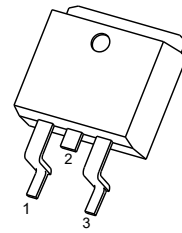


30A,45V Schottky Barrier Rectifier

Features

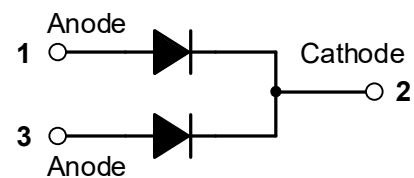
- Low forward voltage, low power loss
- Low leakage current
- High surge current
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21
- AEC-Q 101 qualified (Automotive grade with suffix " Q ")



TO-263

Applications

- SMPS
- Adapter
- Server Power



Mechanical Data

- Case: Epoxy, Molded
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 sec
- Shipped 50 units per plastic tube or tape reel packing 800/reel

Maximum Ratings & Electrical Characteristics (T_A=25°C unless otherwise noted)

| Parameter | Symbol | MBRB1545CTQ | Unit |
|--|--------------------|-------------|------|
| Maximum repetitive peak reverse voltage | V _{RRM} | 45 | V |
| Maximum RMS voltage | V _{RMS} | 32 | V |
| Maximum DC blocking voltage | V _{DC} | 45 | V |
| Maximum average forward | I _{F(AV)} | 30 | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode | I _{FSM} | 275 | A |
| Operating junction temperature range | T _J | -55 to +150 | °C |
| Storage temperature range | T _{STG} | -55 to +150 | °C |

| Electrical Specifications ($T_A=25^{\circ}\text{C}$ unless otherwise noted) | | | | | |
|---|--------|---|-----|------|---------------|
| Parameter | Symbol | Test Conditions | Typ | Max | Unit |
| Forward drop voltage (Note1) | V_F | $I_F=15\text{A}, T_J=25^{\circ}\text{C}$ | 0.5 | 0.55 | V |
| | | $I_F=15\text{A}, T_J=125^{\circ}\text{C}$ | - | 0.48 | |
| | | $I_F=30\text{A}, T_J=25^{\circ}\text{C}$ | - | - | |
| | | $I_F=30\text{A}, T_J=125^{\circ}\text{C}$ | - | - | |
| Reverse leakage current @VR (Note2) | I_R | $T_J=25^{\circ}\text{C}$ | 40 | 100 | μA |
| | | $T_J=100^{\circ}\text{C}$ | - | 10 | mA |

| Thermal-Mechanical Specifications ($T_A=25^{\circ}\text{C}$ unless otherwise noted) | | | |
|---|-----------------|------|-----------------------------|
| Parameter | Symbol | Typ | Unit |
| Thermal Resistance, Junction to Case | $R_{\theta JC}$ | 2.0 | $^{\circ}\text{C}/\text{W}$ |
| Thermal Resistance, Junction to Ambient | $R_{\theta JA}$ | 62.5 | $^{\circ}\text{C}/\text{W}$ |

Note:

