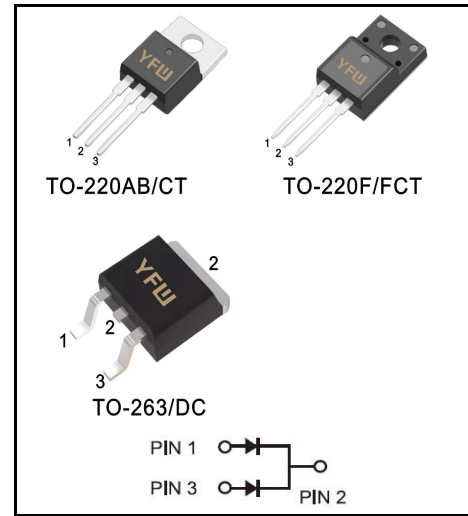


**ULTRAFST RECOVERY RECTIFIERS**
**Reverse Voltage - 200 V**
**Forward Current - 10 A**
**FEATURES**

- ◆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-220AB/CT TO-220F/FCT TO-263/DC
- ◆Solder bath temperature 275°C maximum, 10s per JESD22-106


**Primary Characteristic**

|                          |              |
|--------------------------|--------------|
| <b>I<sub>o</sub></b>     | <b>2*5A</b>  |
| <b>V<sub>R</sub>RM</b>   | <b>200V</b>  |
| <b>I<sub>F</sub>SM</b>   | <b>90A</b>   |
| <b>V<sub>F</sub></b>     | <b>0.95V</b> |
| <b>T<sub>J</sub> Max</b> | <b>150°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>R</sub>RM</b>                 | 200        | <b>V</b>    |
| Maximum RMS voltage  | <b>V<sub>R</sub>MS</b>                 | 140        | <b>V</b>    |
| Maximum DC Blocking Voltage  | <b>V<sub>D</sub>C</b>                  | 200        | <b>V</b>    |
| Maximum Average Forward Rectified Current                            | Per Leg                                | 5          | <b>A</b>    |
|  | Total                                  | 10         |             |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave              | <b>I<sub>F</sub>SM</b>                 | 90         | <b>A</b>    |
| Operating Temperature Range  | <b>T<sub>J</sub></b>                   | 150        | <b>°C</b>   |
| Storage Temperature Range  | <b>T<sub>STG</sub></b>                 | -40 ~ +150 | <b>°C</b>   |
| Typical Thermal Resistance (Note1) TO-220AB/CT TO-220F/FCT TO-263/DC | <b>R<sub>θJA</sub> R<sub>θJC</sub></b> | 2/4        | <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     |           |   |
|--|-----------------------|----------|----------|-----------|-----------|---|
|  |                       | Typ      | Max      |           |           |   |
| Forward Voltage Drop(Note2)<br>at IF=3A                    | <b>V<sub>F</sub></b>  | TA=25°C  | 0.87     | -         | <b>V</b>  |   |
|  |                       | TA=125°C | 0.85     | -         |           |   |
|  |                       | at IF=5A | TA=25°C  | 0.95      |           | - |
|  |                       |          | TA=125°C | 0.90      |           | - |
| Maximum Reverse Current at V <sub>R</sub> =200V            | <b>I<sub>R</sub></b>  | TA=25°C  | 0.50     | 5         | <b>uA</b> |   |
|  |                       | TA=125°C | 250      | -         | <b>uA</b> |   |
| Maximum Reverse Recovery Time at IF=0.5A, IR=1A, IRR=0.25A | <b>T<sub>RR</sub></b> | -        | 35       | <b>nS</b> |           |   |

