

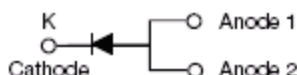
MBR15200S SCHOTTKY RECTIFIER



Features

- Designed as Bypass Diodes for Solar Panels
- High Forward Surge Capability
- Ultra Low Forward Voltage Drop
- Excellent High Temperature Stability
- Terminals finish: 100% Pure Tin
- This is a Halogen Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



Applications

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|--|---------------------------------|---|------|-------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | - | 200 | V |
| Average Rectified Forward Current | $I_{F(AV)}$ | 50% duty cycle @ $T_c=136^\circ\text{C}$, rectangular wave form | 15 | A |
| Peak One Cycle Non-Repetitive Surge Current | I_{FSM} | 8.3ms, Half Sine pulse, $T_c=25^\circ\text{C}$ | 250 | A |

Electrical Characteristics:

| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|------------------------|----------|--|--------|------|-------|
| Forward Voltage Drop * | V_{F1} | @ 15A, Pulse, $T_J = 25^\circ\text{C}$ | 0.85 | 0.92 | V |
| | V_{F2} | @ 15A, Pulse, $T_J = 125^\circ\text{C}$ | 0.72 | 0.76 | V |
| Reverse Current* | I_{R1} | @ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$ | 0.0001 | 1.0 | mA |
| | I_{R2} | @ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$ | 0.1 | 10 | mA |
| Junction Capacitance | C_J | @ $V_R = 5.0\text{ V}$, $T_c=25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$ | 200 | 400 | pF |

* Pulse width < 300 μs , duty cycle < 2%

Thermal-Mechanical Specifications:

| Characteristics | Symbol | Condition | Specification | Units |
|--|-----------------------|-----------|---------------|----------------------|
| Junction Temperature | T_J | - | -55 to +200 | $^{\circ}\text{C}$ |
| Storage Temperature | T_{stg} | - | -55 to +200 | $^{\circ}\text{C}$ |
| Typical Thermal Resistance Junction to Case | $R_{\theta\text{JC}}$ | - | 3.5 | $^{\circ}\text{C/W}$ |
| Typical Thermal Resistance Junction to Ambient | $R_{\theta\text{JA}}$ | - | 70 | $^{\circ}\text{C/W}$ |
| Approximate Weight | wt | - | 0.08 | g |