1. Pulse test with $PW=0.3\text{ms}$, duty cycle=2%
2. Pulse test with $PW=30\text{ms}$

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

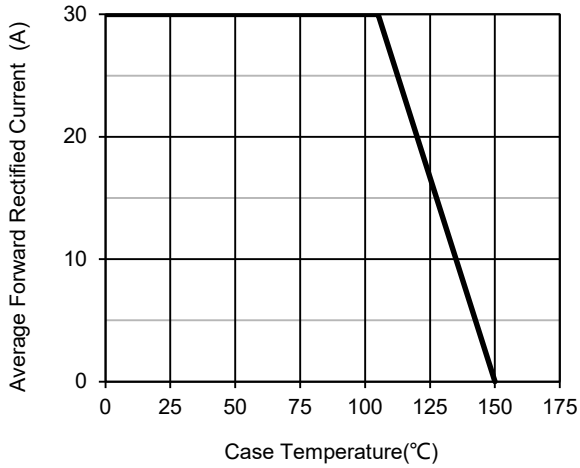


Fig.1 – Forward Current Derating Curve

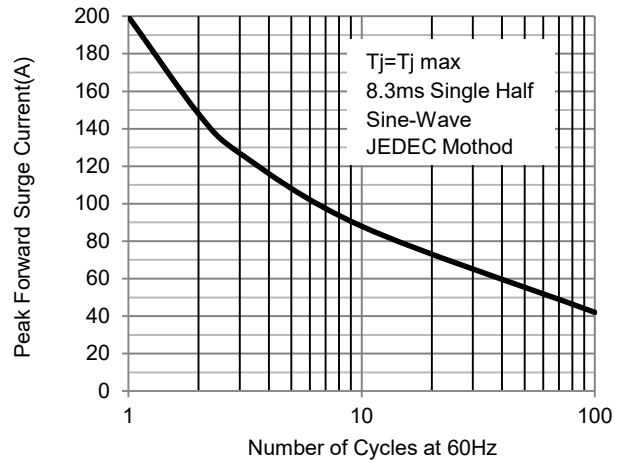


Fig.2 – Maximum Non-Repetitive Surge Current

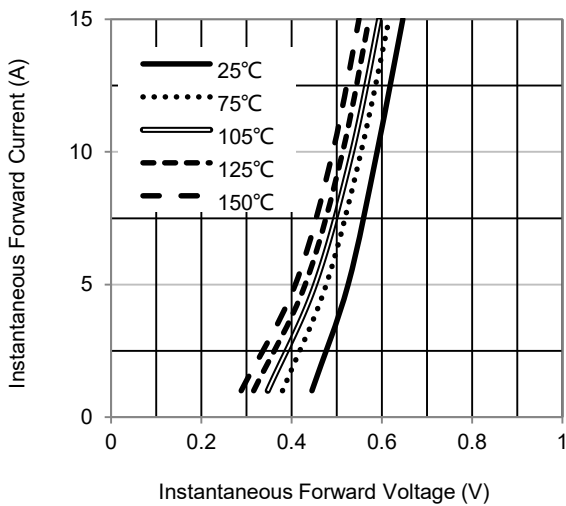


Fig.3 – Typical Forward Voltage Characteristics

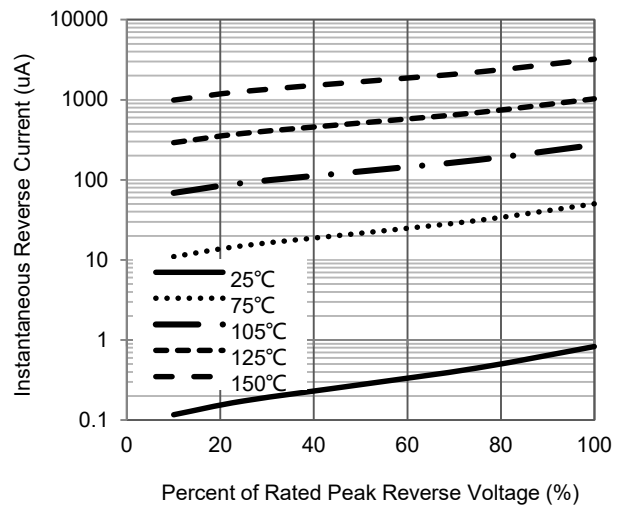


Fig.4 – Typical Reverse Current Characteristics

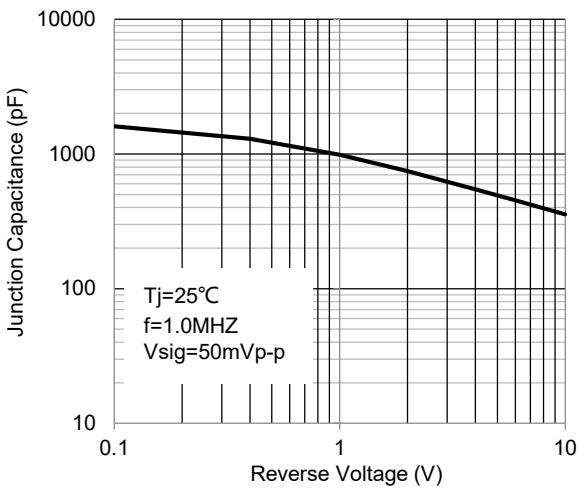
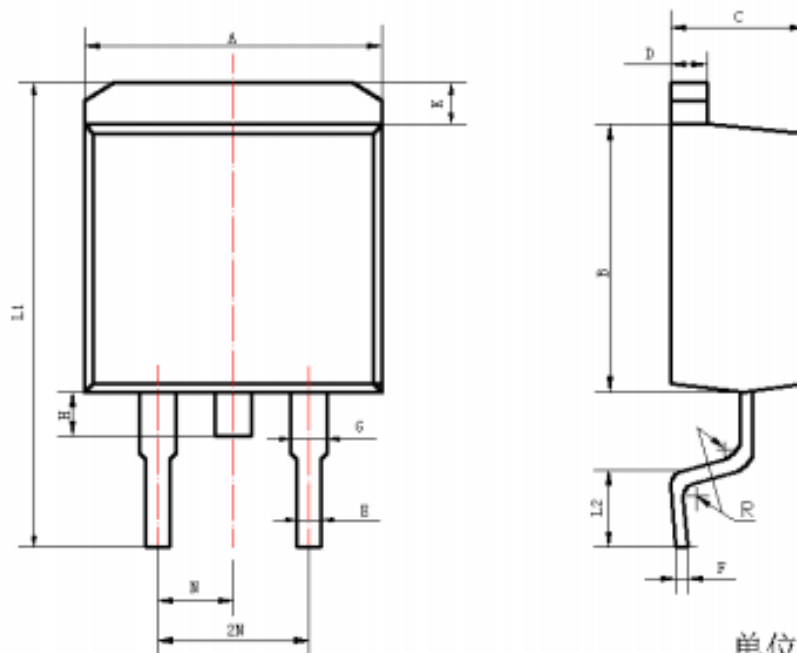


Fig.5 – Typical Junction Capacitance

Package Outline Dimensions (Unit: millimeters)

T0-263 外形图



单位: mm

| 项目 | 规范(mm) | |
|----|--------|-------|
| | Min | Max |
| A | 9.90 | 10.30 |
| B | 8.40 | 8.80 |
| C | 4.50 | 4.90 |
| D | 1.17 | 1.37 |
| E | 0.71 | 0.91 |
| F | 0.28 | 0.48 |
| G | 1.07 | 1.47 |
| H | 1.30 | 1.80 |
| K | 0.97 | 1.37 |
| L1 | 15.50 | 16.30 |
| L2 | 3.20 | 3.80 |
| R | 0.4 | |
| N | 2.39 | 2.69 |