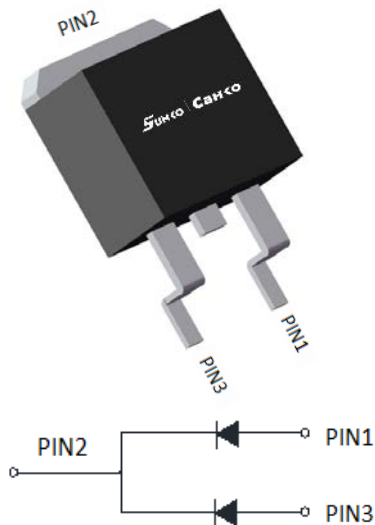


Schottky Diodes



Features

- High frequency operation
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Typical Applications

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

Mechanical Data

- **Package:** TO-263
Molding compound meets UL 94 V-0 flammability rating, -
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked

■Maximum Ratings (T_j=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | MBRB40200CT |
|---|------------------|------------------|-------------|
| Device marking code | | | MBRB40200CT |
| Repetitive Peak Reverse Voltage | V _{RRM} | V | 200 |
| Average Rectified Output Current @60Hz sine wave, R-load, T _c (FIG.1) | I _O | A | 40 |
| Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T _j =25°C | I _{FSM} | A | 300 |
| Surge(Non-repetitive)Forward Current @1ms, square wave, 1 time, T _j =25°C | | | 600 |
| Current Squared Time @1ms≤t≤8.3ms T _j =25°C, | I ² t | A ² s | 373 |
| Storage Temperature | T _{stg} | °C | -55 ~ +175 |
| Junction Temperature | T _j | °C | -55 ~ +175 |

■Electrical Characteristics (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | MBRB40200CT |
|--|------------------|------|--|-------------|
| Maximum instantaneous forward voltage drop per diode | V _F | V | I _F =20A, T _j =25°C | 0.90 |
| Maximum DC reverse current at rated DC blocking voltage per diode @ V _{RM} =V _{RRM} | I _{RRM} | mA | V _{RM} =V _{RRM} T _j =25°C | 0.1 |
| | | | V _{RM} =V _{RRM} T _j =125°C | 20 |

Note1:Pulse test:300uS pulse width,1% duty cycle

Note2:Pulse test:pulse width 40mS

MBRB40200CT

■ Thermal Characteristics (T_j=25°C Unless otherwise specified)

| PARAMETER | | SYMBOL | UNIT | MBRB40200CT |
|--------------------|------------------------------|------------------|------|-------------|
| Thermal Resistance | Between junction and ambient | R _{θJA} | °C/W | 50.0 |
| | Between junction and case | R _{θJC} | °C/W | 2.0 |

■ Characteristics (Typical)

