

Silicon Power Schottky Diode

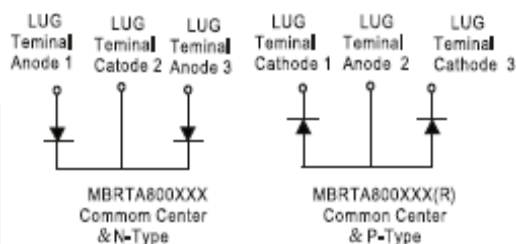
$V_{RRM} = 20\text{ V} - 40\text{ V}$

$I_{F(AV)} = 800\text{ A}$

Features

- High Surge Capability
- Types from 20 V to 40 V V_{RRM}
- Isolation Type Package
- Electrically Isolated Base Plate
- Not ESD Sensitive

Heavy Three Tower Package



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

| Parameter | Symbol | Conditions | MBRTA80020(R) | MBRTA80030(R) | MBRTA80035(R) | MBRTA80040(R) | Unit |
|---------------------------------|-----------|------------|---------------|---------------|---------------|---------------|------------------|
| Repetitive peak reverse voltage | V_{RRM} | | 20 | 30 | 35 | 40 | V |
| RMS reverse voltage | V_{RMS} | | 14 | 21 | 25 | 28 | V |
| DC blocking voltage | V_{DC} | | 20 | 30 | 35 | 40 | 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 $T_j = 25\text{ }^\circ\text{C}$, unless otherwise specified

| Parameter | Symbol | Conditions | MBRTA80020(R) | MBRTA80030(R) | MBRTA80035(R) | MBRTA80040(R) | Unit |
|--|-------------|--|---------------|---------------|---------------|---------------|------|
| Average forward current (per pkg) | $I_{F(AV)}$ | $T_C = 100\text{ }^\circ\text{C}$ | 800 | 800 | 800 | 800 | A |
| Peak forward surge current (per leg) | I_{FSM} | $t_p = 8.3\text{ ms}$, half sine | 6000 | 6000 | 6000 | 6000 | A |
| Maximum instantaneous forward voltage (per leg) | V_F | $I_{FM} = 400\text{ A}$, $T_j = 25\text{ }^\circ\text{C}$ | 0.72 | 0.72 | 0.72 | 0.72 | V |
| Reverse current at rated DC blocking voltage (per leg) | I_R | $T_j = 25\text{ }^\circ\text{C}$ | 1 | 1 | 1 | 1 | mA |
| | | $T_j = 100\text{ }^\circ\text{C}$ | 10 | 10 | 10 | 10 | |
| | | $T_j = 150\text{ }^\circ\text{C}$ | 50 | 50 | 50 | 50 | |

Thermal characteristics

| Parameter | Symbol | Conditions | MBRTA80020(R) | MBRTA80030(R) | MBRTA80035(R) | MBRTA80040(R) | Unit |
|---|-----------------|------------|---------------|---------------|---------------|---------------|--------------------|
| Thermal resistance, junction - case (per leg) | $R_{\theta JC}$ | | 0.25 | 0.25 | 0.25 | 0.25 | $^\circ\text{C/W}$ |

