



SCHOTTKY BARRIER RECTIFIERS

Reverse Voltage - 40 to 200 V

Forward Current - 20 A

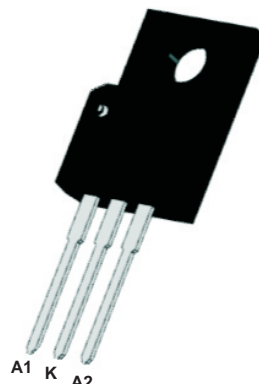
FEATURES

- High current capability
- Low forward voltage drop
- Low power loss, high efficiency
- High surge capability
- High temperature soldering guaranteed
- Mounting position: any

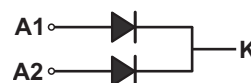
Mechanical data

- Case: TO-220F-3L
- Approx. Weight: 1.7g (0.063oz)
- Terminals: Lead solderable per MIL-STD-202, Method 208

TO-220F-3L



ROHS
COMPLIANT



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

| CHARACTERISTICS | | MBR2040FT | MBR2045FT | MBR2060FT | MBR20100FT | MBR20150FT | MBR20200FT | Units |
|---|-----------------|------------|-----------|-----------|------------|------------|------------|-------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 40 | 45 | 60 | 100 | 150 | 200 | V |
| Maximum RMS voltage | V_{RMS} | 28 | 31.5 | 42 | 70 | 105 | 140 | V |
| Maximum DC Blocking Voltage | V_{DC} | 40 | 45 | 60 | 100 | 150 | 200 | V |
| Maximum Average Forward Rectified Current per diode per device | $I_{F(AV)}$ | 10 20 | | | | | | A |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) per diode | I_{FSM} | 150 | | | | | | A |
| Max Instantaneous Forward Voltage at 10 A(per diode) | V_F | 0.70 | | 0.75 | 0.85 | 0.90 | 0.92 | V |
| Maximum DC Reverse Current at Rated DC Reverse Voltage | I_R | 0.1 20 | | | 0.05 20 | | | mA |
| Typical Junction Capacitance ⁽¹⁾ | C_j | 200 | | | | | | pF |
| Typical Thermal Resistance ⁽²⁾ | $R_{\theta JA}$ | 45 | | | | | | °C/W |
| Operating Junction Temperature Range | T_j | -55 ~ +150 | | | | -55 ~ +175 | | °C |
| Storage Temperature Range | T_{stg} | -55 ~ +150 | | | | -55 ~ +175 | | °C |

(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

(2) P.C.B. mounted with 10cmX10cmX1mm copper pad areas.



Fig.1 TYPICAL FORWARD CURRENT DERATING CURVE

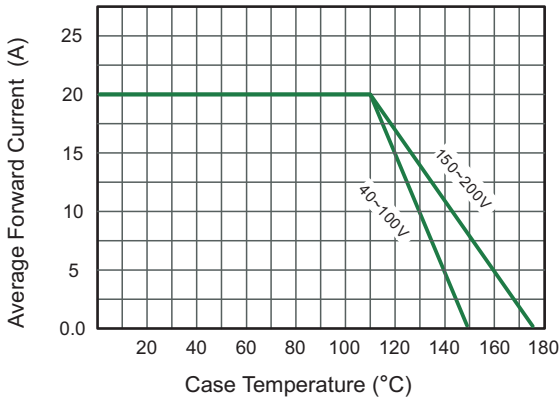


Fig.2 Typical Reverse Characteristics

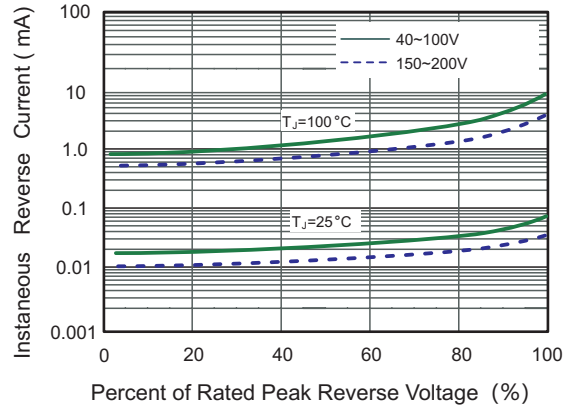


Fig.3 Typical Forward Characteristic(per leg)

