



**Fast Recovery EPI Diodes**  
**Reverse Voltage - 45 Volts**  
**Forward Current - 20Amperes**

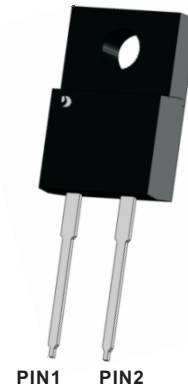
ITO-220ACW

**Features**

- High frequency operation
- High surge forward current capability
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Solder dip 275 °C max. 7s, per JESD 22-B106

**Mechanical Data**

- Case: ITO-220ACW
- Approx Weight: 1.483g ( 0.052oz)
- Terminals: Lead solderable per MIL-STD-202, Method 208
- Lead free finish, RoHS compliant
- Case Material: “Green” molding compound, UL flammability classification 94V-0, “Halogen-free”.



ROHS  
COMPLIANT



**Maximum Ratings And Electrical Characteristics**

Ratings At 25°C Ambient Temperature Unless Otherwise Specified

| Parameter   | Symbols                            | MBR2045F   | Units |
|---|------------------------------------|------------|-------|
| Maximum Recurrent Peak Reverse Voltage  | $V_{RRM}$                          | 45         | V     |
| Maximum RMS voltage   | $V_{RMS}$                          | 32         | V     |
| Maximum DC Blocking Voltage   | $V_{DC}$                           | 45         | V     |
| Average Rectified Forward Current   | $I_F$                              | 20         | A     |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | $I_{FSM}$                          | 200        | A     |
| Typical Thermal Resistance  | $R_{\theta JC}$<br>$R_{\theta JA}$ | 4<br>50    | °C/W  |
| Operating Junction Temperature Range  | $T_j$                              | -55 ~ +150 | °C    |
| Storage Temperature Range   | $T_{stg}$                          | -55 ~ +150 | °C    |

| Parameter   | Symbols  | Test Conditions                       | Min | Typ | Max       | Units |
|---|----------|---------------------------------------|-----|-----|-----------|-------|
| Breakdown voltage                                       | $V_{BR}$ | $I_R=0.2mA$                           | 45  |     |           | V     |
| Instantaneous forward voltage                           | $V_F$    | $I_F=20A, T_J=25^\circ C$             |     |     | 0.65      | V     |
| Maximum DC reverse current at rated DC blocking voltage | $I_R$    | $T_J=25^\circ C$<br>$T_J=125^\circ C$ |     |     | 0.5<br>50 | mA    |



Fig.1 Typical Forward Current Derating Curve

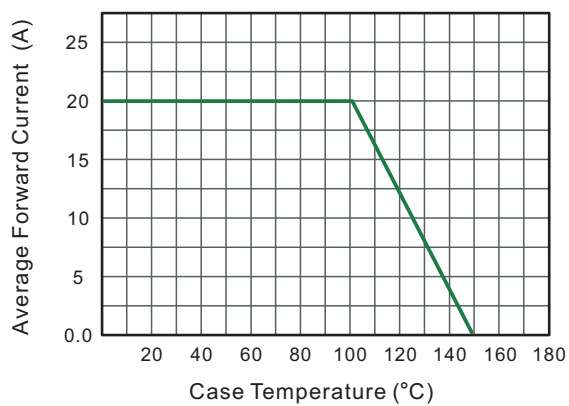


Fig.2 Typical Reverse Characteristics

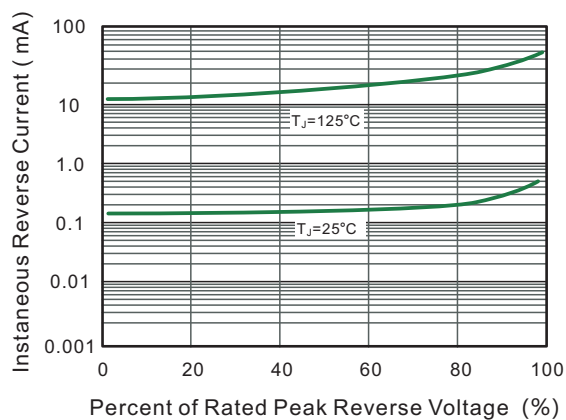


Fig.3 Typical Forward Characteristic

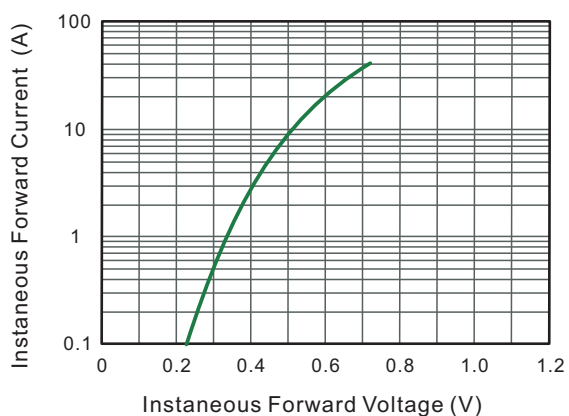
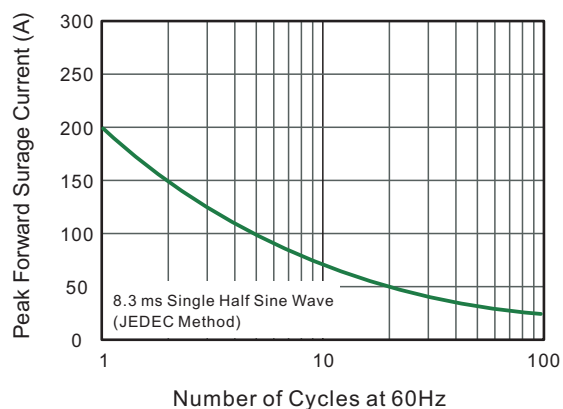


