

## Silicon Power Schottky Diode

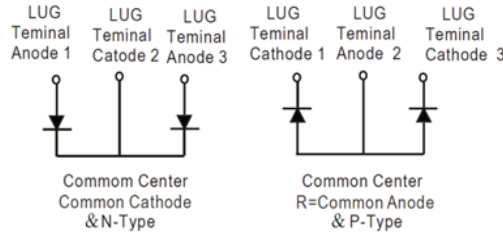
$$V_{RRM} = 45 \text{ V} - 100 \text{ V}$$

$$I_{F(AV)} = 120 \text{ A}$$

### Features

- High Surge Capability
- Types from 45 V to 100 V  $V_{RRM}$
- Isolation Type Package
- Electrically Isolated Base Plate
- Not ESD Sensitive

### Three Tower Package



Maximum ratings, at  $T_j = 25^\circ\text{C}$ , unless otherwise specified ("R" devices have leads reversed)

| Parameter                       | Symbol    | Conditions | MBRT12045(R) | MBRT12060(R) | MBRT12080(R) | MBRT120100(R) | Unit             |
|---------------------------------|-----------|------------|--------------|--------------|--------------|---------------|------------------|
| Repetitive peak reverse voltage | $V_{RRM}$ |            | 45           | 60           | 80           | 100           | V                |
| RMS reverse voltage             | $V_{RMS}$ |            | 32           | 42           | 56           | 70            | V                |
| DC blocking voltage             | $V_{DC}$  |            | 45           | 60           | 80           | 100           | V                |
| Operating temperature           | $T_j$     |            | -55 to 150   | -55 to 150   | -55 to 150   | -55 to 150    | $^\circ\text{C}$ |
| Storage temperature             | $T_{stg}$ |            | -55 to 150   | -55 to 150   | -55 to 150   | -55 to 150    | $^\circ\text{C}$ |

Electrical characteristics, at  $T_j = 25^\circ\text{C}$ , unless otherwise specified

| Parameter                                                                    | Symbol      | Conditions                                         | MBRT12045(R) | MBRT12060(R) | MBRT12080(R) | MBRT120100(R) | Unit |
|------------------------------------------------------------------------------|-------------|----------------------------------------------------|--------------|--------------|--------------|---------------|------|
| Average forward current (per pkg)                                            | $I_{F(AV)}$ | $T_C = 125^\circ\text{C}$                          | 120          | 120          | 120          | 120           | A    |
| Peak forward surge current (per leg)                                         | $I_{FSM}$   | $t_p = 8.3 \text{ ms}$ , half sine                 | 800          | 800          | 800          | 800           | A    |
| Maximum instantaneous forward voltage (per leg)                              | $V_F$       | $I_{FM} = 60 \text{ A}$ , $T_j = 25^\circ\text{C}$ | 0.70         | 0.75         | 0.84         | 0.84          | V    |
| Maximum instantaneous reverse current at rated DC blocking voltage (per leg) | $I_R$       | $T_j = 25^\circ\text{C}$                           | 1            | 1            | 1            | 1             | mA   |
|                                                                              |             | $T_j = 100^\circ\text{C}$                          | 10           | 10           | 10           | 10            |      |
|                                                                              |             | $T_j = 150^\circ\text{C}$                          | 30           | 30           | 30           | 30            |      |

### Thermal characteristics

|                                             |                 |      |      |      |      |                    |
|---------------------------------------------|-----------------|------|------|------|------|--------------------|
| Thermal resistance, junction-case (per leg) | $R_{\theta JC}$ | 0.80 | 0.80 | 0.80 | 0.80 | $^\circ\text{C/W}$ |
|---------------------------------------------|-----------------|------|------|------|------|--------------------|

