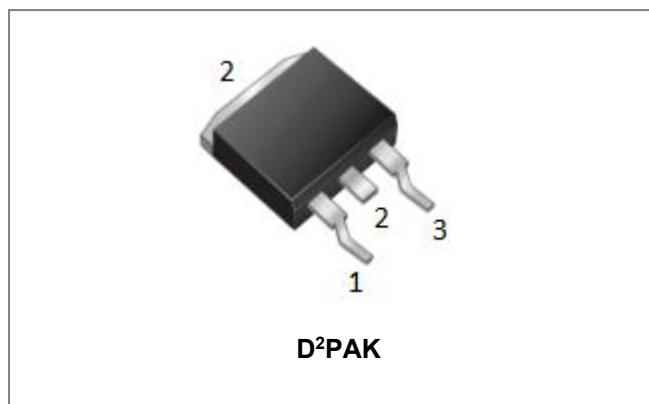


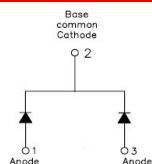
MBRB60100CT SCHOTTKY RECTIFIER



Features

- 175°C T_J operation
- Center tap configuration
- 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
- Terminals finish: 100% Pure Tin
- 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

Maximum Ratings (limiting values, at 25 °C unless otherwise specified)

| Characteristics | Symbol | Condition | Max. | Units |
|--|--------------------|------------------------------|----------------|-------|
| Peak Repetitive Reverse Voltage | V _{RRM} | - | 100 | V |
| Working Peak Reverse Voltage | V _{RWM} | | | |
| DC Blocking Voltage | V _R | | | |
| Average Rectified Forward Current (Per Device) | I _{F(AV)} | T _c =121°C, In DC | 30(Per Leg) | A |
| | | | 60(Per Device) | |
| Peak One Cycle Non-Repetitive Surge Current(Per Leg) | I _{FSM} | 8.3ms, Half Sine pulse | 280 | A |

Electrical Characteristics:

| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|----------------------------------|-----------------|---|------|--------|-------|
| