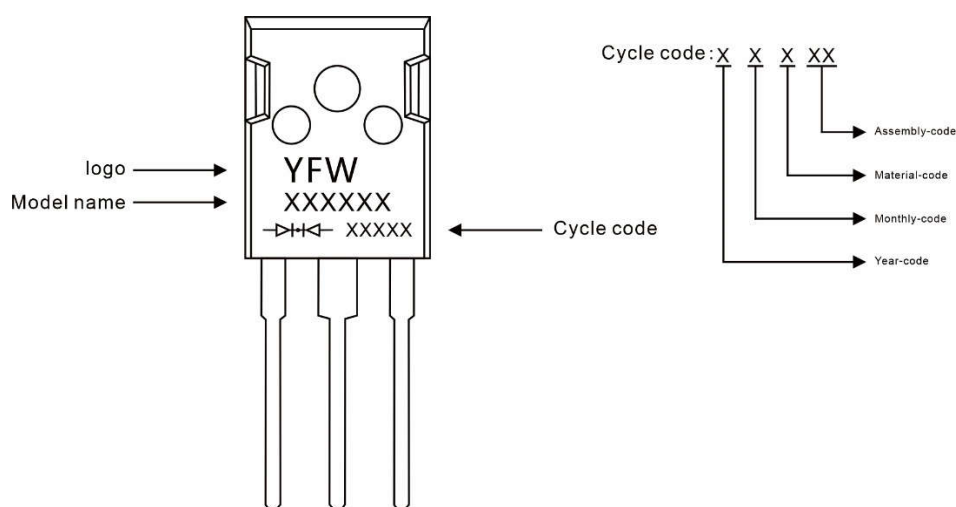


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



## Marking Diagram



## Ordering information

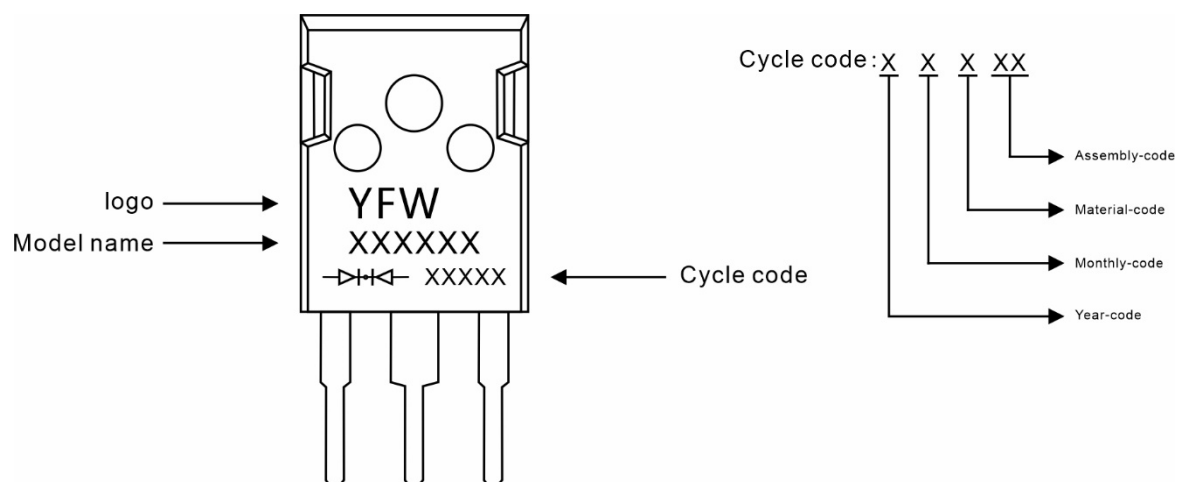
| Model name | Package | Unit Weight    | Base Quantity | Packing Quantity          |
|------------|---------|----------------|---------------|---------------------------|
| MUR3020PT  | TO-247  | 0.209oz(5.93g) | 30pcs/tube    | 600PCS/Box 2400PCS/Carton |

## 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          |
|-------------------|---------|----------------|---------------|---------------------------|
| <b>MUR3020PTS</b> | 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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