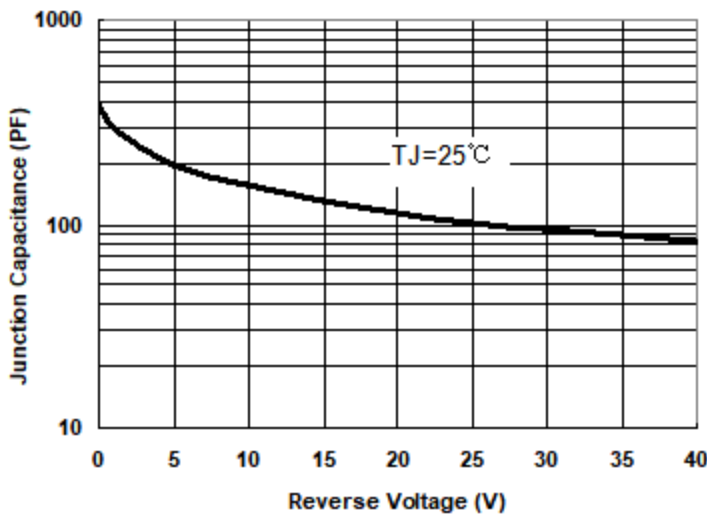
Ratings and Characteristics Curves


Fig.1-Typical Junction Capacitance

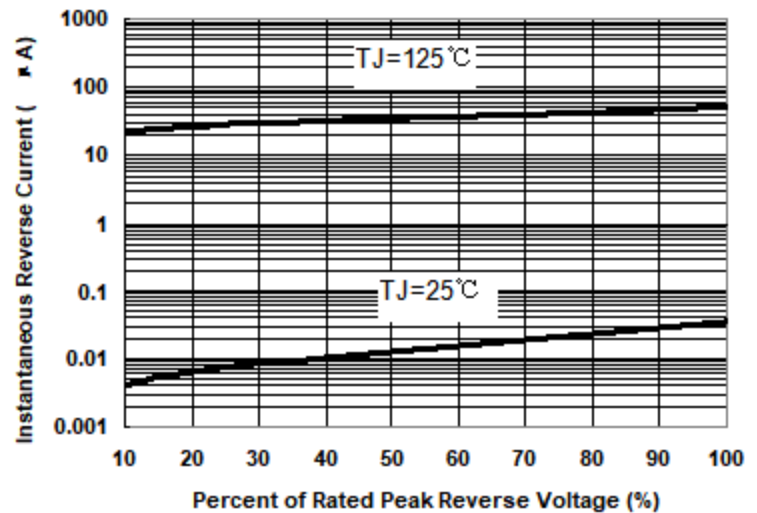


Fig.2-Typical Reverse Characteristics

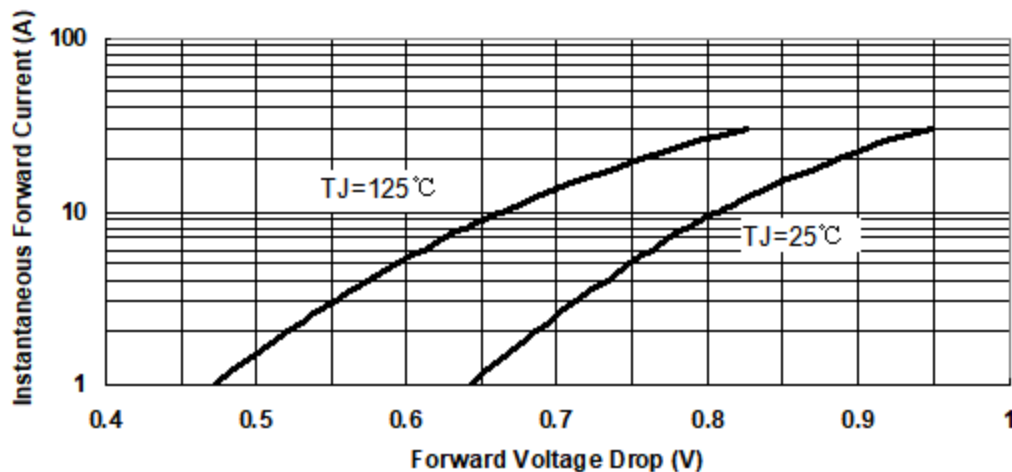
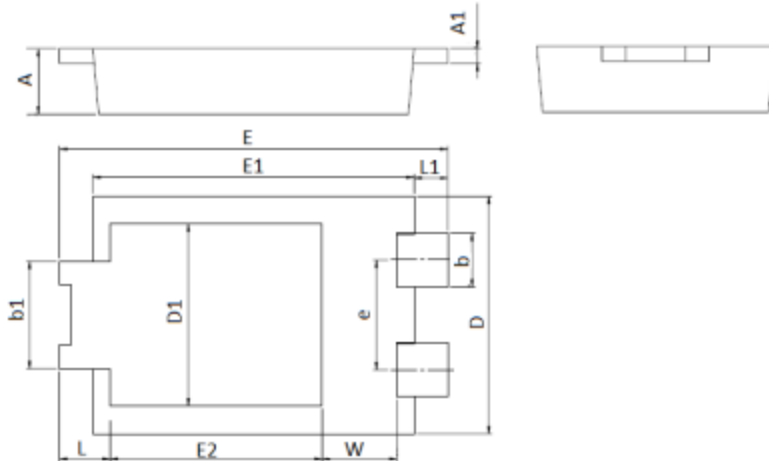


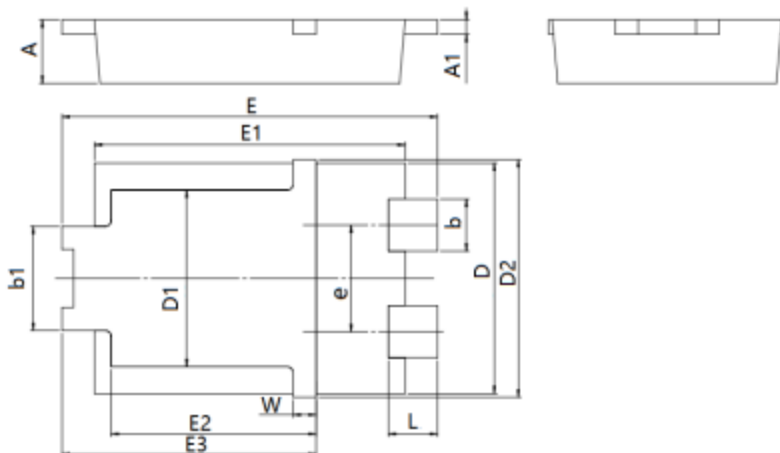
Fig.3-Typical Instantaneous Forward Voltage Characteristics