Figure.1-Typical Forward Characteristics

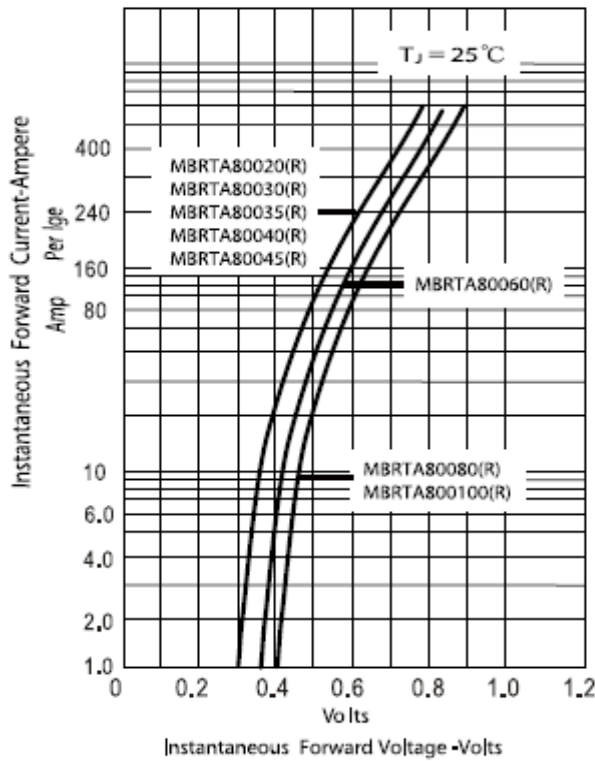


Figure.2-Forward Derating Curve

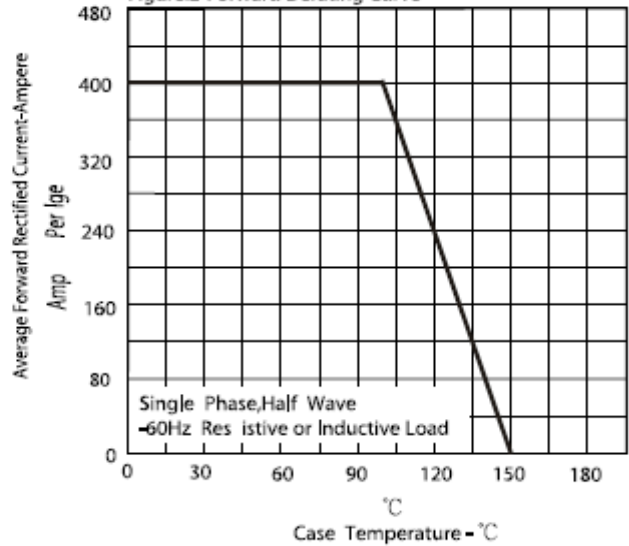


Figure.3-Peak Forward Surge Current

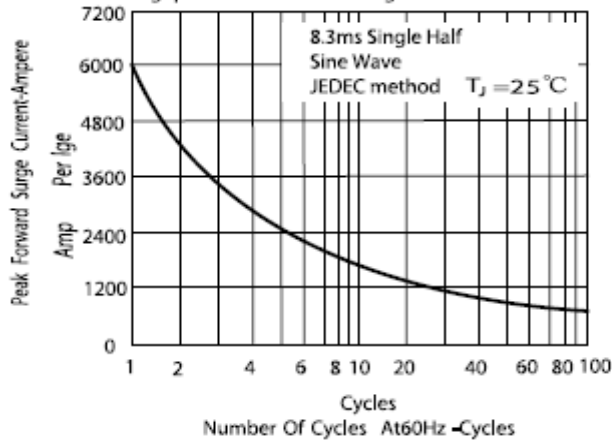
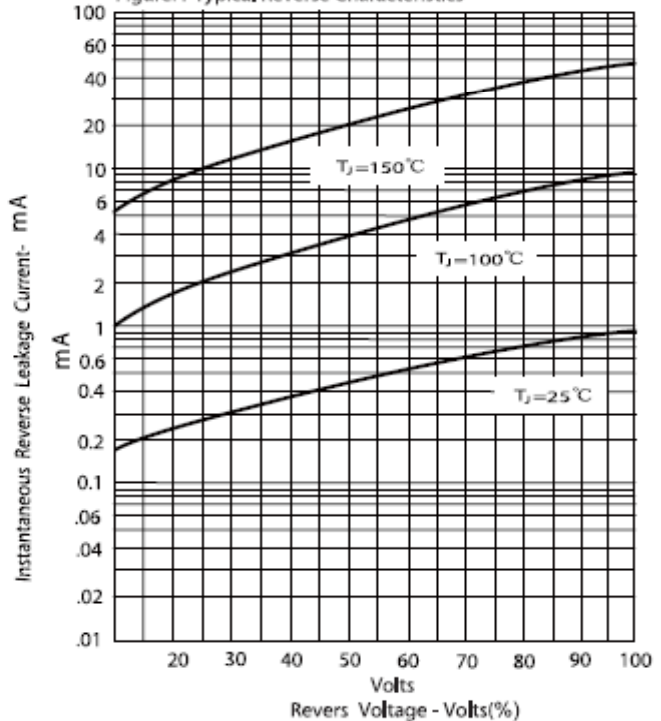
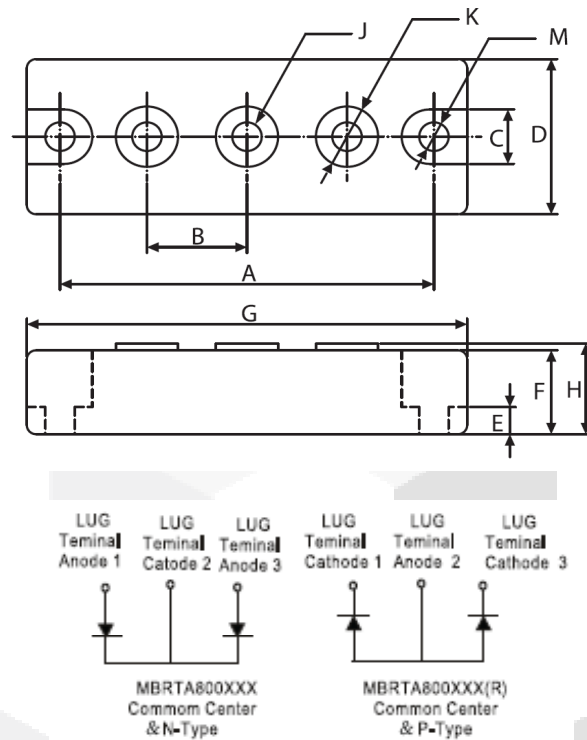


Figure.4-Typical Reverse Characteristics



Package dimensions and terminal configuration

Product is marked with part number and terminal configuration.



| DIMENSIONS | | | | |
|------------|-------------------|-------|-------|-------|
| | INCHES | | MM | |
| | MIN | MAX | MIN | MAX |
| A | 3.150 | NOM | 80.01 | NOM |
| B | .872 | .892 | 22.15 | 22.65 |
| C | .465 | .479 | 11.82 | 12.18 |
| D | 1.337 | 1.356 | 33.95 | 34.45 |
| E | .230 | .234 | 5.84 | 6.16 |
| F | .725 | REF | 18.42 | REF |
| G | 3.668 | 3.768 | 93.17 | 95.71 |
| H | ---- | .791 | --- | 20.10 |
| J | 1/4 - 20 UNC FULL | | | |
| K | .509 | .538 | 12.92 | 13.68 |
| M | .238 | .258 | 6.05 | 6.55 |