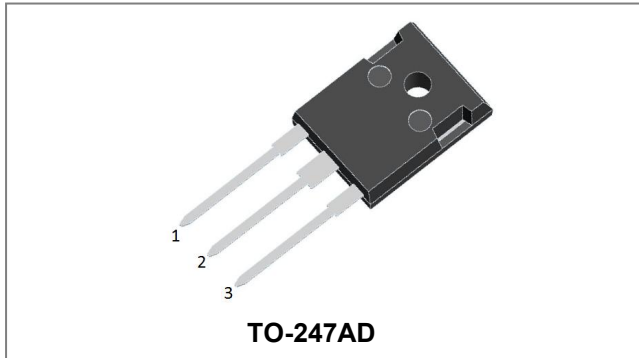


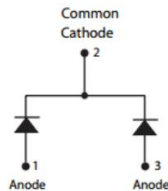
MBR20100WT SCHOTTKY RECTIFIER



Features

- 150 °C T_J operation
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb – 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
- Center tap configuration

Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|----------------------------------------------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------|-------------------------------|-------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V _{RRM} V _{RWM} V _R | - | 100 | V |
| Average Rectified Forward Current | I _{F(AV)} | 50% duty cycle @T _c =133°C, rectangular wave form | 10(Per Leg) 20(Per Device) | A |
| Peak One Cycle Non-Repetitive Surge Current(Per Leg) | I _{FSM} | 8.3ms, Half Sine pulse | 150 | A |

Electrical Characteristics:

