

# MBRD1040 THRU MBRD10200

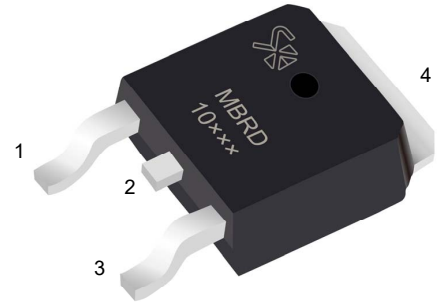
## SCHOTTKY BARRIER RECTIFIERS

REVERSE VOLTAGE - **40 to 200** Volts

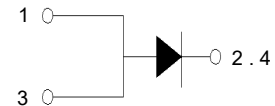
FORWARD CURRENT - **10.0** Amperes

### FEATURES

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



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



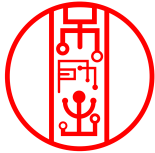
### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| CHARACTERISTICS                                                                                         |                   | MBRD1040    | MBRD1045 | MBRD1060 | MBRD10100 | MBRD10150 | MBRD10200 | UNIT |
|---------------------------------------------------------------------------------------------------------|-------------------|-------------|----------|----------|-----------|-----------|-----------|------|
| Maximum Recurrent Peak Reverse Voltage                                                                  | V <sub>RRM</sub>  | 40          | 45       | 60       | 100       | 150       | 200       | V    |
| Maximum RMS Voltage                                                                                     | V <sub>RMS</sub>  | 28          | 31.5     | 42       | 70        | 105       | 140       | V    |
| Maximum DC Blocking Voltage                                                                             | V <sub>DC</sub>   | 40          | 45       | 60       | 100       | 150       | 200       | V    |
| Maximum Average Forward Rectified Current                                                               | I <sub>(AV)</sub> | 10.0        |          |          |           |           |           | A    |
| Peak Forward Surge Current<br>8.3ms Single Half Sine-Wave<br>Super Imposed on Rated Load (JEDEC Method) | I <sub>FSM</sub>  | 150         |          |          |           |           |           | A    |
| Maximum Forward Voltage at 10.0A DC                                                                     | V <sub>F</sub>    | 0.60        |          | 0.70     | 0.85      | 0.90      | 0.92      | V    |
| Maximum DC Reverse Current J=25℃<br>at Rated DC Blocking Voltage J=125℃                                 | I <sub>R</sub>    | 0.5<br>20   |          |          |           |           |           | mA   |
| Typical Junction Capacitance Per Element (Note1)                                                        | C <sub>J</sub>    | 600         |          | 400      |           |           |           | pF   |
| Typical Thermal Resistance (Note2)                                                                      | R <sub>θJA</sub>  | 35          |          |          |           |           |           | ℃/W  |
| Operating Temperature Range                                                                             | T <sub>J</sub>    | -55 to +150 |          |          |           |           |           | ℃    |
| Storage Temperature Range                                                                               | T <sub>STG</sub>  | -55 to +150 |          |          |           |           |           | ℃    |

