



Schottky Barrier Rectifiers  
Reverse Voltage - 40 to 200 V  
Forward Current - 20 A

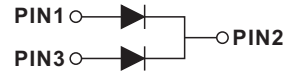
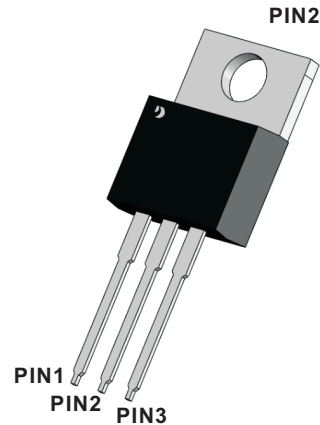
#### Features

- 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-220ABW
- Approx Weight: 1.87g ( 0.066oz)
- Lead free finish, RoHS compliant
- Case Material: “Green” molding compound, UL flammability classification 94V-0, “Halogen-free”.

#### TO-220ABW



RoHS  
COMPLIANT

#### Maximum Ratings And Electrical Characteristics

Ratings At 25°C Ambient Temperature Unless Otherwise Specified

| Characteristics                                                                                                | TO-220                               | MBR2040CTS | MBR2045CTS | MBR2060CTS | MBR20100CTS | MBR20150CTS | MBR20200CTS | Units |
|----------------------------------------------------------------------------------------------------------------|--------------------------------------|------------|------------|------------|-------------|-------------|-------------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                                         | V <sub>RRM</sub>                     | 40         | 45         | 60         | 100         | 150         | 200         | V     |
| Maximum RMS voltage                                                                                            | V <sub>RMS</sub>                     | 28         | 32         | 42         | 70          | 105         | 140         | V     |
| Maximum DC Blocking Voltage                                                                                    | V <sub>DC</sub>                      | 40         | 45         | 60         | 100         | 150         | 200         | V     |
| Maximum Average Forward Rectified Current<br>per leg<br>per device                                             | I <sub>F(AV)</sub>                   | 10<br>20   |            |            |             |             |             | A     |
| Peak Forward Surge Current,8.3ms<br>Single Half Sine-wave Superimposed<br>on Rated Load (JEDEC method) per leg | I <sub>FSM</sub>                     | 150        |            |            |             |             |             | A     |
| Max Instantaneous Forward Voltage at 10 A(per leg)                                                             | V <sub>F</sub>                       | 0.70       |            | 0.75       | 0.85        | 0.90        | 0.92        | V     |
| Maximum DC Reverse Current T <sub>J</sub> = 25°C<br>at Rated DC Reverse Voltage T <sub>J</sub> =125°C          | I <sub>R</sub>                       | 0.1<br>20  |            |            | 0.05<br>20  |             |             | mA    |
| Typical Thermal Resistance                                                                                     | R <sub>θJA</sub><br>R <sub>θJC</sub> | 45<br>5    |            |            |             |             |             | °C/W  |
| Typical Junction Capacitance<br>(f=1MHz,V <sub>R</sub> =4V)                                                    | C <sub>j</sub>                       | 600        |            | 400        |             |             |             | pF    |
| Operating Junction Temperature Range                                                                           | T <sub>j</sub>                       | -55 ~ +150 |            |            |             | -55 ~ +175  |             | °C    |
| Storage Temperature Range                                                                                      | T <sub>stg</sub>                     | -55 ~ +150 |            |            |             | -55 ~ +175  |             | °C    |



Fig.1 Typical Forward Current Derating Curve

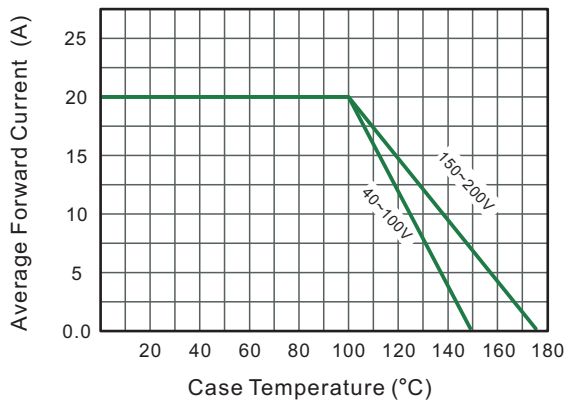


Fig.2 Typical Reverse Characteristics

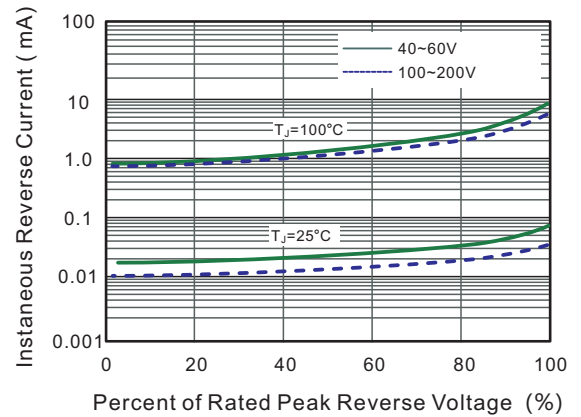


Fig.3 Typical Forward Characteristic(per leg)