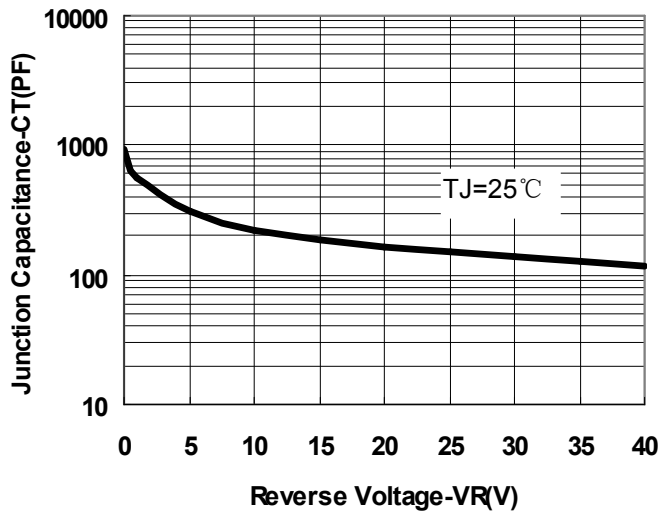
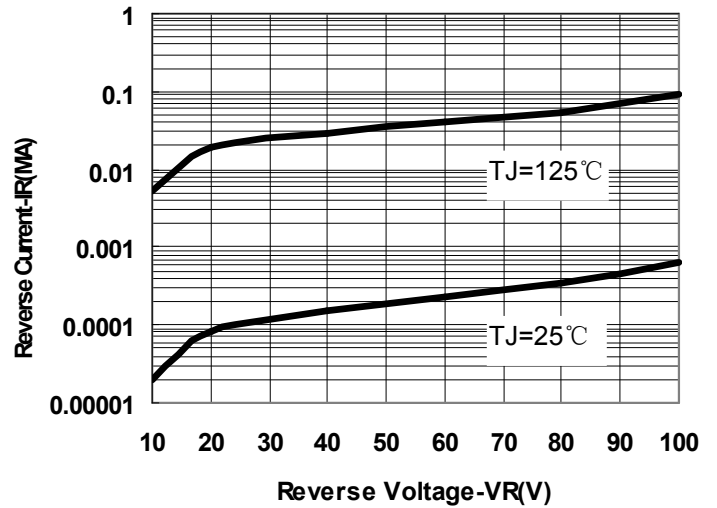
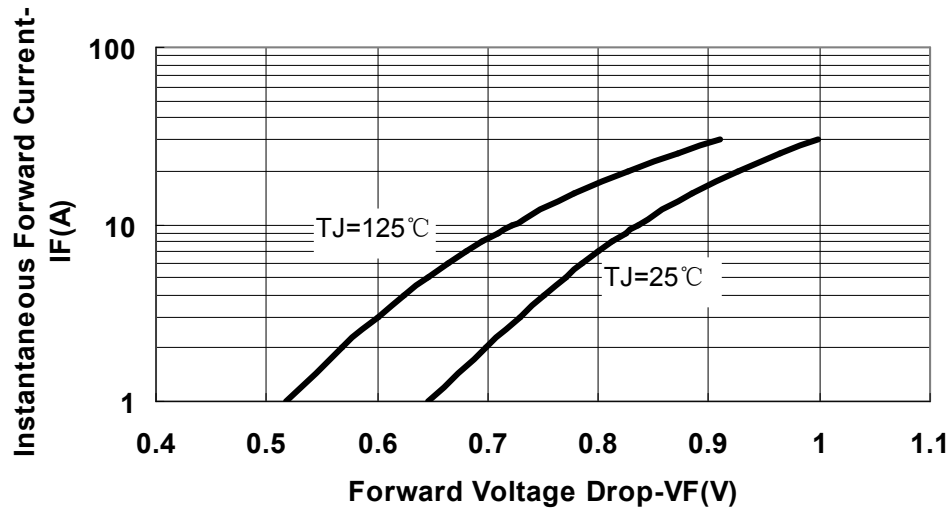
| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|------------------------------------|-----------------|-------------------------------------------------------------------------|--------|--------|-------|
| Forward Voltage Drop (Per Leg)* | V _{F1} | @ 10A, Pulse, T _J = 25 °C | 0.83 | 0.85 | V |
| | V _{F2} | @ 10A, Pulse, T _J = 125 °C | 0.72 | 0.75 | V |
| Reverse Current (Per Leg)* | I _{R1} | @V _R = rated VR Pulse T _J = 25 °C | 0.0007 | 1.0 | mA |
| | I _{R2} | @V _R = rated VR , Pulse T _J = 125 °C | 0.1 | 6.0 | mA |
| Junction Capacitance(Per Leg) | C _T | @V _R = 5V, T _C = 25 °C f _{SIG} = 1MHz | 300 | 500 | pF |
| Voltage Rate of Change | dv/dt | - | - | 10,000 | V/μs |