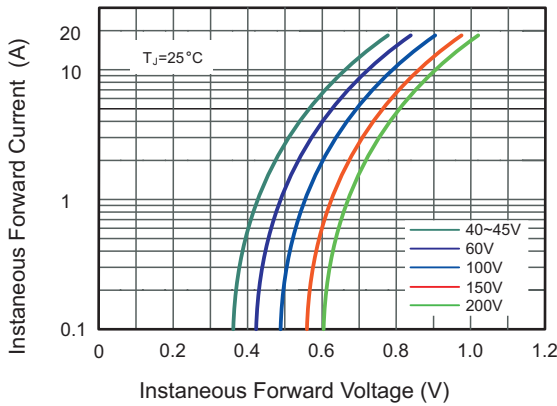


Fig.4 Typical Junction Capacitance

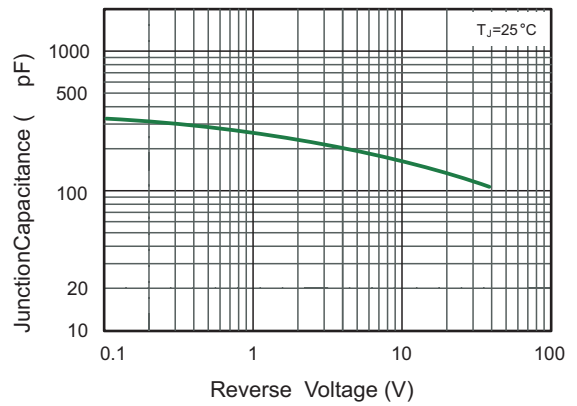


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

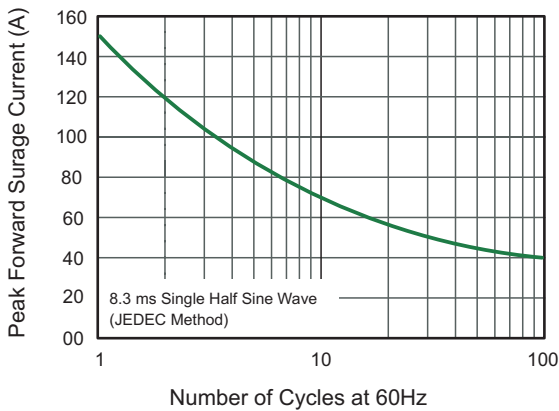
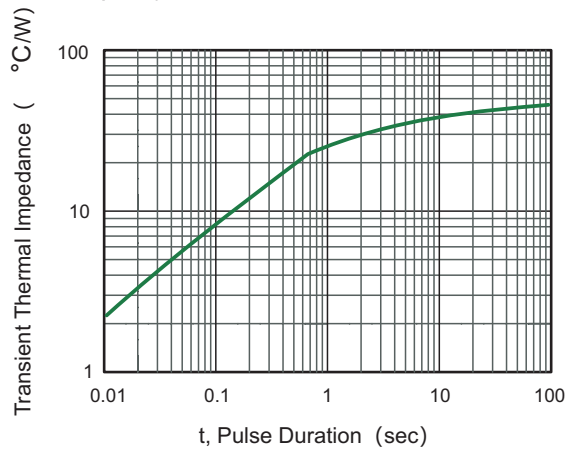


