



**SCHOTTKY BARRIER RECTIFIERS**

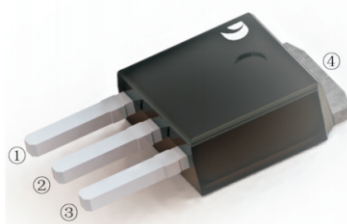
Reverse Voltage - 40 to 200 V

Forward Current - 8.0 A

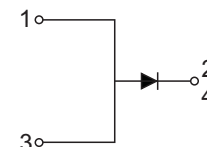
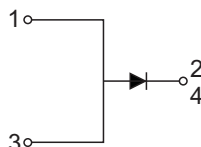
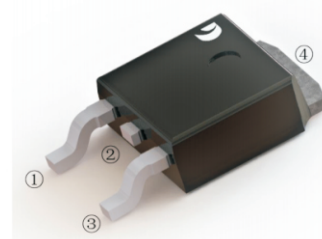
**FEATURES**

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

**TO-251(I-PAK)**



**TO-252(D-PAK)**



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified

| CHARACTERISTICS   | TO-251          | MBR840VS   | MBR845VS | MBR860VS | MBR8100VS  | MBR8150VS  | MBR8200VS | Units |
|---|-----------------|------------|----------|----------|------------|------------|-----------|-------|
|   | TO-252          | MBR840DS   | MBR845DS | MBR860DS | MBR8100DS  | MBR8150DS  | MBR8200DS |       |
| 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   | $I_{F(AV)}$     | 8.0        |          |          |            |            |           | A     |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)         | $I_{FSM}$       | 150        |          |          |            |            |           | A     |
| Max Instantaneous Forward Voltage at 8 A  | $V_F$           | 0.65       |          | 0.70     | 0.85       | 0.90       | 0.92      | V     |
| Maximum DC Reverse Current $T_a = 25^\circ\text{C}$ at Rated DC Reverse Voltage $T_a = 125^\circ\text{C}$ | $I_R$           | 0.1<br>20  |          |          | 0.05<br>20 |            |           | mA    |
| Typical Junction Capacitance <sup>(1)</sup>   | $C_j$           | 600        |          | 400      |            |            |           | pF    |
| Typical Thermal Resistance <sup>(2)</sup>   | $R_{\theta JA}$ | 35         |          |          |            |            |           | °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