FIG1: I_o - T_c Curve

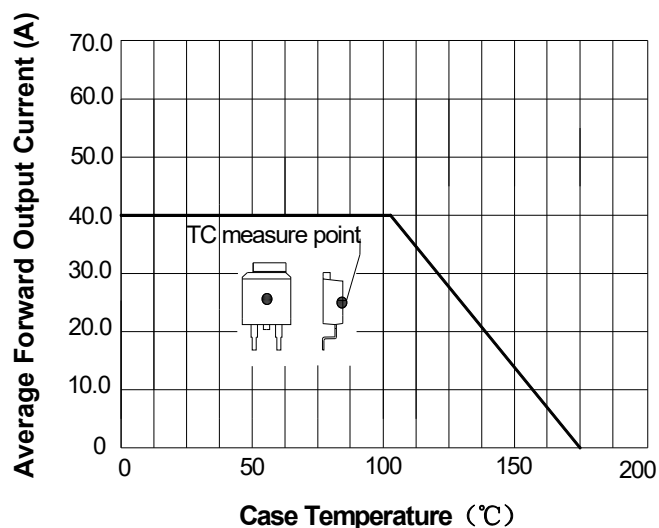


FIG2: Surge Forward Current Capability

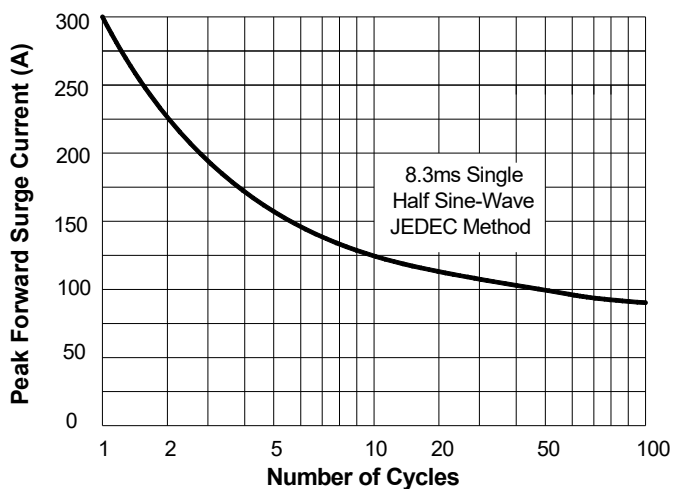


FIG3: Forward Voltage

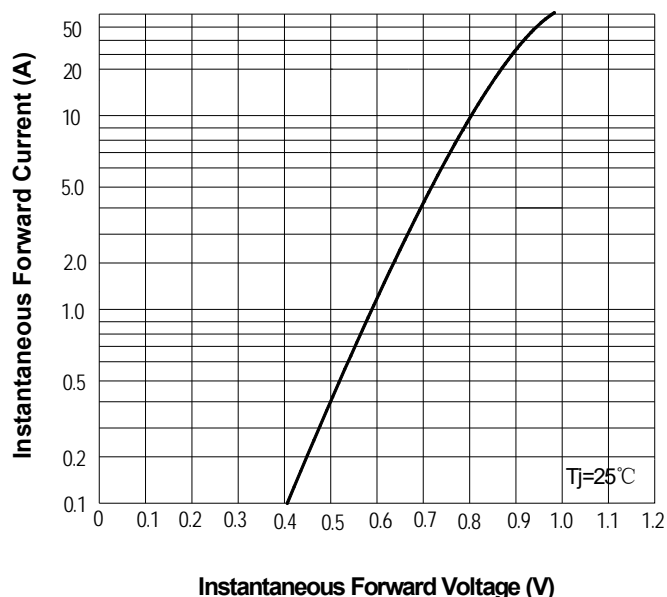
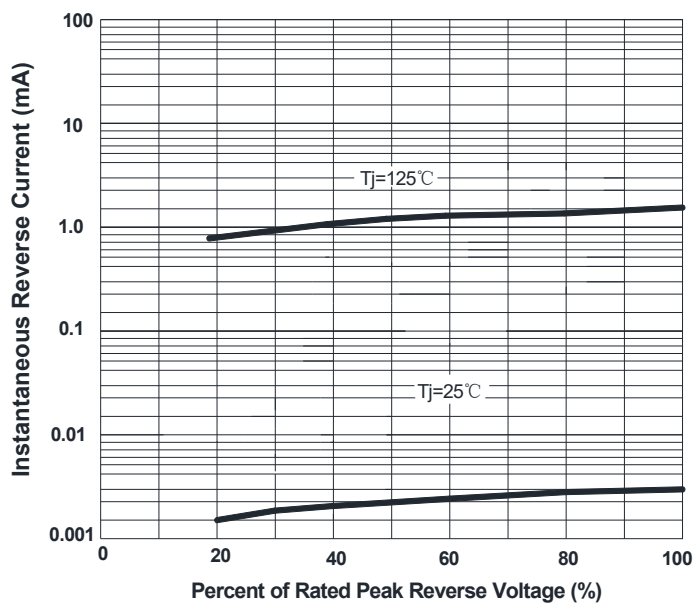
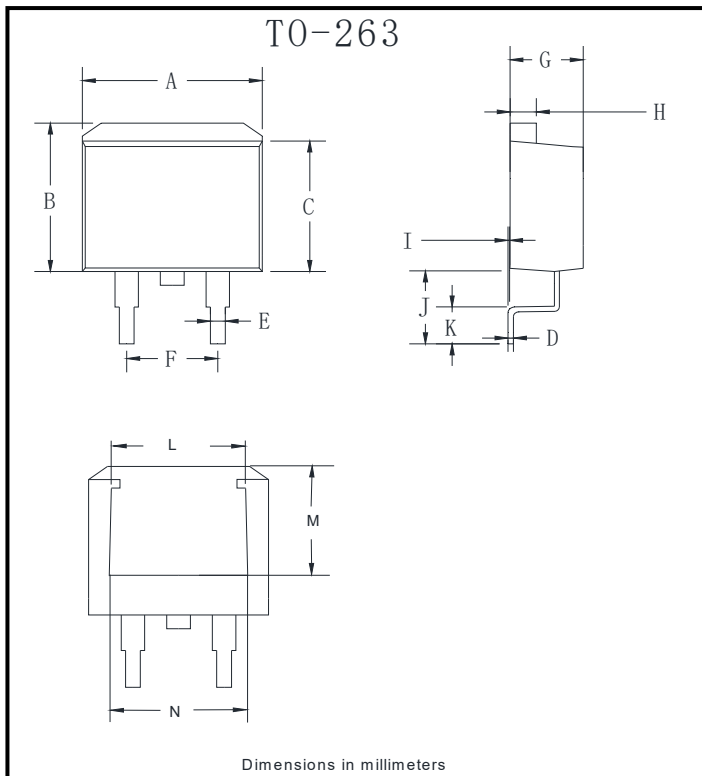


