



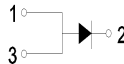
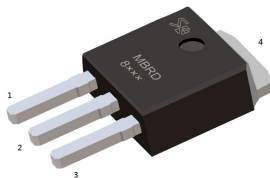
# MBRD840 THRU MBRD8200

## TO-251(I-PAK)

### SCHOTTKY BARRIER RECTIFIERS

REVERSE VOLTAGE - **40 to 200** Volts

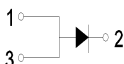
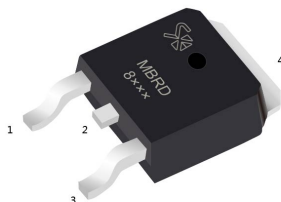
FORWARD CURRENT - **8.0** Amperes



### 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                                                                                          | TO-251           | MBRD840VS   | MBRD845VS | MBRD860VS | MBRD8100VS | MBRD8150VS | MBRD8200VS | UNIT |
|----------------------------------------------------------------------------------------------------------|------------------|-------------|-----------|-----------|------------|------------|------------|------|
|                                                                                                          | TO-252           | MBRD840     | MBRD845   | MBRD860   | MBRD8100   | MBRD8150   | MBRD8200   |      |
| 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(AV)            | 8.0         |           |           |            |            |            | A    |
| Peak Forward Surage 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 8.0A 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