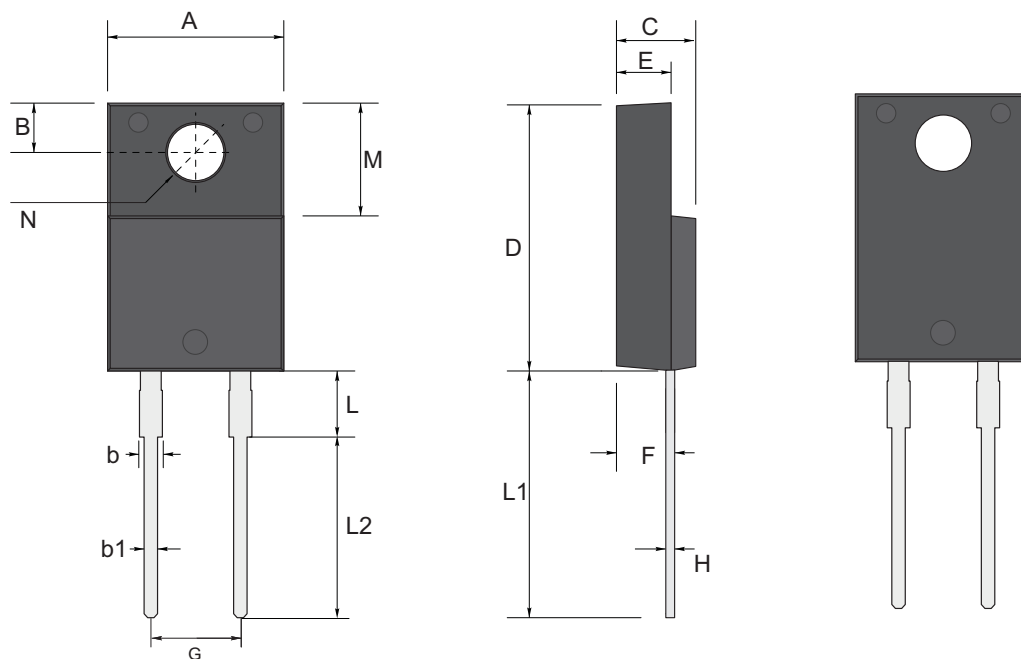
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current





Package Outline  
Through Hole Package ; 2 leads

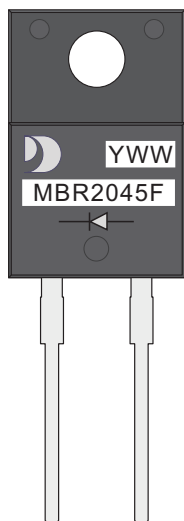
ITO-220ACW



ITO-220ACW mechanical data

| UNIT |     | A    | B    | b   | b1  | C   | D    | E   | F    | G           | H    | L   | L1   | L2   | M   | N           |
|------|-----|------|------|-----|-----|-----|------|-----|------|-------------|------|-----|------|------|-----|-------------|
| mm   | max | 10.5 | 2.85 | 1.4 | 0.8 | 4.7 | 16.0 | 2.9 | 3.55 | 5.1<br>typ. | 0.70 | 2.9 | 14.3 | 11.8 | 7.0 | 3.4<br>typ. |
|      | typ | 10.0 | 2.70 | 1.2 | 0.6 | 4.5 | 15.0 | 2.7 | 3.25 |             | 0.55 | 2.5 | 13.5 | 11.0 | 6.8 |             |
|      | min | 9.85 | 2.54 | 1.1 | 0.5 | 4.4 | 14.7 | 2.5 | 2.95 |             | 0.41 | 2.3 | 13.0 | 10.5 | 6.3 |             |
| mil  | max | 413  | 112  | 55  | 31  | 185 | 630  | 114 | 140  | 201<br>typ. | 28   | 114 | 563  | 465  | 276 | 134<br>typ. |
|      | typ | 394  | 106  | 47  | 24  | 177 | 591  | 106 | 128  |             | 22   | 98  | 531  | 433  | 268 |             |
|      | min | 388  | 100  | 43  | 20  | 173 | 579  | 98  | 116  |             | 16   | 91  | 512  | 413  | 248 |             |

### Marking Diagram



YWW: Date Code  
Y: Years(0~9)  
WW: Week  
MBR2045F: Product name  
(NOTE: The weekly code is based on the actual number of weeks in the calendar year.)



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