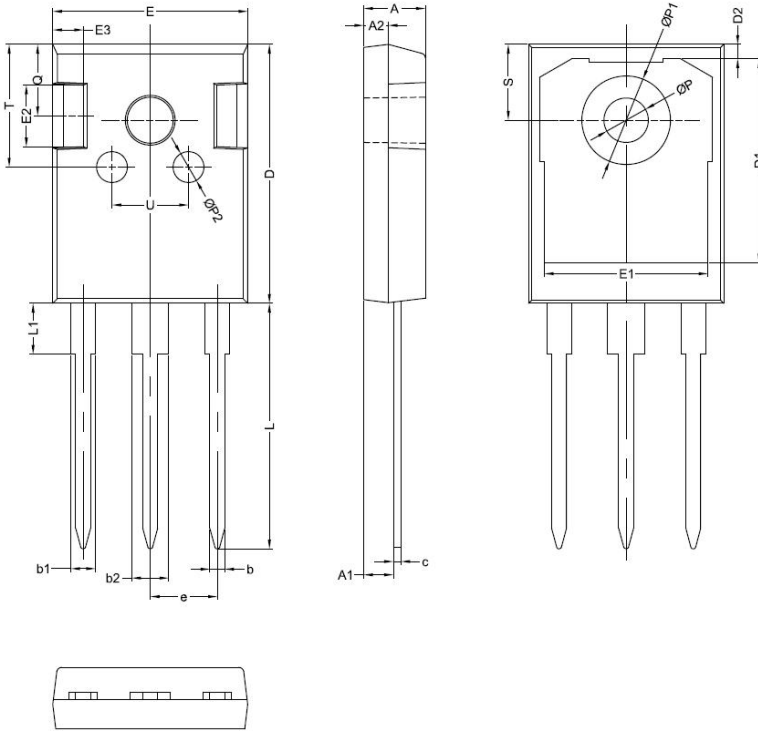
* Pulse width < 300 μs, duty cycle < 2%

- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - sales@smc-diodes.com •

Thermal-Mechanical Specifications:

| Characteristics | Symbol | Condition | Specification | Units |
|---------------------------------------------|------------------------|--------------|---------------|-----------------------------|
| Junction Temperature | T_J | - | -55 to +150 | $^{\circ}\text{C}$ |
| Storage Temperature | T_{stg} | - | -55 to +150 | $^{\circ}\text{C}$ |
| Typical Thermal Resistance Case to heatsink | $R_{\theta\text{JCH}}$ | DC operation | 2 | $^{\circ}\text{C}/\text{W}$ |
| Approximate Weight | wt | - | 6.28 | g |
| Case Style | TO-247AD | | | |

Ratings and Characteristics Curves

Fig.1-Typical Junction Capacitance

Fig.2-Typical Reverse Characteristics

Fig.3-Typical Instantaneous Forward Voltage Characteristics

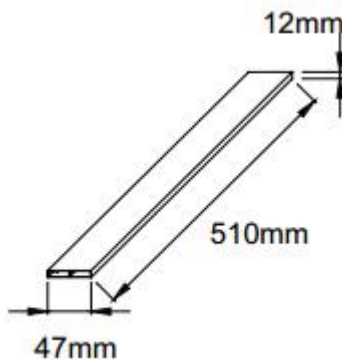
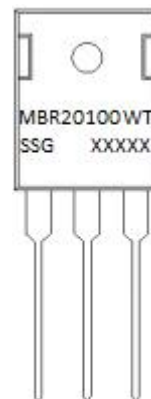
Mechanical Dimensions TO-247AD


| SYMBOL | Millimeters | | |
|--------|-------------|-------|-------|
| | MIN. | TYP. | MAX. |
| A | 4.80 | 5.00 | 5.20 |
| A1 | 2.20 | 2.41 | 2.61 |
| A2 | 1.90 | 2.00 | 2.10 |
| b | 1.10 | 1.20 | 1.40 |
| b1 | 1.80 | 2.00 | 2.20 |
| b2 | 2.80 | 3.00 | 3.20 |
| c | 0.50 | 0.60 | 0.75 |
| D | 20.30 | 21.00 | 21.20 |
| D1 | | 16.55 | |
| D2 | | 1.20 | |
| E | 15.45 | 15.80 | 16.00 |
| E1 | | 13.30 | |
| E2 | | 5.00 | |
| E3 | | 2.50 | |
| e | | 5.44 | |
| L | 19.42 | 19.92 | 20.70 |
| L1 | | 4.13 | |
| P | 3.50 | 3.60 | 3.70 |
| P1 | 7.1 | | 7.40 |
| P2 | | 2.50 | |
| Q | | 5.80 | |
| S | 6.05 | 6.15 | 6.25 |
| T | | 10.00 | |
| U | | 6.20 | |

Ordering Information:

| Device | Package | Shipping |
|------------|-------------------|--------------|
| MBR20100WT | TO-247AD(Pb-Free) | 25pcs / tube |

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

Tube Specification

Marking Diagram


Where XXXXX is YYWWL

MBR = Device Type
 20 = Forward Current (20A)
 100 = Reverse Voltage (100V)
 WT = Configuration
 SSG = SSG
 YY = Year
 WW = Week
 L = Lot Number

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

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