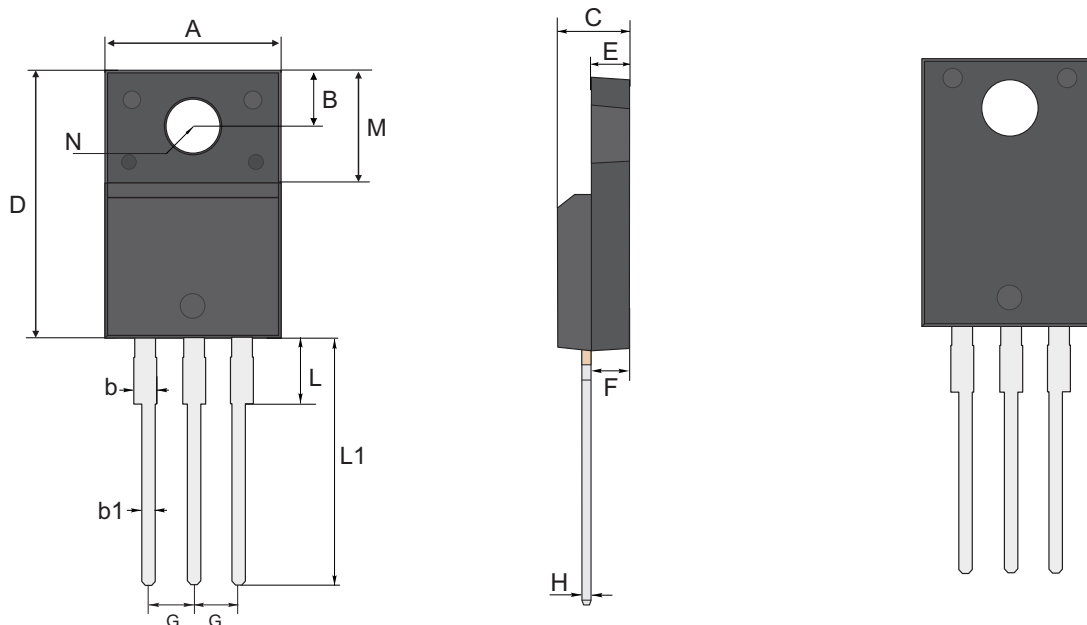
Fig.6- Typical Transient Thermal Impedance





PACKAGE OUTLINE
Plastic Through hole package; 3 leads

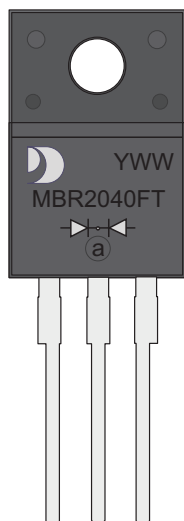
TO-220F-3L



TO-220F-3L mechanical data

| UNIT | | A | B | b | b1 | C | D | E | F | G | H | L | L1 | M | N |
|------|-----|-------|------|------|-----|-----|-------|------|------|------|------|------|------|------|-----------------|
| mm | max | 10.28 | 3.37 | 1.34 | 0.9 | 4.9 | 16.07 | 2.74 | 2.74 | 2.64 | 0.60 | 2.85 | 13.7 | 6.88 | 3.18 TYPICAL |
| | typ | 10.18 | 3.27 | 1.24 | 0.8 | 4.7 | 15.87 | 2.54 | 2.54 | 2.54 | 0.50 | 2.65 | 13.5 | 6.68 | |
| | min | 10.08 | 3.17 | 1.14 | 0.7 | 4.5 | 15.67 | 2.34 | 2.34 | 2.44 | 0.40 | 2.45 | 13.3 | 6.48 | |
| mil | max | 405 | 133 | 53 | 35 | 193 | 630 | 108 | 108 | 104 | 27 | 112 | 539 | 271 | 125 TYPICAL |
| | typ | 401 | 129 | 49 | 31 | 185 | 590 | 100 | 100 | 100 | 20 | 104 | 531 | 267 | |
| | min | 397 | 125 | 45 | 28 | 177 | 580 | 92 | 92 | 96 | 16 | 96 | 524 | 255 | |

MARKING DIAGRAM



YWW: Date Code
Y:Years(0~9)
WW:Week
MBR2040FT: Product name
(NOTE: The weekly code is based on the actual number of weeks in the calendar year.)



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