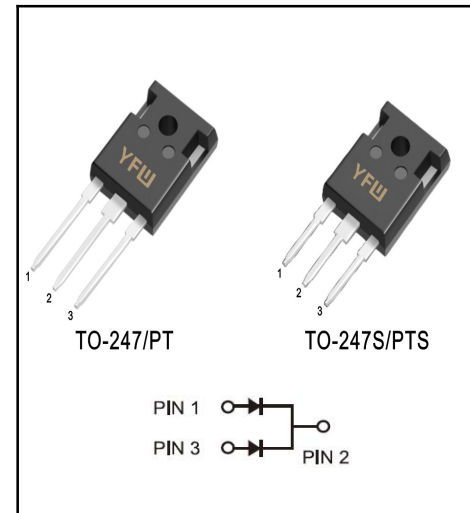


ULTRAFST RECOVERY RECTIFIERS
Reverse Voltage - 400 V
Forward Current - 30 A
FEATURES

- ◆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-247/PTS
- ◆Solder bath temperature 275°C maximum, 10s per JESD22-106


Primary Characteristic

| | |
|--------------------------|--------------|
| I_o | 2*15A |
| V_{RRM} | 400V |
| I_{FSM} | 320A |
| V_F | 0.90V |
| T_J Max | 150°C |

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

| Parameter | Symbols | Value | Units |
|---|--|------------|-------------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 400 | V |
| Maximum RMS voltage | V_{RMS} | 280 | V |
| Maximum DC Blocking Voltage | V_{DC} | 400 | V |
| Maximum Average Forward Rectified Current | Per Leg | 15 | A |
| | Total | 30 | |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave | I_{FSM} | 320 | A |
| Operating Temperature Range | T_J | 150 | °C |
| Storage Temperature Range | T_{STG} | -40 ~ +150 | °C |
| Typical Thermal Resistance (Note1) TO-247/PT TO-247/PTS | R_{θJA} R_{θJC} | 2 | °C/W |

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) at IF=3A at IF=5A at IF=15A | V_F | TA=25°C | 0.84 | - | V |
| | | TA=125°C | 0.68 | - | |
| | | TA=25°C | 0.90 | - | |
| | | TA=125°C | 0.74 | - | |
| | | TA=25°C | 1.06 | 1.39 | |
| | | TA=125°C | 0.90 | - | |
| Maximum Reverse Current at V _R =400V | I_R | TA=25°C | 0.10 | 1 | uA |
| | | TA=25°C | 10 | - | uA |
| Maximum Reverse Recovery Time at IF=0.5A, IR=1A, IRR=0.25A | T_{RR} | - | 35 | nS | |