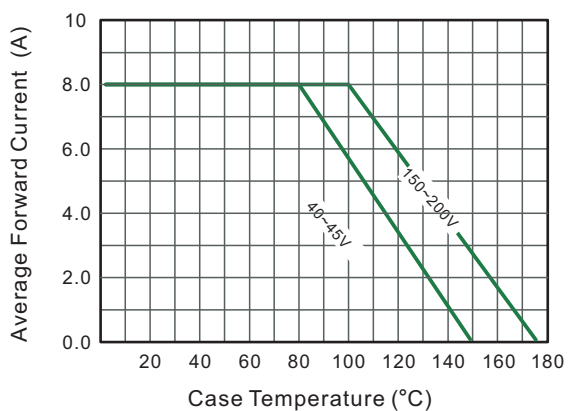


Fig.2 Typical Reverse Characteristics

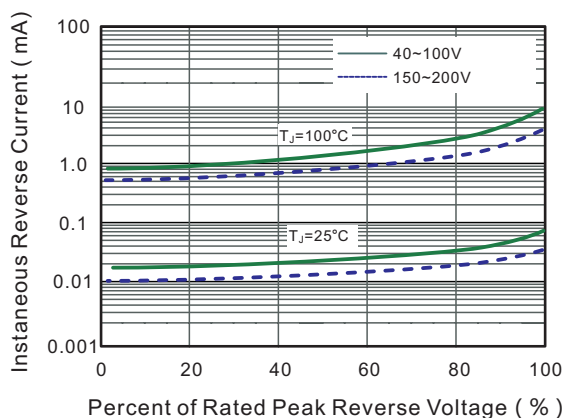


Fig.3 Typical Forward Characteristic

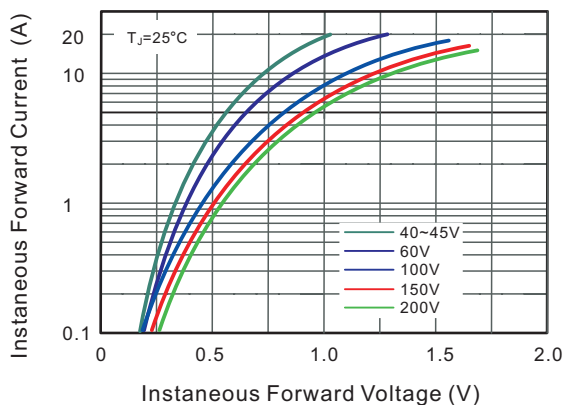


Fig.4 Typical Junction Capacitance

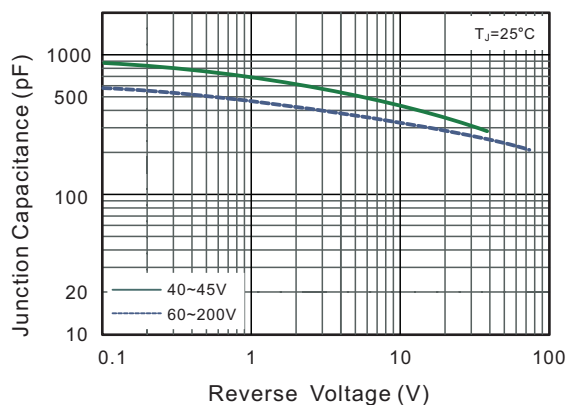


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

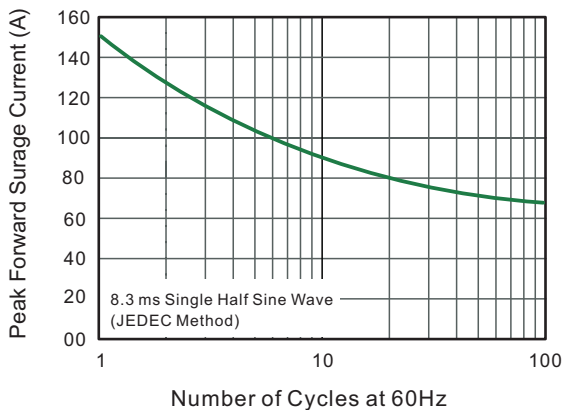
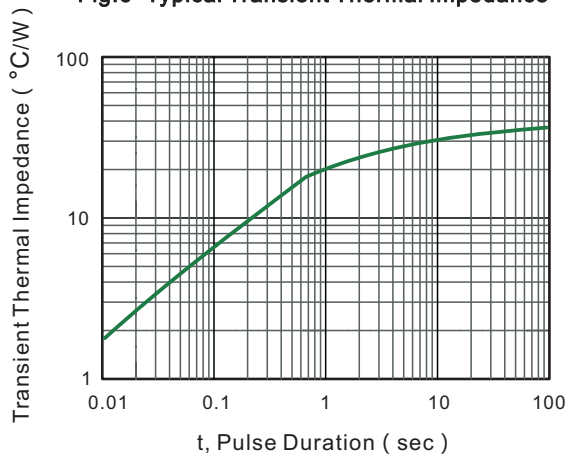
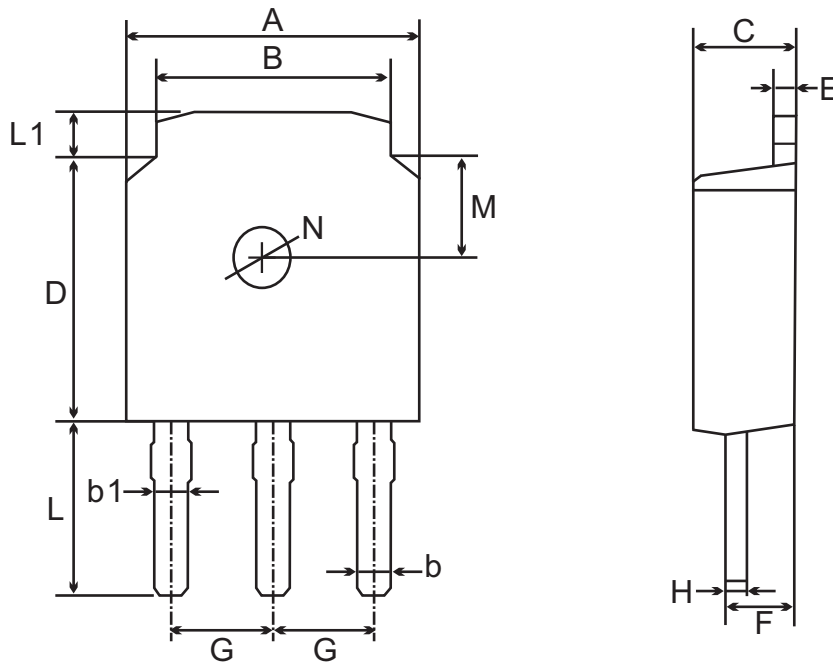