Figure.1-Typical Forward Characteristics

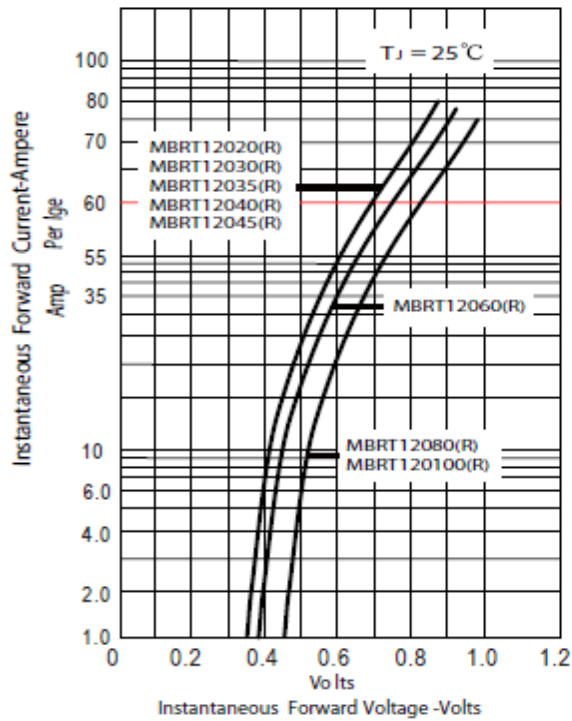


Figure.2-Forward Derating Curve

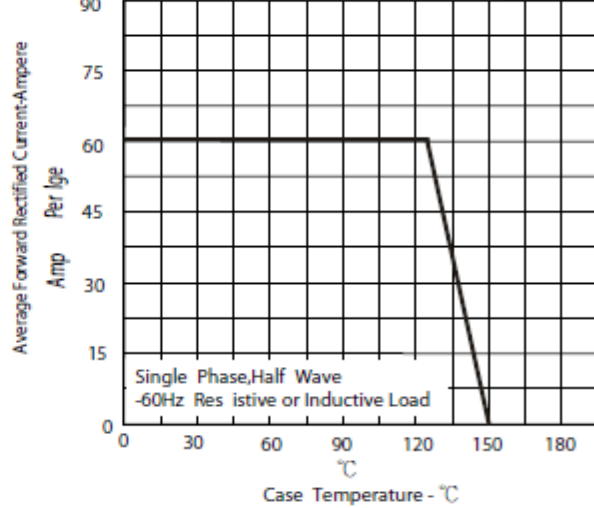


Figure.3-Peak Forward Surge Current

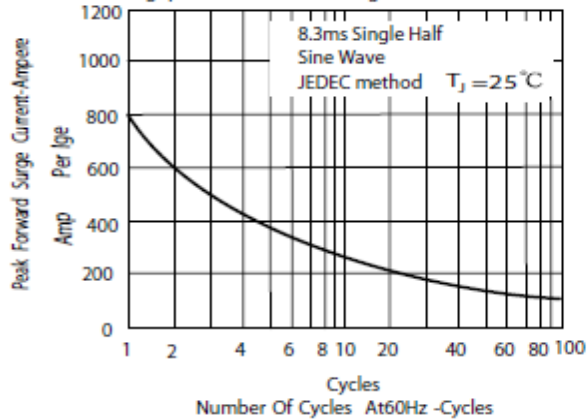
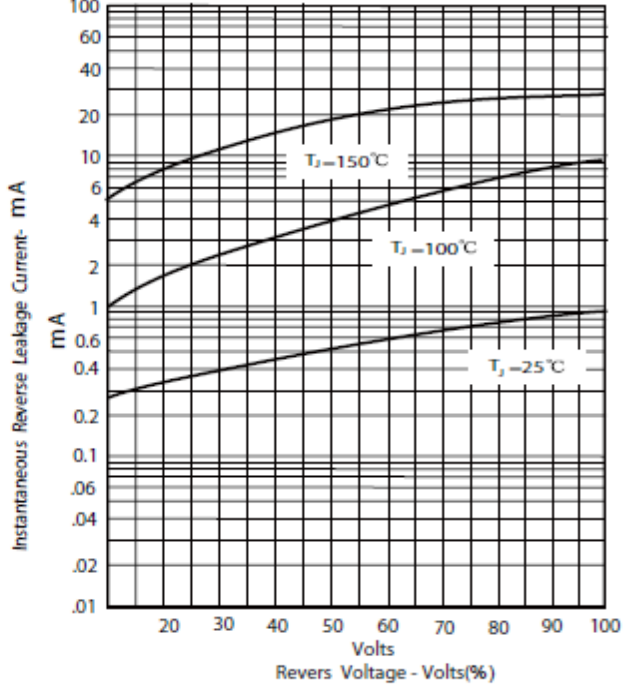
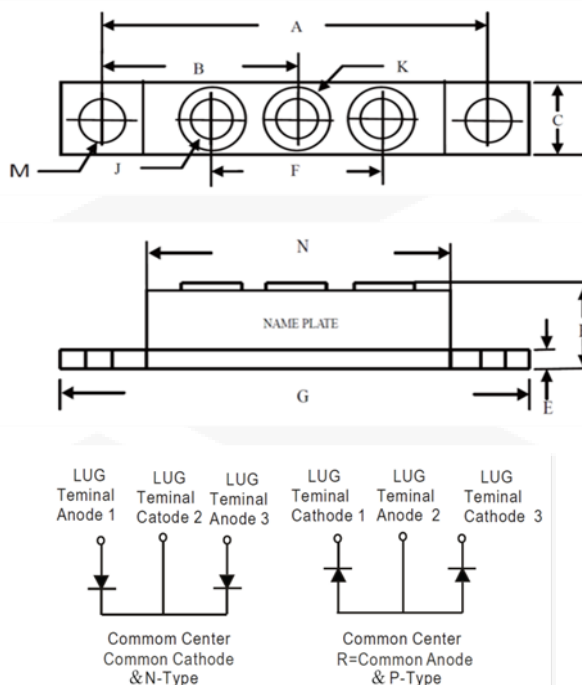


Figure.4-Typical Reverse Characteristics



## Package dimensions and terminal configuration

Product is marked with part number and terminal configuration.



| DIM | Inches           |       | Millimeters |       |
|-----|------------------|-------|-------------|-------|
|     | Min              | Max   | Min         | Max   |
| A   | 3.150            | NOM   | 80.01       | NOM   |
| B   | 1.565            | 1.585 | 39.75       | 40.26 |
| C   | 0.700            | 0.800 | 17.78       | 20.32 |
| E   | 0.119            | 0.132 | 3.02        | 3.35  |
| F   | 1.327            | ----- | 33.72       | ----- |
| G   | 3.550            | 3.650 | 90.17       | 92.71 |
| H   | 0.677            | 0.720 | 17.20       | 18.30 |
| J   | 1/4 -20 UNC FULL |       |             |       |
| K   | 0.472            | 0.511 | 12          | 13    |
| M   | 0.275            | 0.295 | 6.99        | 7.49  |
| N   | 2.380            | 2.460 | 60.5        | 62.5  |

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