Mechanical Dimensions TO-277B



| SYMBOL | Millimeters | | Inches | |
|--------|-------------|------|--------|-------|
| | Min. | Max. | Min. | Max. |
| A | 0.95 | 1.25 | 0.037 | 0.049 |
| A1 | 0.20 | 0.30 | 0.008 | 0.012 |
| b | 0.85 | 0.95 | 0.033 | 0.037 |
| b1 | 1.70 | 1.90 | 0.067 | 0.075 |
| D | 3.88 | 4.08 | 0.153 | 0.161 |
| D1 | 2.90 | 3.20 | 0.114 | 0.126 |
| e | 1.74 | 1.94 | 0.069 | 0.076 |
| E | 6.30 | 6.70 | 0.248 | 0.264 |
| E1 | 5.28 | 5.48 | 0.208 | 0.216 |
| E2 | 3.40 | 3.70 | 0.134 | 0.146 |
| L | 0.70 | 1.00 | 0.028 | 0.039 |
| L1 | 0.41 | 0.71 | 0.016 | 0.028 |
| W | 1.10 | 1.40 | 0.043 | 0.055 |

Mechanical Dimensions TO-277B(New)



| SYMBOL | Millimeters | | Inches | |
|--------|-------------|------|--------|-------|
| | Min. | Max. | Min. | Max. |
| A | 0.95 | 1.25 | 0.037 | 0.049 |
| A1 | 0.20 | 0.30 | 0.008 | 0.012 |
| b | 0.85 | 0.95 | 0.033 | 0.037 |
| b1 | 1.70 | 1.90 | 0.067 | 0.075 |
| D | 3.88 | 4.08 | 0.153 | 0.161 |
| D1 | 2.90 | 3.20 | 0.114 | 0.126 |
| D2 | 4.25 | - | 0.167 | - |
| e | 1.74 | 1.94 | 0.069 | 0.076 |
| E | 6.30 | 6.70 | 0.248 | 0.264 |
| E1 | 5.28 | 5.48 | 0.208 | 0.216 |
| E2 | 3.40 | 3.70 | 0.134 | 0.146 |
| E3 | 4.20 | 4.60 | 0.165 | 0.181 |
| L | 0.65 | 1.05 | 0.025 | 0.041 |
| W | 0.25 | 0.55 | 0.010 | 0.022 |

Notes: New Mechanical Dimensions is performed from date code 2236X.

Ordering Information

| Device | Package | Shipping |
|-------------|------------------|---------------|
| MBR15200S | TO-277B(Pb-Free) | 5000pcs/ reel |
| MBR15200STR | TO-277B(Pb-Free) | 5000pcs/ reel |

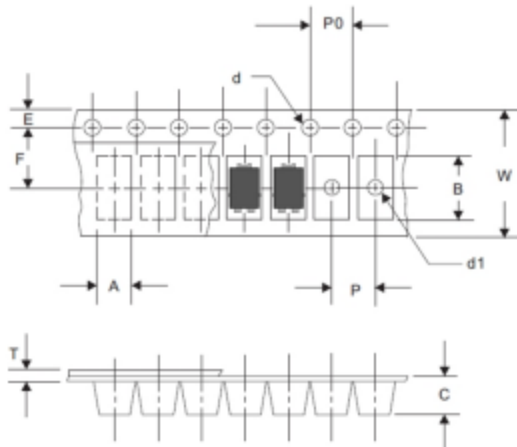
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram


Where XXXXX is YYWWL

15 = Forward Current (15A)
 200 = Reverse Voltage (200V)
 S = Package type
 YY = Year
 WW = Week
 L = Lot Number

Cautions: Molding resin
 Epoxy resin UL:94V-0

Carrier Tape Specification TO-277B


| SYMBOL | Millimeters | |
|--------|-------------|-------|
| | Min. | Max. |
| A | 4.28 | 4.48 |
| B | 6.80 | 7.10 |
| C | 1.30 | 1.50 |
| d | 1.40 | 1.60 |
| d1 | - | 1.50 |
| E | 1.65 | 1.85 |
| F | 5.40 | 5.60 |
| P | 7.90 | 8.10 |
| P0 | 3.90 | 4.10 |
| T | 0.24 | 0.44 |
| W | 11.70 | 12.30 |

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