Fig.6- Typical Transient Thermal Impedance





### TO-251(D-PAK) Package Outline Dimensions



TO-251(I-PAK) mechanical data

| UNIT |     | A   | B   | b   | b1   | C   | D   | E   | F   | G               | H    | L   | L1  | M              | N              |
|------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----------------|------|-----|-----|----------------|----------------|
| mm   | max | 6.7 | 5.5 | 0.8 | 0.9  | 2.5 | 6.3 | 0.6 | 1.8 | 2.29<br>TYPICAL | 0.55 | 4.3 | 1.2 | 1.8<br>TYPICAL | 1.3<br>TYPICAL |
|      | min | 6.3 | 5.1 | 0.3 | 0.76 | 2.1 | 5.9 | 0.4 | 1.3 |                 | 0.45 | 3.9 | 0.8 |                |                |
| mil  | max | 264 | 217 | 31  | 35   | 98  | 248 | 24  | 71  | 90<br>TYPICAL   | 22   | 169 | 47  | 71<br>TYPICAL  | 51<br>TYPICAL  |
|      | min | 248 | 201 | 12  | 30   | 83  | 232 | 16  | 51  |                 | 18   | 154 | 31  |                |                |

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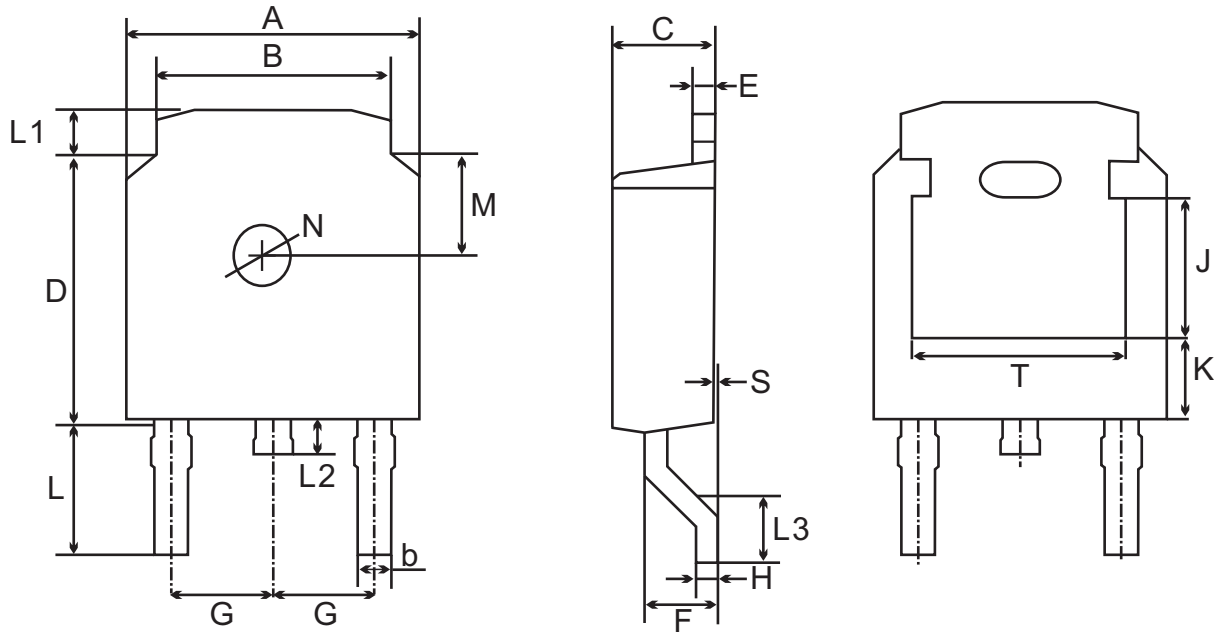
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TO-252(D-PAK) Package Outline Dimensions



TO-252(D-PAK) mechanical data

| UNIT |     | A   | B   | b   | C   | D   | E   | F   | G               | H    | L   | L1  | L2  | L3   | S   | M              | N              | J    | K    | T    |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----------------|------|-----|-----|-----|------|-----|----------------|----------------|------|------|------|
| mm   | max | 6.7 | 5.5 | 0.8 | 2.5 | 6.3 | 0.6 | 1.8 | 2.29<br>TYPICAL | 0.55 | 3.1 | 1.2 | 1.0 | 1.75 | 0.1 | 1.8<br>TYPICAL | 1.3<br>TYPICAL | 3.16 | 1.80 | 4.83 |
|      | min | 6.3 | 5.1 | 0.3 | 2.1 | 5.9 | 0.4 | 1.3 |                 | 0.45 | 2.7 | 0.8 | 0.6 | 1.40 | 0.0 |                |                | ref. | ref. | ref. |
| mil  | max | 264 | 217 | 31  | 98  | 248 | 24  | 71  | 90<br>TYPICAL   | 22   | 122 | 47  | 39  | 69   | 4   | 71<br>TYPICAL  | 51<br>TYPICAL  | 124  | 71   | 190  |
|      | min | 248 | 201 | 12  | 83  | 232 | 16  | 51  |                 | 18   | 106 | 31  | 24  | 55   | 0   |                |                | ref. | ref. | ref. |

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