FIG4: Instantaneous Reverse Characteristics

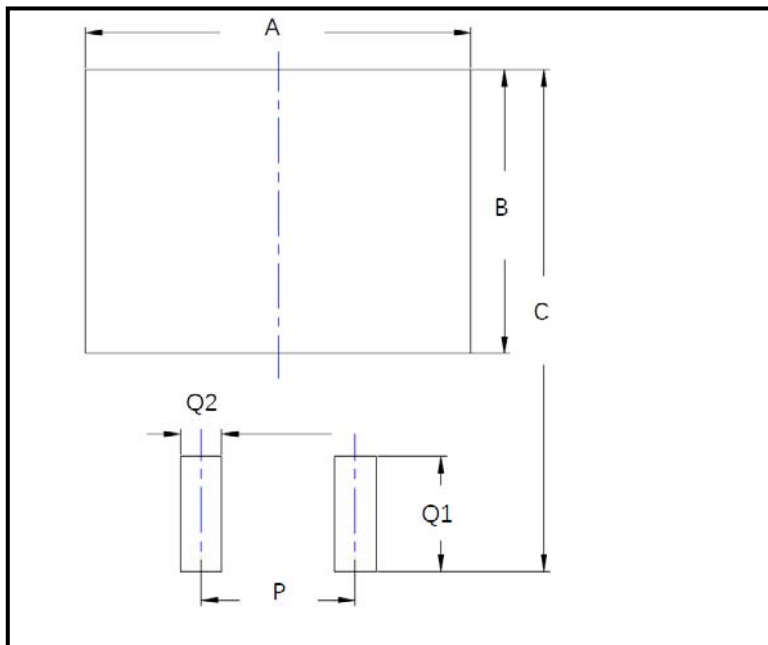


■ **Outline Dimensions**



| TO-263 | | |
|--------|------|------|
| Dim | Min | Max |
| A | 9.5 | 11.5 |
| B | 9.7 | 10.5 |
| C | 8.4 | 9.0 |
| D | 0.28 | 0.64 |
| E | 0.68 | 0.94 |
| F | 4.55 | 5.6 |
| G | 4.04 | 5.10 |
| H | 1.14 | 1.4 |
| I | 0 | 0.2 |
| J | 4.9 | 6.05 |
| K | 1.79 | 2.79 |
| L | 7.3 | 7.9 |
| M | 6.2 | 6.8 |
| N | 7.6 | 8.2 |

■ **Suggested Pad Layout**



| Dim | Millimeters |
|-----|-------------|
| A | 12.7 |
| B | 9.4 |
| C | 16.6 |
| P | 5.08 |
| Q1 | 3.8 |
| Q2 | 1.35 |

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