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

**RATINGS AND CHARACTERISTIC CURVES**

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

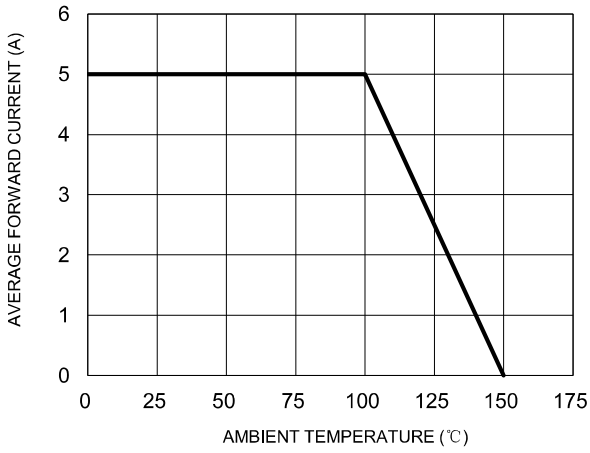


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

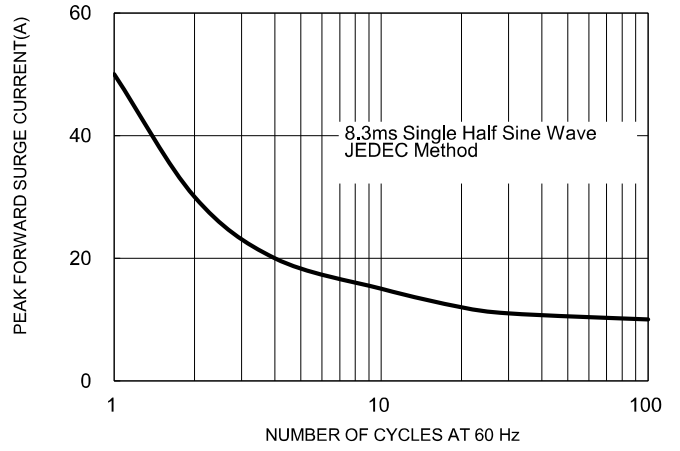


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

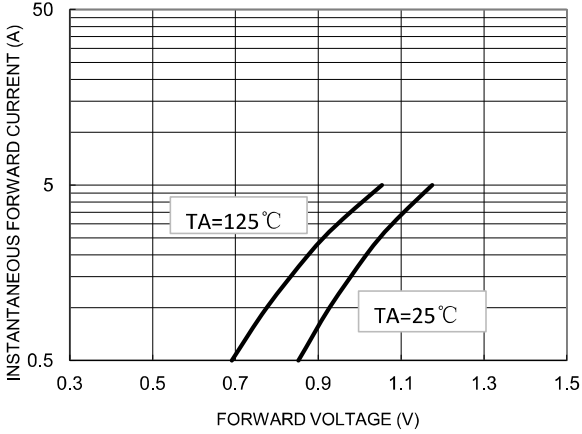
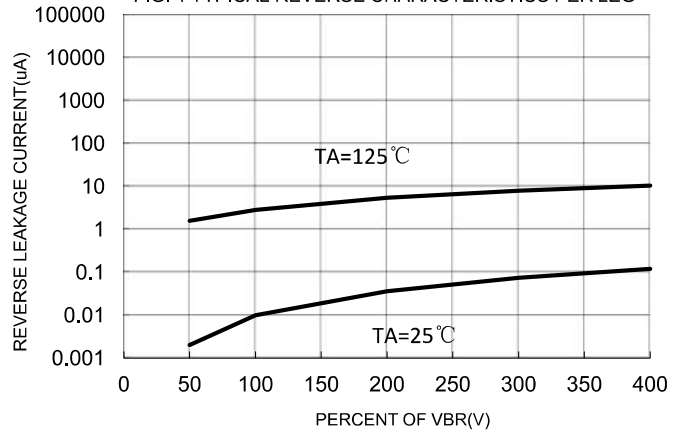
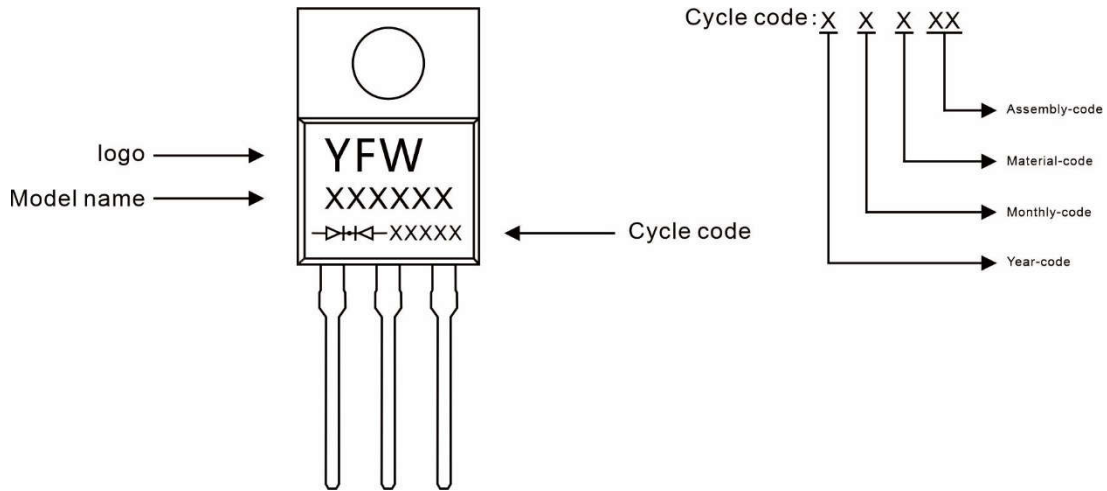