NOTES: 1.Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

2.Mounted on 10cm x 10cm x 1mm copper pad area



# MBRD1040 THRU MBRD10200

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

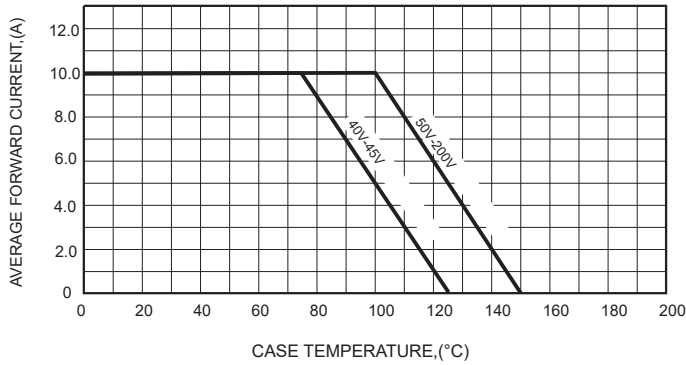


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

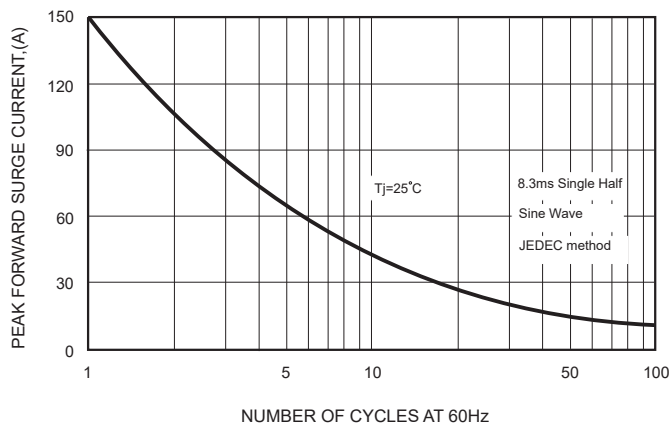


FIG.2-TYPICAL FORWARD CHARACTERISTICS

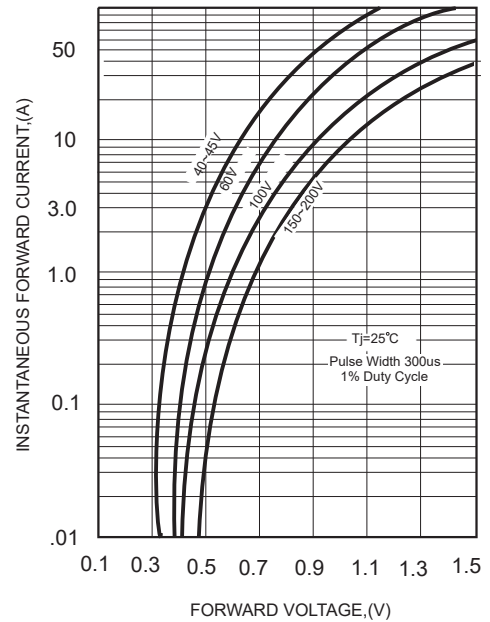
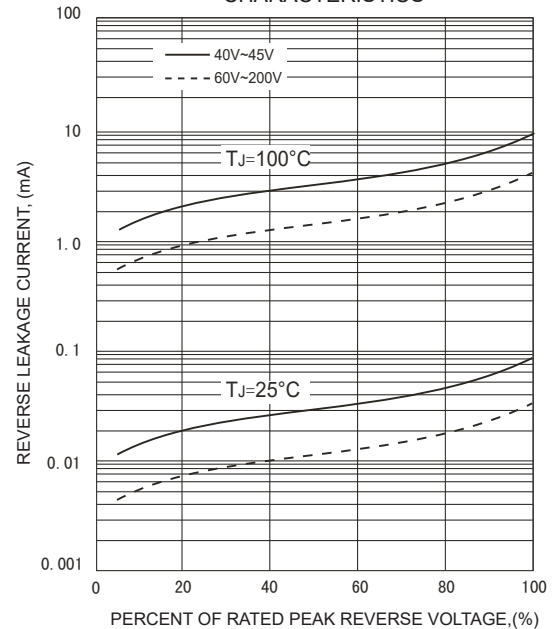
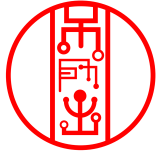


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

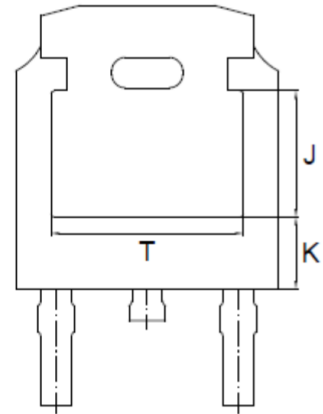
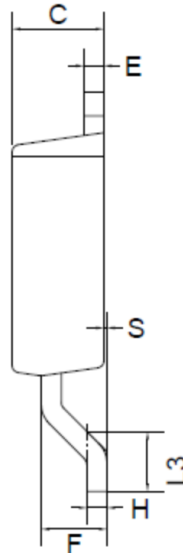
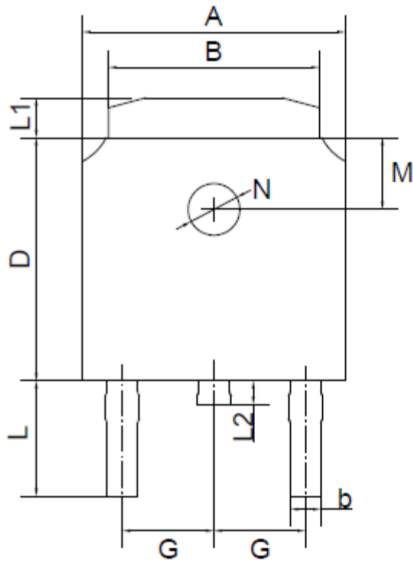




# MBRD1040 THRU MBRD10200

## PACKAGE OUTLINE

TO-252(D-PAK)



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    | 0.55 | 3.1 | 1.2 | 1.0 | 1.75 | 0.1 | 1.8     | 1.3     | 3.16 | 1.80 | 4.83 |
|      | min | 6.3 | 5.1 | 0.3 | 2.1 | 5.9 | 0.4 | 1.3 | TYPICAL | 0.45 | 2.7 | 0.8 | 0.6 | 1.40 | 0.0 | TYPICAL | TYPICAL | ref. | ref. | ref. |
| mil  | max | 264 | 217 | 31  | 98  | 248 | 24  | 71  | 90      | 22   | 122 | 47  | 39  | 69   | 4   | 71      | 51      | 124  | 71   | 190  |
|      | min | 248 | 201 | 12  | 83  | 232 | 16  | 51  | TYPICAL | 18   | 106 | 31  | 24  | 55   | 0   | TYPICAL | TYPICAL | ref. | ref. | ref. |