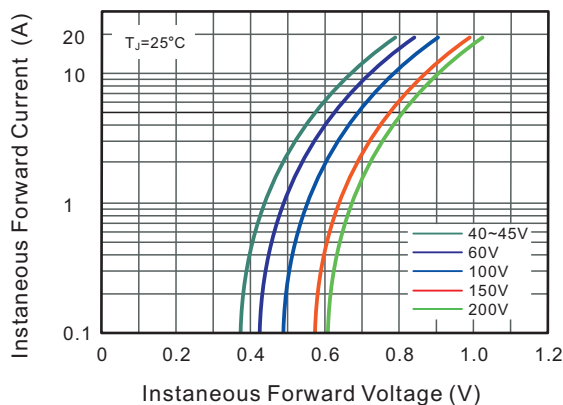


Fig.4 Typical Junction Capacitance

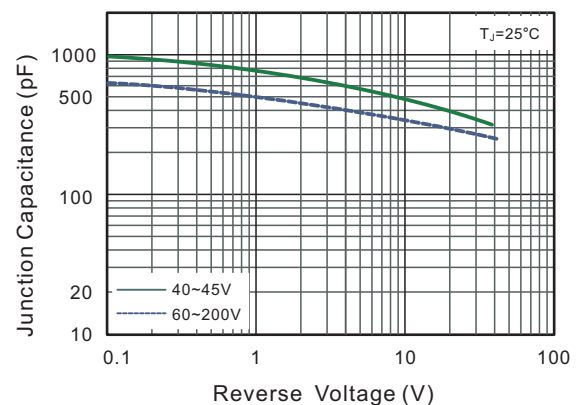


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

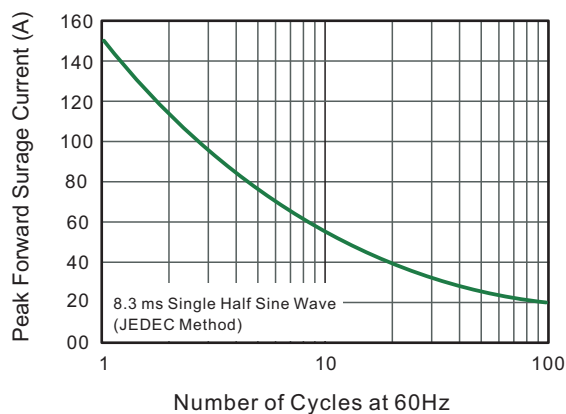
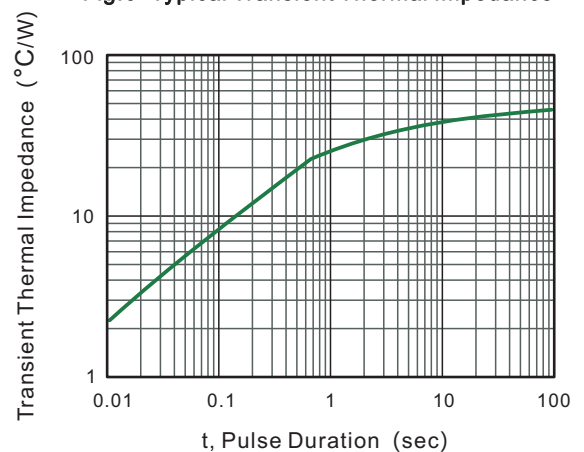


