

TO-263-2L Surface Mount Schottky Barrier Rectifier

● Features

- Low Power Loss, High Efficiency
- Guard Ring Die Construction for Transient Protection
- High Current Capability and Low Forward Voltage Drop
- Metal Silicon Junction, Majority Carrier Conduction

Reverse Voltage
150 V
Forward Current
20 Ampere

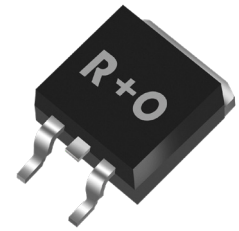
● Applications

For use in low voltage high frequency inverters, free wheeling, DC/DC converters, and polarity protection applications.

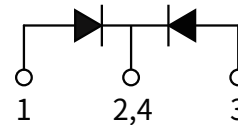
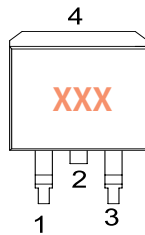
● Mechanical Data

- Case: TO-263-2L
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-202, Method 208

TO-263-2L



● Function Diagram



● Maximum Ratings (Ta=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | MBRB20150CT |
|---|-----------------|-------|-------------|
| Device marking code | | | MBRB20150CT |
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | V | 150 |
| Maximum RMS Voltage | V_{RMS} | V | 105 |
| Maximum DC blocking Voltage | V_{DC} | V | 150 |
| Maximum Average Forward Rectified Current @60Hz sinewave, Resistance load, TL (Fig.1) | $I_{F(AV)}$ | A | 20 |
| Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave | I_{FSM} | A | 150 |
| Storage temperature | T_{stg} | °C | -55 ~+150 |
| Junction temperature | T_j | °C | 150 |
| Thermal resistance from junction to case | $R_{\theta JC}$ | °C /W | 2.0 |
| Thermal resistance from junction to ambient | $R_{\theta JA}$ | | 62.5 |

● **Electrical Characteristics** (Ta=25°C Unless otherwise noted)

| PARAMETER | TEST CONDITIONS | SYMBOL | UNIT | MIN | TYP | MAX | |
|---|---|-----------------------|----------------|-----|-----|------|-----|
| Maximum instantaneous forward voltage | I _F =5A | T _J =25°C | V _F | V | — | 0.76 | — |
| | | T _J =125°C | | | — | 0.64 | — |
| | I _F =10A | T _J =25°C | | | — | 0.83 | 0.9 |
| | | T _J =125°C | | | — | 0.71 | — |
| Maximum DC reverse current at rated DC blocking voltage | V _R =V _{DC} , T _J =25°C | I _{R1} | uA | — | 2 | 100 | |
| | V _R =V _{DC} , T _J =125°C | I _{R2} | mA | — | 2 | — | |

● **Ratings And Characteristics Curves** (Ta=25°C Unless otherwise specified)

