

MBR4040SCT-MBR40200SCT

40A SCHOTTKY BARRIER RECTIFIER

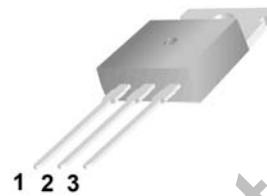


MBR4040SCT-MBR40200SCT

Features:

- Low power loss. high efficiency.
High surge capacity
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- Metal silicon junction, majority carrier conduction.
- High current Capability. low forward voltage drop.
- Guard ring for over voltage protection.

TO-220



1. Anode 2. Cathode 3. Anode

Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

| Parameter | Symbol | MBR 4040 SCT | MBR 4045 SCT | MBR 4050 SCT | MBR 4060 SCT | MBR 4080 SCT | MBR 4090 SCT | MBR 40100 SCT | MBR 40150 SCT | MBR 40200 SCT | Unit |
|---|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|---------------|------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 40 | 45 | 50 | 60 | 80 | 90 | 100 | 150 | 200 | V |
| Maximum RMS Voltage | V_{RMS} | 28 | 31.5 | 35 | 42 | 56 | 63 | 70 | 105 | 140 | |
| Maximum DC Blocking Voltage | $V_{R(DC)}$ | 40 | 45 | 50 | 60 | 80 | 90 | 100 | 150 | 200 | |
| Maximum Average Forward Current | $I_{F(AV)}$ | 40 | | | | | | | | | A |
| Peak Forward Surge Current: 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 300 | | | | | | | | | |
| Maximum Forward Voltage at 20A per leg | V_F | 0.65 | | 0.72 | | | 0.85 | | 0.92 | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | $T_j=25^\circ\text{C}$ | 0.1 | | | | | | | 0.05 | | mA |
| | $T_j=125^\circ\text{C}$ | 20 | | | | | | | | | |
| Maximum Operating Junction Temperature | T_j | 150 | | | | 175 | | | | | °C |
| Storage Temperature | T_{stg} | -55~+150 | | | | -65~+175 | | | | | |
| Typical Thermal Resistance | $R_{\theta JC}$ | 1.3 | | | | | | | | | °C/W |