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

RATINGS AND CHARACTERISTIC CURVES

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

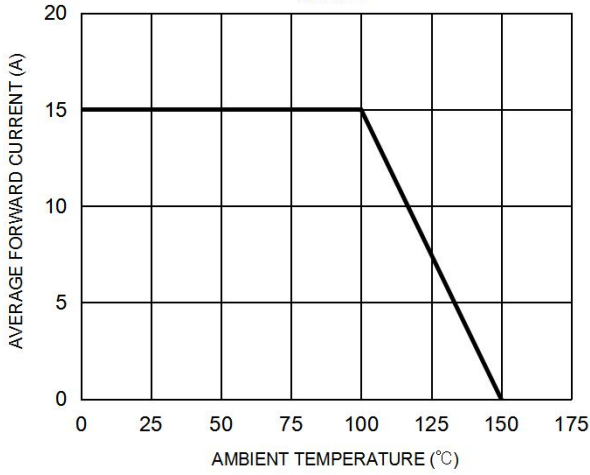


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

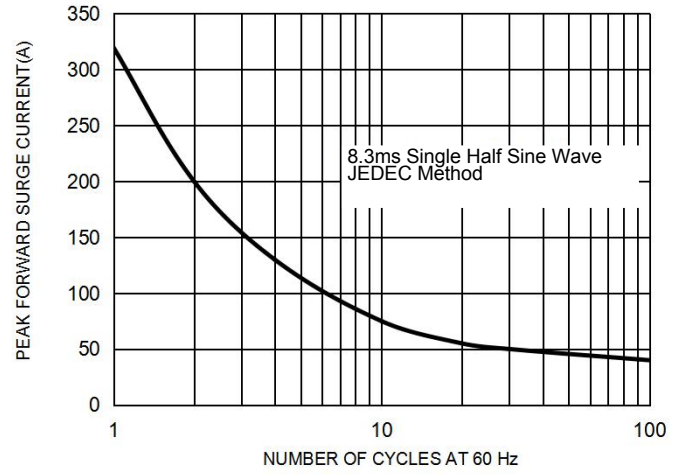


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

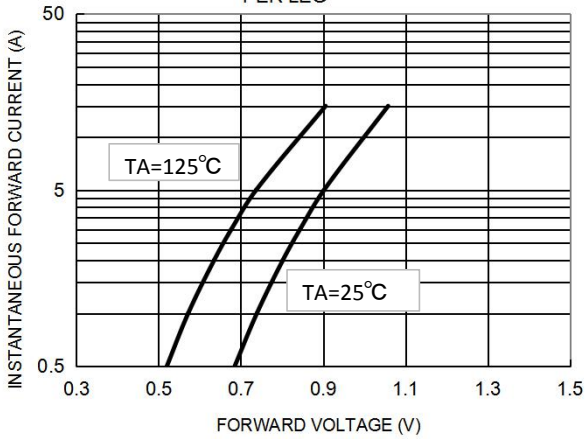
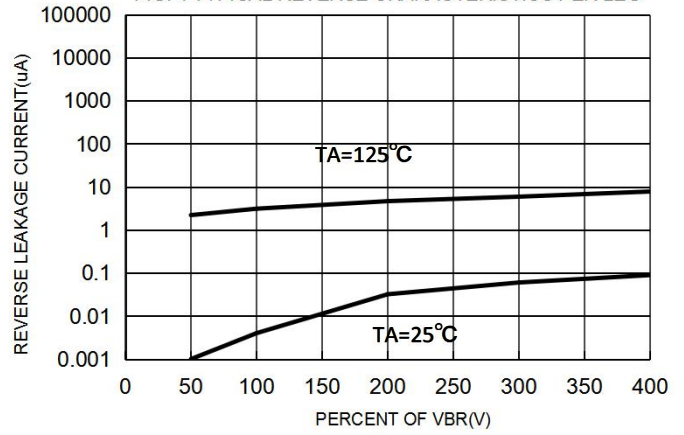
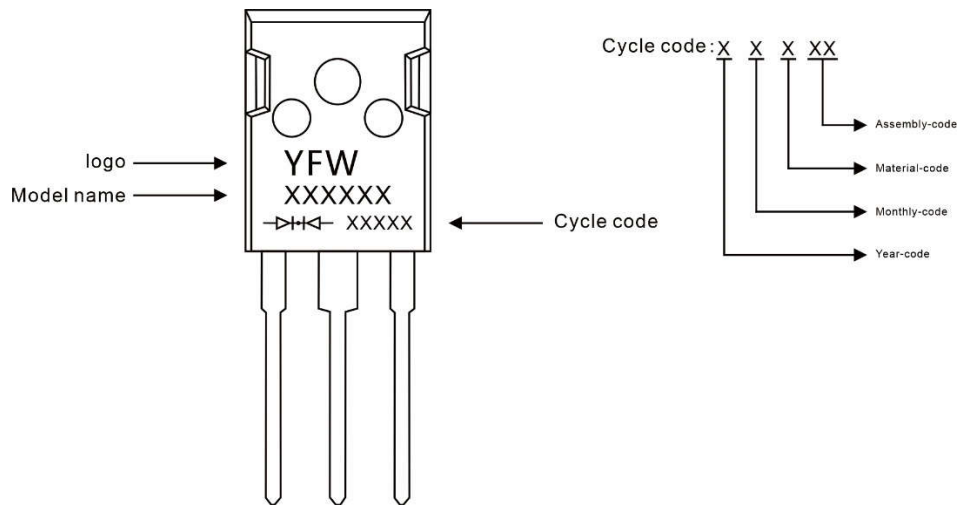


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



Marking Diagram



Ordering information

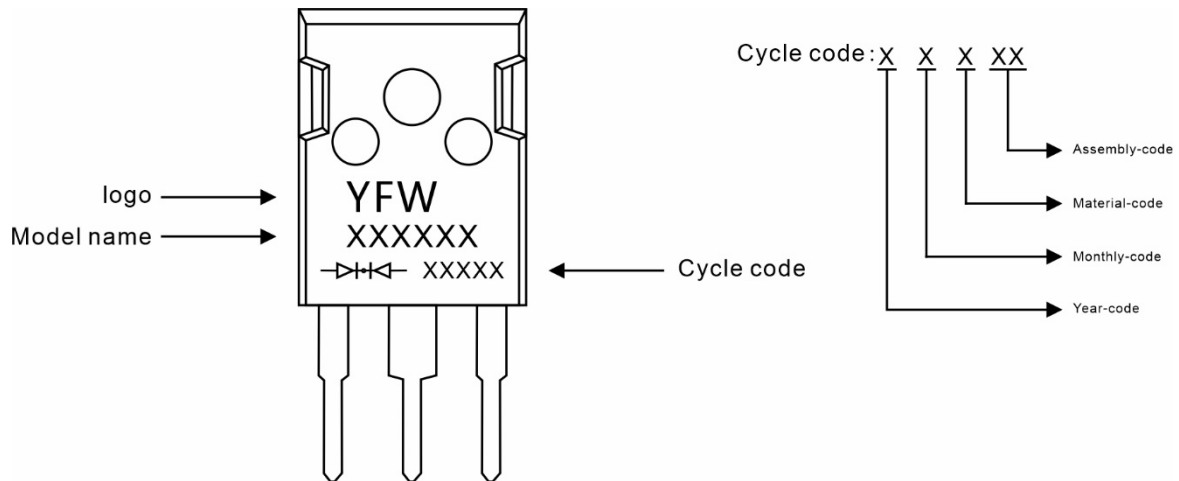
| Model name | Package | Unit Weight | Base Quantity | Packing Quantity |
|------------|---------|----------------|---------------|---------------------------|
| MBR3040PT | TO-247 | 0.209oz(5.93g) | 30pcs/tube | 600PCS/Box 2400PCS/Carton |

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 |
|-------------------|---------|----------------|---------------|---------------------------|
| MBR3040PTS | 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 |

Disclaimer

The information presented in this document is for reference only. GuangDong Youfeng Microelectronics Co.,Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise. The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), YFW or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale. This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <https://www.yfwdiode.com>, or consult YFW sales office for further assistance.