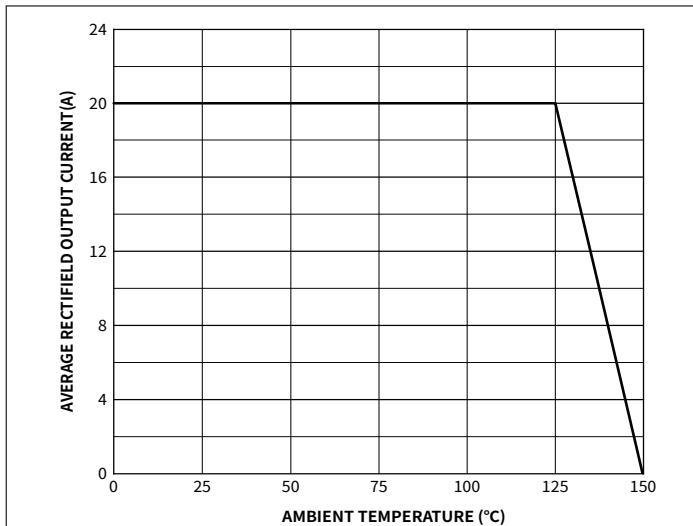


Fig.1 Maximum Non-Repetitive Peak Forward Surge Current

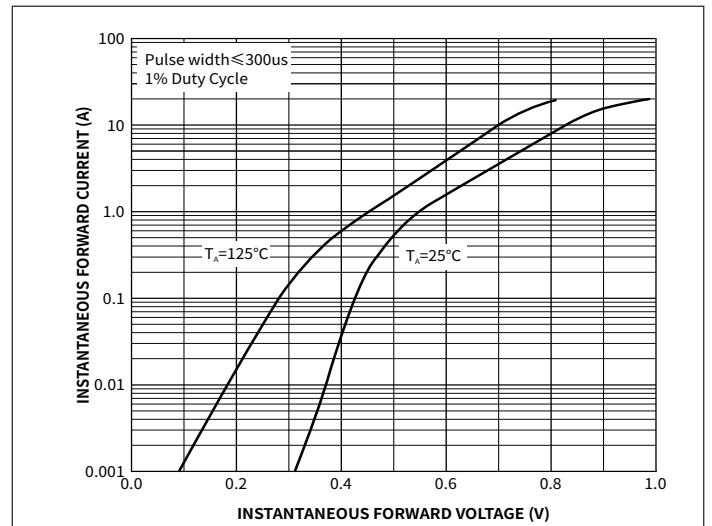


Fig.2 Typical Forward Voltage

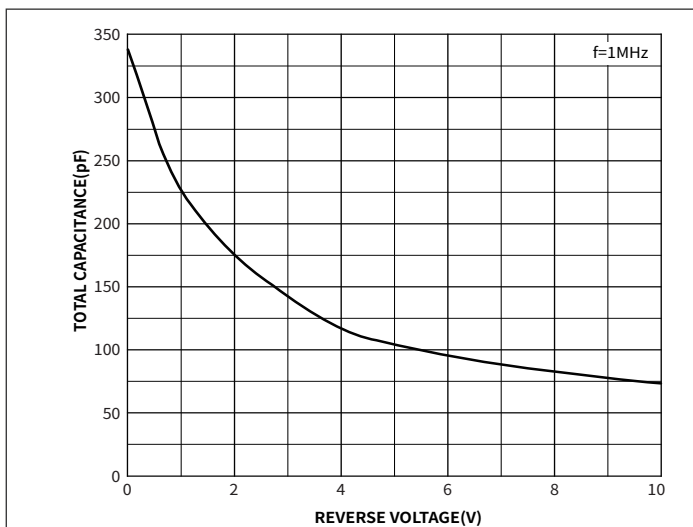


Fig.3 Typical Junction Capacitance

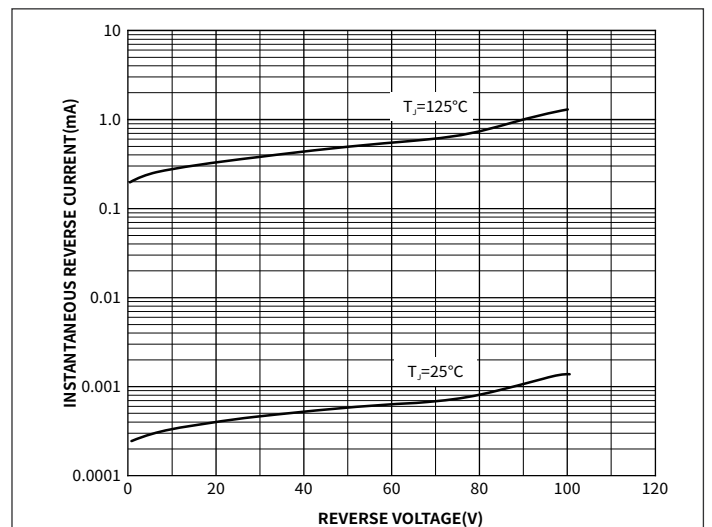


Fig.4 Typical Reverse Characteristics

MBRB20150CT

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

● Ordering Information

| PACKAGE | PACKAGE CODE | UNIT WEIGHT(g) | REEL(pcs) | BOX(pcs) | CARTON(pcs) | DELIVERY MODE |
|-----------|--------------|----------------|-----------|----------|-------------|---------------|
| TO-263-2L | R3 | 1.598 | 800 | 800 | 8000 | 13" |

● Package Outline Dimensions (TO-263-2L)

| Symbol | Dimensions | | | |
|--------|-------------|-------|-----------|-------|
| | Millimeters | | Inches | |
| | Min. | Max. | Min. | Max. |
| A | 4.47 | 4.67 | 0.176 | 0.184 |
| A1 | - | 0.2 | - | 0.008 |
| A2 | 1.17 | 1.37 | 0.046 | 0.054 |
| A3 | 2.5 | 2.7 | 0.098 | 0.106 |
| b | 0.71 | 0.91 | 0.028 | 0.036 |
| b1 | 1.17 | 1.37 | 0.046 | 0.054 |
| c | 0.31 | 0.53 | 0.012 | 0.021 |
| D | 8.50 | 8.90 | 0.335 | 0.350 |
| D1 | 7.25REF | | 0.285 REF | |
| E | 10.01 | 10.31 | 0.394 | 0.406 |
| E1 | 7.85REF | | 0.309 REF | |
| e | 2.54TYP | | 0.1TYP | |
| e1 | 4.980 | 5.18 | 0.196 | 0.204 |
| H | 14.94 | 15.5 | 0.588 | 0.610 |
| H1 | 1.12 | 1.42 | 0.044 | 0.056 |
| L | 2.34 | 2.74 | 0.092 | 0.108 |
| L1 | 4.95 | 5.45 | 0.195 | 0.215 |
| L2 | 1.3 | 1.7 | 0.051 | 0.067 |
| θ | - | 5° | - | 5° |
| θ1 | 3° | 9° | 3° | 9° |

● Suggested Pad Layout

| Symbol | Dimensions | | | |
|--------|-------------|-------|--------|-------|
| | Millimeters | | Inches | |
| | Min. | Max. | Min. | Max. |
| a | 16.60 | - | 0.654 | - |
| b | 5.08 | - | 0.200 | - |
| X | - | 12.70 | - | 0.500 |
| X1 | - | 1.35 | - | 0.053 |
| Y | - | 9.40 | - | 0.370 |
| Y1 | - | 3.80 | - | 0.150 |