Typical Characteristics

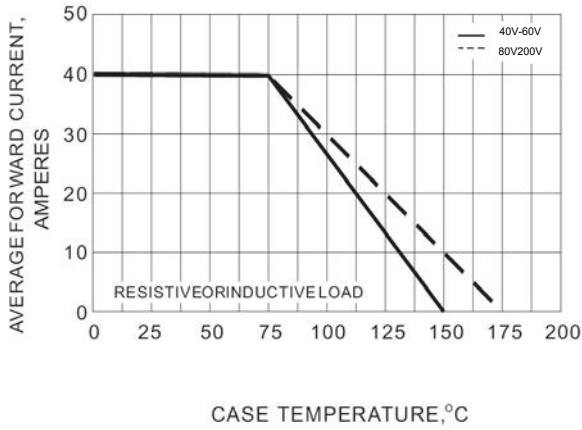


Fig.1 FORWARD CURRENT DERATING CURVE

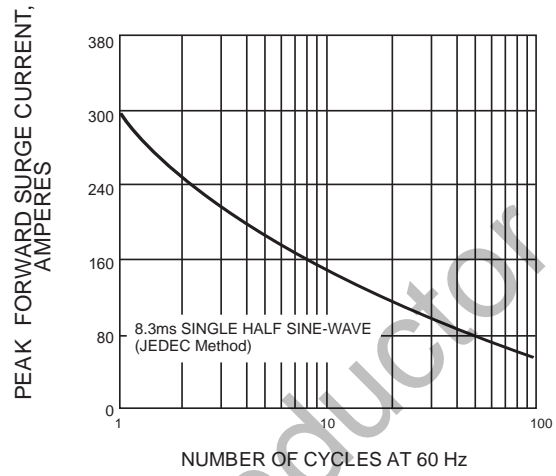


Fig.2 MAXIMUM NON-REPETITIVE SURGE CURRENT

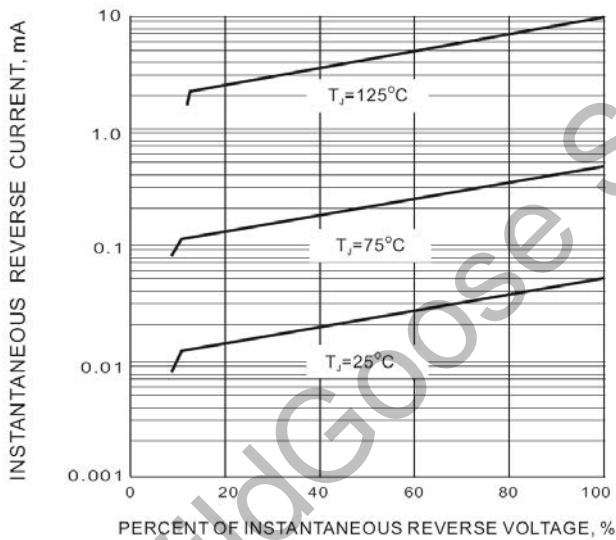


Fig 3. TYPICAL REVERSE CHARACTERISTIC

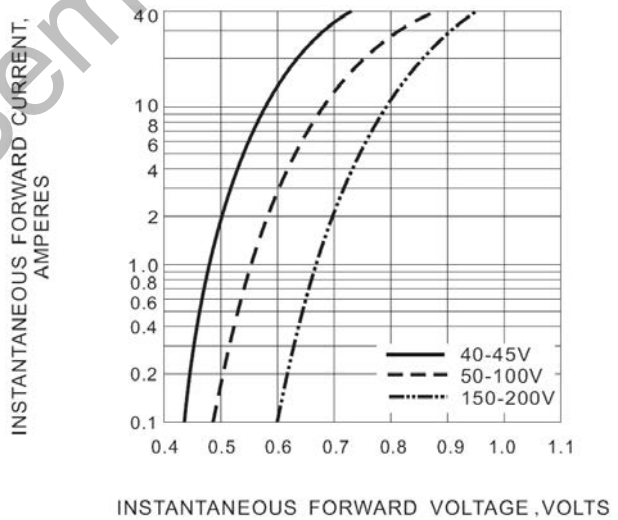
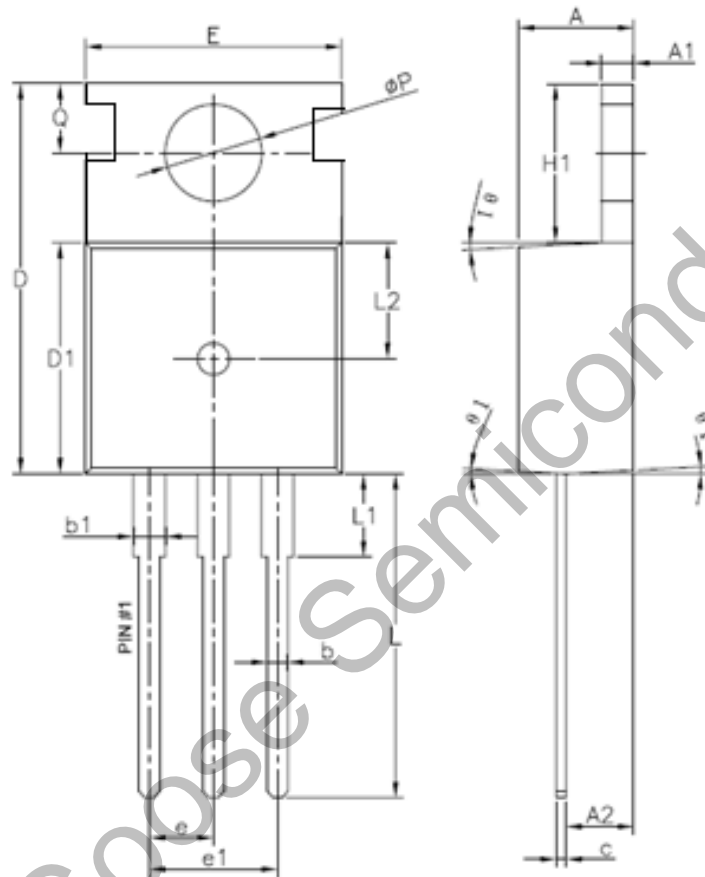


Fig 4. TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

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Package Dimension

TO-220



Unit: mm

| Symbol | Min | Normal | Max | Symbol | Min | Normal | Max |
|--------|------|--------|------|----------------|------|--------|------|
| A | 4.4 | 4.5 | 4.6 | e | | 2.54 | |
| A1 | 1.27 | 1.3 | 1.33 | e1 | | 5.08 | |
| A2 | 2.3 | 2.4 | 2.5 | H1 | 6.3 | 6.5 | 6.7 |
| b | 0.7 | / | 0.9 | L | 13.0 | 13.38 | 13.5 |
| b1 | 1.25 | / | 1.42 | L1 | / | / | 3.5 |
| c | 0.45 | 0.5 | 0.6 | L2 | | 4.6 | |
| D | 15.3 | 15.7 | 16.1 | ΦP | 3.55 | 3.6 | 3.65 |
| D1 | 9.1 | 9.2 | 9.3 | Q | 2.73 | / | 2.87 |
| E | 9.7 | 9.9 | 10.2 | θ_1 (°) | 1 | 3 | 5 |

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