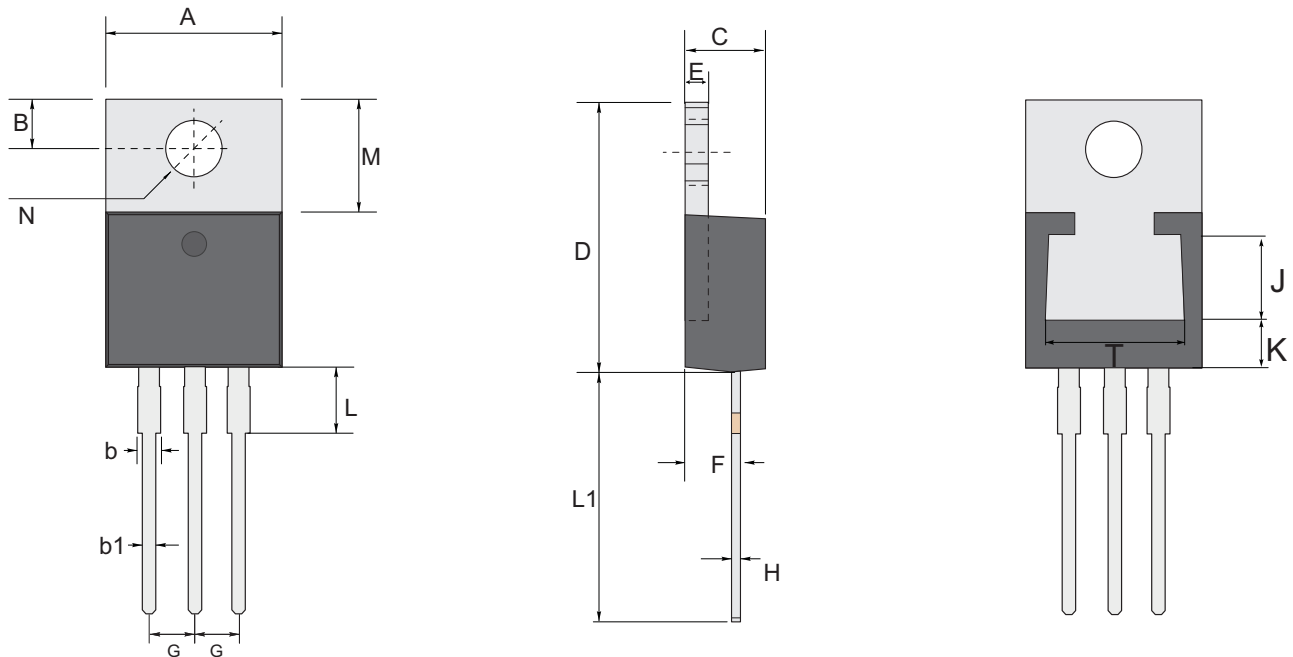
Fig.6- Typical Transient Thermal Impedance





Package Outline  
Through Hole Package ; 3 leads

TO-220ABW



TO-220ABW mechanical data

| UNIT |     | A     | B    | b    | b1   | C    | D     | E    | F    | G            | H    | L    | L1    | M            | N            | J            | T           | K            |
|------|-----|-------|------|------|------|------|-------|------|------|--------------|------|------|-------|--------------|--------------|--------------|-------------|--------------|
| mm   | max | 10.45 | 2.94 | 1.77 | 0.94 | 4.76 | 16.0  | 1.40 | 3.37 | 2.54<br>typ. | 0.64 | 4.20 | 14.79 | 6.39<br>typ. | 3.84<br>typ. | 4.65<br>ref. | 7.7<br>ref. | 3.22<br>ref. |
|      | typ | 9.94  | 2.74 | 1.27 | 0.81 | 4.57 | 15.09 | 1.27 | 3.07 |              | 0.38 | 3.89 | 13.18 |              |              |              |             |              |
|      | min | 9.85  | 2.54 | 1.14 | 0.62 | 4.42 | 14.6  | 1.14 | 2.77 |              | 0.35 | 2.80 | 13.08 |              |              |              |             |              |
| mil  | max | 411   | 116  | 70   | 37   | 187  | 630   | 55   | 133  | 100<br>typ.  | 25   | 165  | 582   | 252<br>typ.  | 151<br>typ.  | 183<br>ref.  | 303<br>ref. | 127<br>ref.  |
|      | typ | 391   | 108  | 50   | 32   | 180  | 594   | 50   | 121  |              | 15   | 153  | 519   |              |              |              |             |              |
|      | min | 388   | 100  | 45   | 24   | 174  | 575   | 45   | 109  |              | 14   | 110  | 515   |              |              |              |             |              |

### Marking

| Type number | Marking code |
|-------------|--------------|
| MBR2040CTS  | MBR2040CTS   |
| MBR2045CTS  | MBR2045CTS   |
| MBR2060CTS  | MBR2060CTS   |
| MBR20100CTS | MBR20100CTS  |
| MBR20150CTS | MBR20150CTS  |
| MBR20200CTS | MBR20200CTS  |



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