

# MBRS4045 THRU MBRS40200

## 40 AMP SCHOTTKY BARRIER RECTIFIERS

### FEATURES

- \* Low forward voltage drop
- \* High current capability
- \* High reliability
- \* High surge current capability
- \* Epitaxial construction

### MECHANICAL DATA

- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: Lead solderable per MIL-STD-202, method 208 guaranteed
- \* Polarity: As Marked
- \* Mounting position: Any
- \* Weight: 2.24 grams

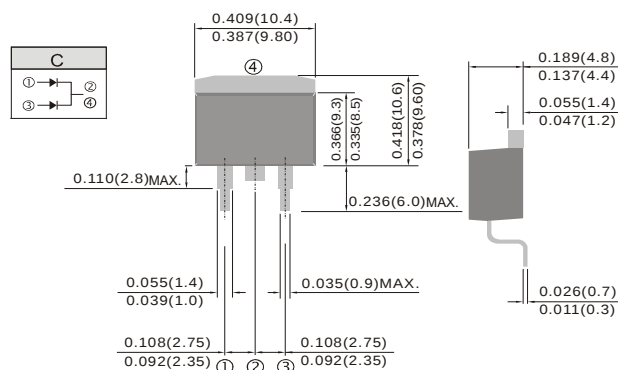
### VOLTAGE RANGE

45 to 100 Volts

### CURRENT

40 Ampere

### TO-263 / D PAK



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.  
 Single phase half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

| TYPE NUMBER                                                                                           | MBRS<br>4045 | MBRS<br>4060 | MBRS<br>40100 | MBRS<br>40150 | MBRS<br>40200 | UNITS |
|-------------------------------------------------------------------------------------------------------|--------------|--------------|---------------|---------------|---------------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                                | 45           | 60           | 100           | 150           | 200           | V     |
| Maximum RMS Voltage                                                                                   | 32           | 42           | 70            | 105           | 140           | V     |
| Maximum DC Blocking Voltage                                                                           | 45           | 60           | 100           | 150           | 200           | V     |
| Maximum Average Forward Rectified Current<br>.375"(9.5mm) Lead Length at Tc=100°C                     | 40           |              |               |               |               | A     |
| Peak Forward Surge Current, 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | 300          |              |               |               |               | A     |
| Maximum Instantaneous Forward Voltage at 40A                                                          | 0.55         | 0.75         | 0.85          | 0.92          |               | V     |
| Maximum DC Reverse Current Ta=25°C                                                                    | 0.1          |              | 0.02          |               |               | mA    |
| at Rated DC Blocking Voltage Ta=125°C                                                                 | 5            |              | 2             |               |               | mA    |
| Typical Junction Capacitance (Note1)                                                                  | 1000         |              |               |               |               | pF    |
| Typical Thermal Resistance R JA (Note 2)                                                              | 3.5          |              |               |               |               | °C/W  |
| Operating Temperature Range Tj                                                                        | -55 — +150   |              |               |               |               | °C    |
| Storage Temperature Range Tstg                                                                        | -55 — +150   |              |               |               |               | °C    |

#### NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Thermal Resistance Junction to Ambient Vertical PC Board Mounting 0.5"(12.7mm) Lead Length.

## RATING AND CHARACTERISTIC CURVES (MBRS4045 THRU MBRS40200)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

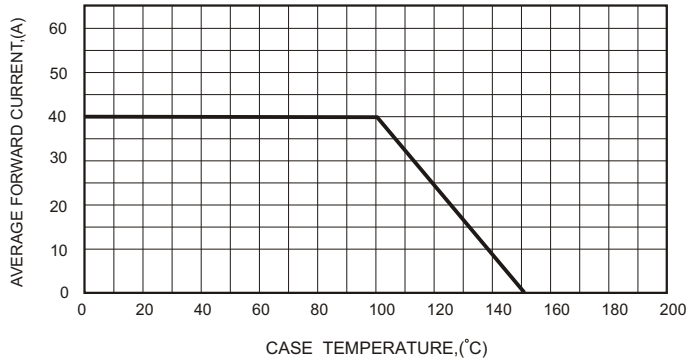


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

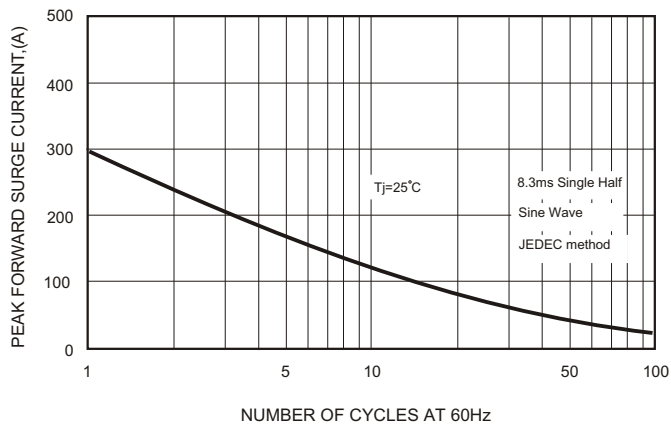


FIG.4-TYPICAL JUNCTION CAPACITANCE

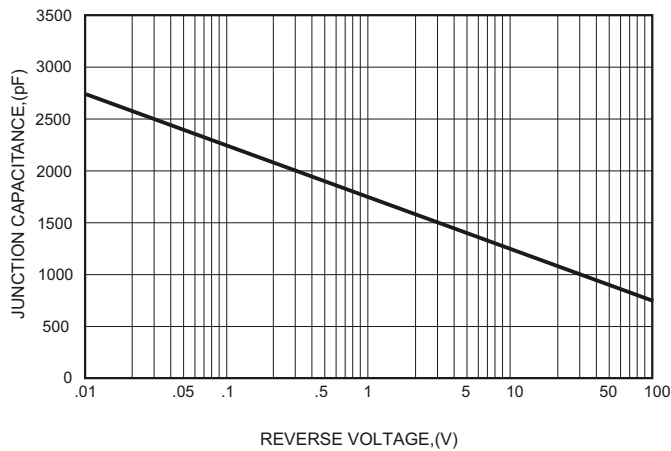


FIG.2-TYPICAL FORWARD CHARACTERISTICS

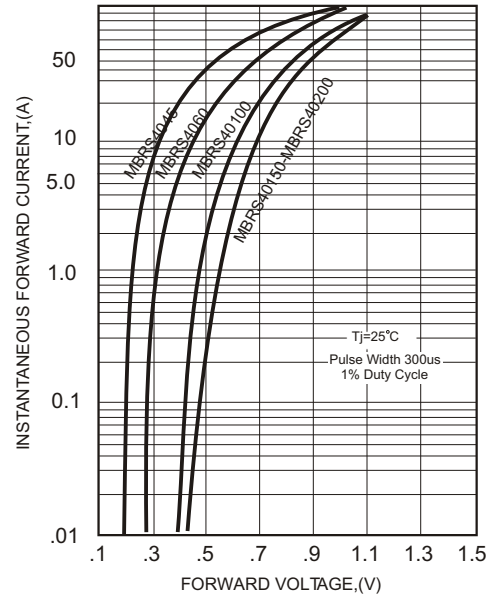


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

