



Chip Schottky Barrier Rectifier

1.0A Surface Mount Schottky Barrier Rectifiers -20V-200V

Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guardring for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Suffix "-H" indicates Halogen-free parts, ex. MBRS120G-H.

Mechanical data

- Epoxy: UL94-V0 rated flame retardant
- Case: Molded plastic, DO-214AC / SMA
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Indicated by cathode band
- Mounting Position: Any
- Weight: Approximated 0.05 gram

Maximum ratings (AT $T_{\bar{A}}=25^{\circ}\text{C}$ unless otherwise noted)

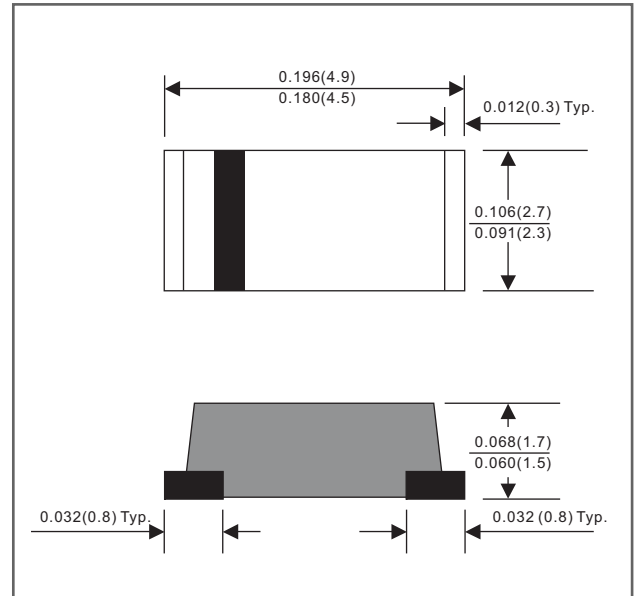
| PARAMETER | CONDITIONS | SYMBOL | MIN. | TYP. | MAX. | UNIT |
|----------------------------|--|-----------------|------|------|------|-----------------------------|
| Forward rectified current | See Fig.1 | I_o | | | 1.0 | A |
| Forward surge current | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | I_{FSM} | | | 30 | A |
| Reverse current | $V_R = V_{RRM}$ $T_J = 25^{\circ}\text{C}$ | I_R | | | 0.5 | mA |
| | $V_R = V_{RRM}$ $T_J = 100^{\circ}\text{C}$ | | | | 10 | |
| Thermal resistance | Junction to ambient | $R_{\theta JA}$ | | 88 | | $^{\circ}\text{C}/\text{W}$ |
| Diode junction capacitance | f=1MHz and applied 4V DC reverse voltage | C_J | | 120 | | pF |
| Storage temperature | | T_{STG} | -65 | | +175 | $^{\circ}\text{C}$ |

| SYMBOLS | V_{RRM}^{*1} (V) | V_{RMS}^{*2} (V) | V_R^{*3} (V) | V_F^{*4} (V) | Operating temperature T_J , ($^{\circ}\text{C}$) |
|-----------|-----------------------|-----------------------|-------------------|-------------------|---|
| MBRS120G | 20 | 14 | 20 | 0.50 | -55 to +125 |
| MBRS130G | 30 | 21 | 30 | | |
| MBRS140G | 40 | 28 | 40 | | |
| MBRS150G | 50 | 35 | 50 | 0.70 | -55 to +150 |
| MBRS160G | 60 | 42 | 60 | | |
| MBRS180G | 80 | 56 | 80 | 0.85 | |
| MBRS1100G | 100 | 70 | 100 | | |
| MBRS1150G | 150 | 105 | 150 | 0.92 | |
| MBRS1200G | 200 | 140 | 200 | | |

- *1 Repetitive peak reverse voltage
- *2 RMS voltage
- *3 Continuous reverse voltage
- *4 Maximum forward voltage@ $I_F=1.0\text{A}$

Package outline

SMA



Dimensions in inches and (millimeters)