# MBRD840 THRU MBRD8200

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

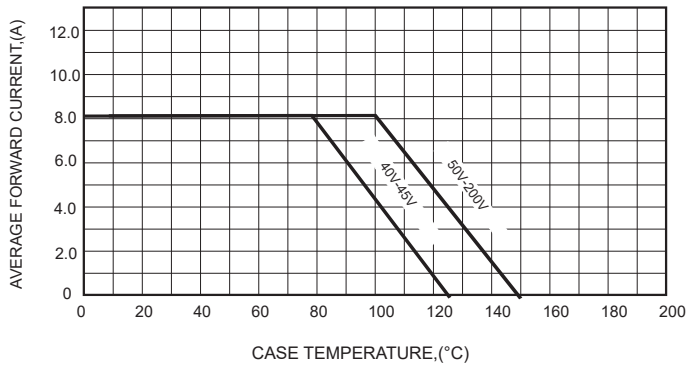


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

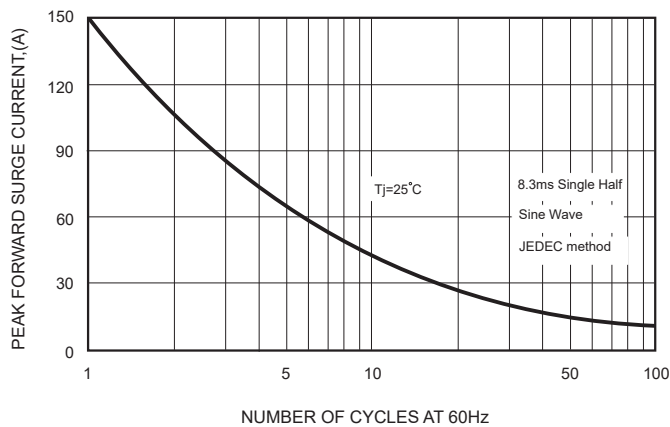


FIG.2-TYPICAL FORWARD CHARACTERISTICS

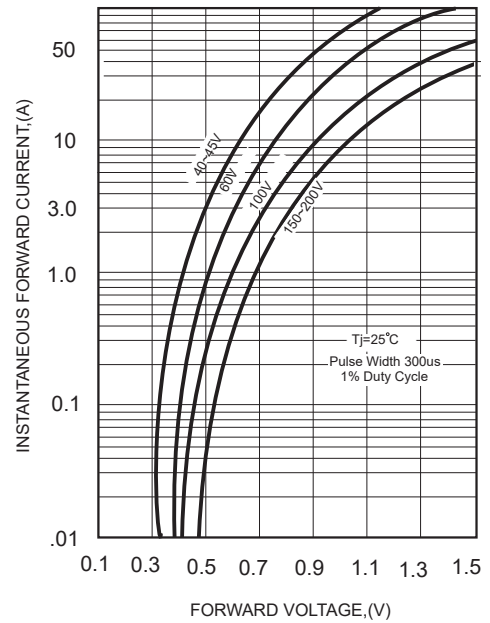
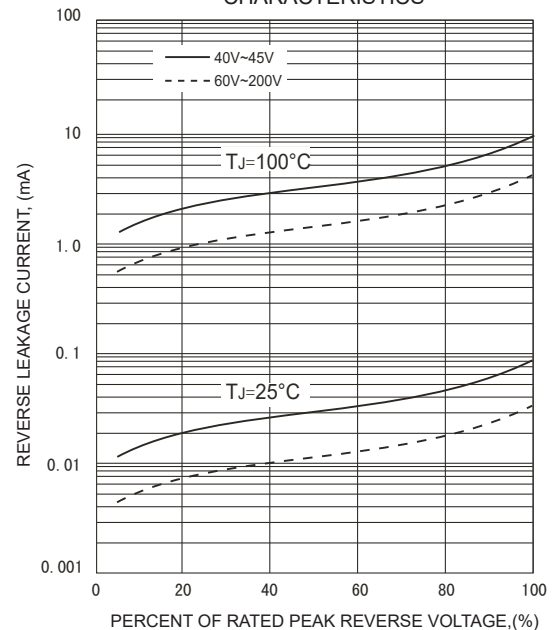
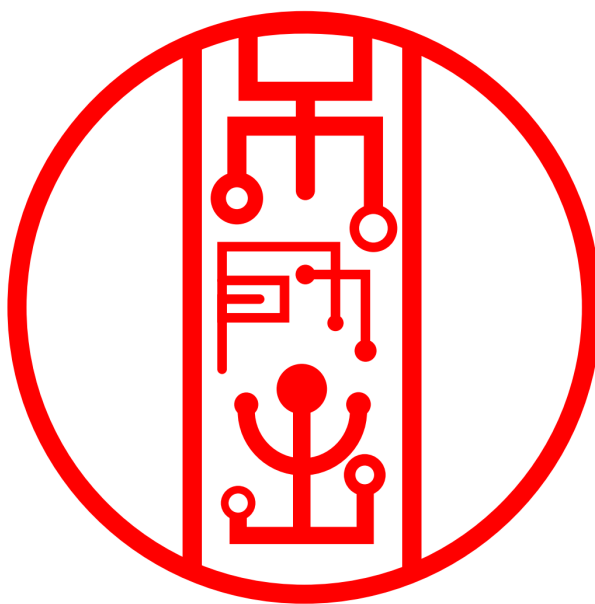


FIG.4 - TYPICAL REVERSE CHARACTERISTICS



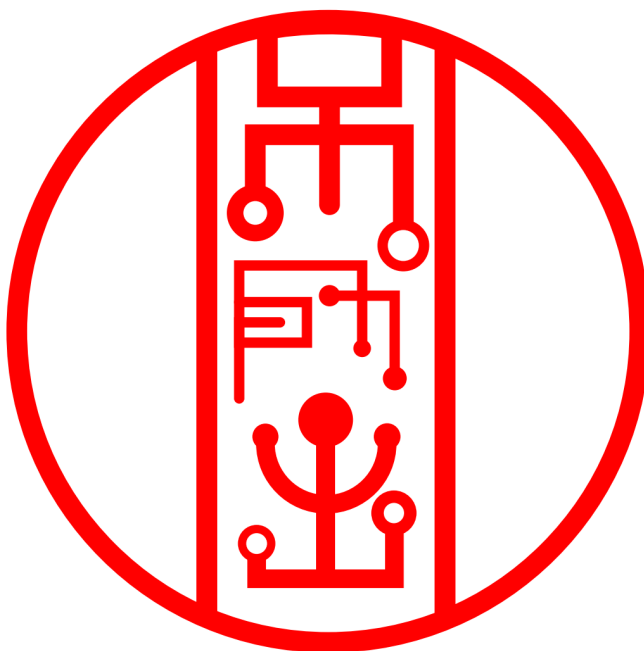
## TO-252(D-PAK) Package Outline Dimensions



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. |

## TO-251(I-PAK) Package Outline Dimensions



TO-251(I-PAK) mechanical data

| UNIT |     | A    | B    | b    | b1   | C    | D    | E    | F    | G       | H    | L    | L1   | M       | N       |
|------|-----|------|------|------|------|------|------|------|------|---------|------|------|------|---------|---------|
| mm   | max | 6.70 | 5.50 | 0.80 | 0.90 | 2.50 | 6.30 | 0.60 | 1.80 | 2.29    | 0.55 | 4.30 | 1.20 | 1.8     | 1.3     |
|      | min | 6.30 | 5.10 | 0.30 | 0.76 | 2.10 | 5.90 | 0.40 | 1.30 | TYPICAL | 0.45 | 3.90 | 0.80 | TYPICAL | TYPICAL |
| mil  | max | 264  | 217  | 31   | 35   | 98   | 248  | 24   | 71   | 90      | 22   | 169  | 47   | 71      | 51      |
|      | min | 248  | 201  | 12   | 30   | 83   | 232  | 16   | 51   | TYPICAL | 18   | 154  | 31   | TYPICAL | TYPICAL |