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



**Marking Diagram**



**Ordering information**

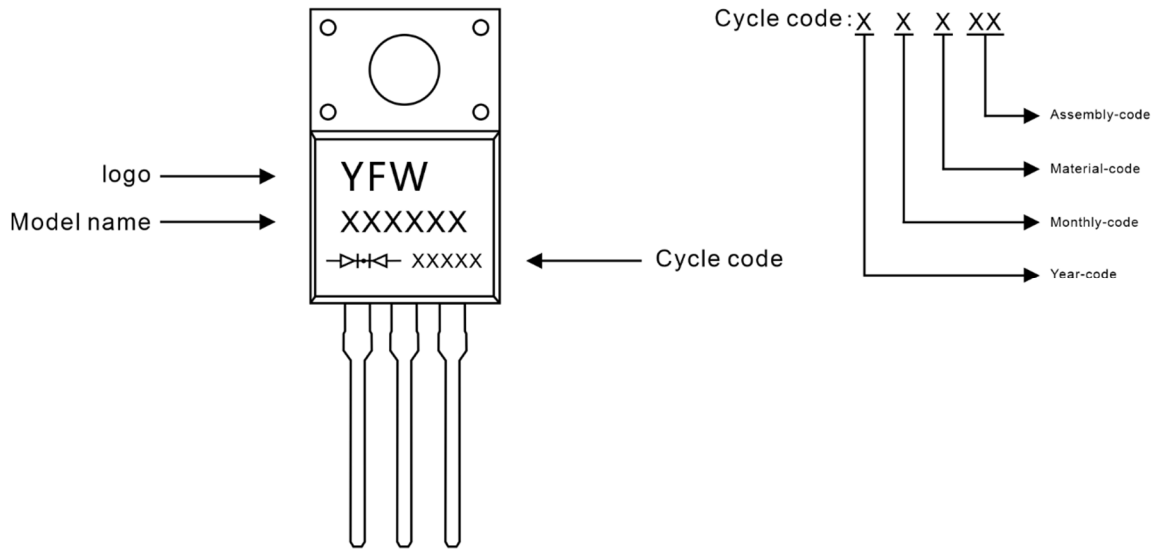
| Model name | Package  | Unit Weight   | Base Quantity | Packing Quantity           |
|------------|----------|---------------|---------------|----------------------------|
| MUR1020CT  | TO-220AB | 0.07oz(1.96g) | 50pcs/tube    | 1000PCS/Box 5000PCS/Carton |

**Package Dimensions**

**TO-220AB**

| Symbol | Millimeter |       | Inches |       |
|--------|------------|-------|--------|-------|
|        | Min.       | Max.  | Min.   | Max.  |
| A      | 4.30       | 4.70  | 0.169  | 0.185 |
| A1     | 0.00       | 0.15  | 0.000  | 0.006 |
| b      | 0.71       | 0.91  | 0.028  | 0.036 |
| b1     | 1.17       | 1.37  | 0.046  | 0.054 |
| c      | 0.30       | 0.50  | 0.012  | 0.020 |
| c1     | 1.17       | 1.37  | 0.046  | 0.054 |
| D      | 9.90       | 10.20 | 0.390  | 0.402 |
| E      | 8.50       | 8.90  | 0.335  | 0.350 |
| E1     | 12.00      | 12.50 | 0.472  | 0.492 |
| e      | 2.44       | 2.64  | 0.096  | 0.104 |
| e1     | 4.88       | 5.28  | 0.192  | 0.208 |
| F      | 2.60       | 2.80  | 0.102  | 0.110 |
| L      | 13.20      | 13.80 | 0.520  | 0.543 |
| L1     | 3.80       | 4.20  | 0.150  | 0.165 |
| Φ      | 3.60       | 3.96  | 0.142  | 0.156 |