Rating and characteristic curves

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

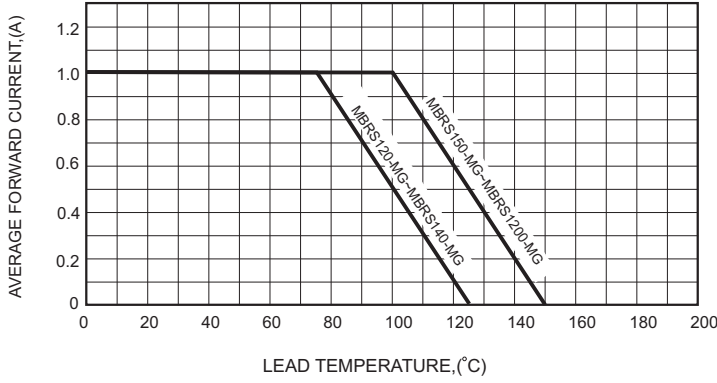


FIG.2-TYPICAL FORWARD CHARACTERISTICS

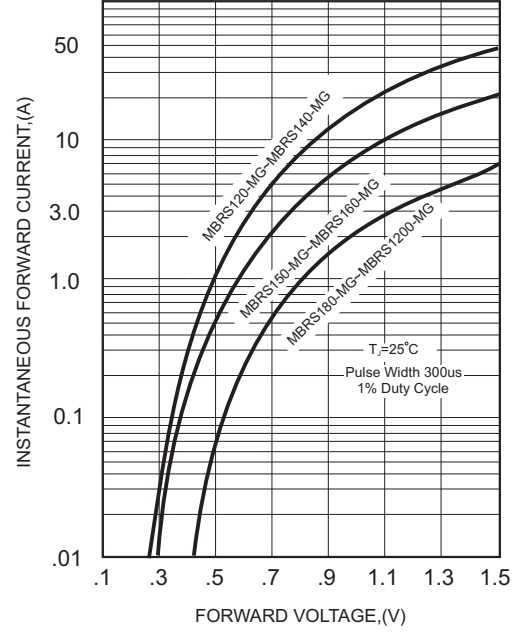


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

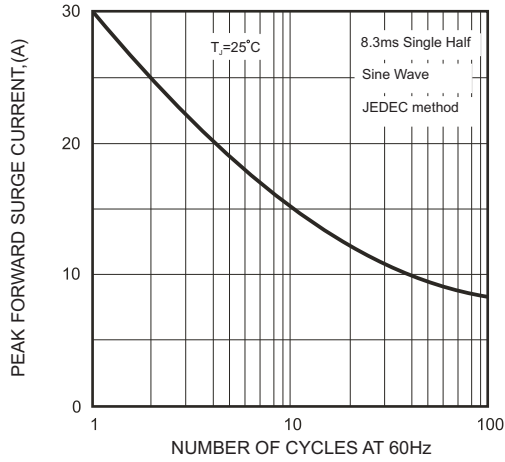


FIG.4-TYPICAL JUNCTION CAPACITANCE

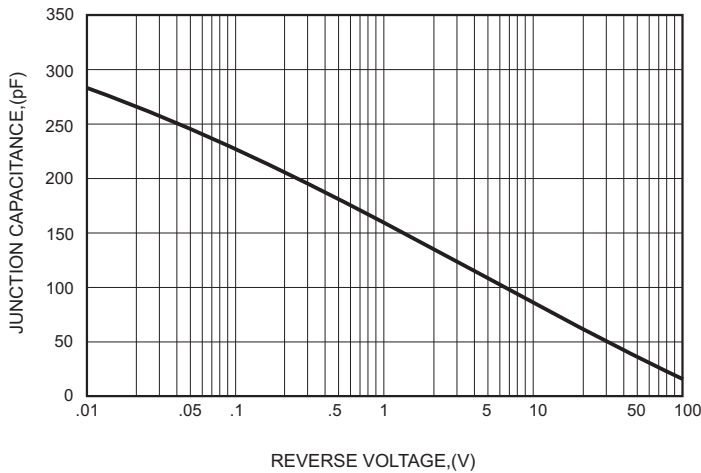


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