**Marking Diagram**



**Ordering information**

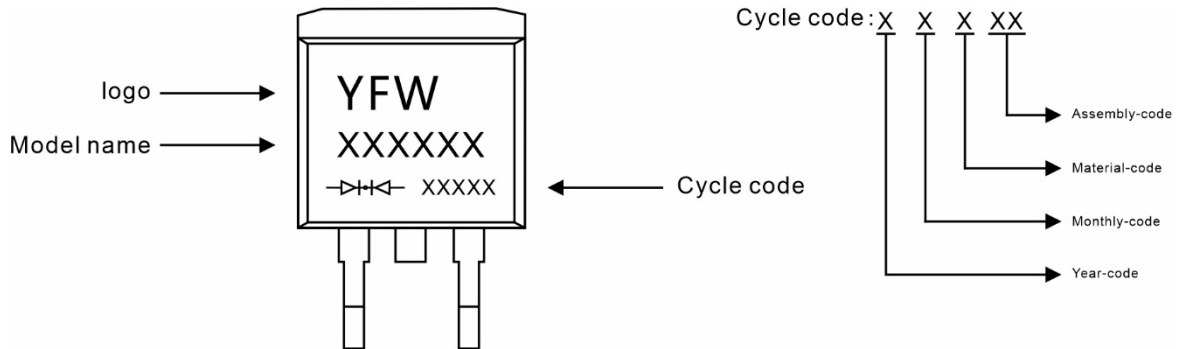
| Model name | Package | Unit Weight   | Base Quantity | Packing Quantity           |
|------------|---------|---------------|---------------|----------------------------|
| MUR1020FCT | TO-220F | 0.06oz(1.74g) | 50pcs/tube    | 1000PCS/Box 5000PCS/Carton |

**Package Dimensions**

**TO-220F**

| Symbol | Millimeter |       | Inches |       |
|--------|------------|-------|--------|-------|
|        | Min.       | Max.  | Min.   | Max.  |
| A      | 4.50       | 4.90  | 0.177  | 0.193 |
| A1     | 2.34       | 2.74  | 0.092  | 0.108 |
| A2     | 2.66       | 2.86  | 0.105  | 0.113 |
| b      | 0.75       | 0.85  | 0.030  | 0.033 |
| b1     | 1.24       | 1.44  | 0.049  | 0.057 |
| c      | 0.40       | 0.60  | 0.016  | 0.024 |
| D      | 10.00      | 10.32 | 0.394  | 0.406 |
| E      | 15.75      | 16.05 | 0.620  | 0.632 |
| e      | 2.44       | 2.64  | 0.096  | 0.104 |
| e1     | 4.88       | 5.28  | 0.192  | 0.208 |
| F      | 3.10       | 3.5   | 0.122  | 0.138 |
| L      | 13.50      | 13.90 | 0.531  | 0.547 |
| L1     | 2.90       | 3.30  | 0.114  | 0.130 |
| Φ      | 3.10       | 3.30  | 0.122  | 0.130 |

**Marking Diagram**



**Ordering information**

| Model name | Package | Unit Weight   | Base Quantity | Packing Quantity           |
|------------|---------|---------------|---------------|----------------------------|
| MUR1020DC  | TO-263  | 0.04oz(1.16g) | 800pcs/reel   | 1600pcs/box 8000pcs/Carton |

**Package Dimensions**

TO-263

| Dim | Millimeter |       | Inches |       |
|-----|------------|-------|--------|-------|
|     | Min.       | Max.  | Min.   | Max.  |
| A   | 4.30       | 4.70  | 0.169  | 0.185 |
| A1  | 0.00       | 0.15  | 0.000  | 0.006 |
| A2  | 4.30       | 4.55  | 0.169  | 0.179 |
| B   | 1.10       | 1.50  | 0.043  | 0.059 |
| b   | 0.70       | 0.90  | 0.028  | 0.035 |
| b1  | 1.20       | 1.50  | 0.047  | 0.059 |
| c   | 0.30       | 0.60  | 0.012  | 0.024 |
| c1  | 1.17       | 1.37  | 0.046  | 0.054 |
| D   | 9.90       | 10.20 | 0.390  | 0.402 |
| E   | 8.50       | 8.90  | 0.335  | 0.350 |
| e   | 2.44       | 2.64  | 0.096  | 0.104 |
| e1  | 4.88       | 5.28  | 0.192  | 0.208 |
| L   | 15.00      | 15.30 | 0.591  | 0.602 |
| L1  | 5.20       | 5.40  | 0.205  | 0.213 |
| L2  | 2.40       | 2.60  | 0.094  | 0.102 |
| L3  | 1.60       | 1.80  | 0.063  | 0.071 |

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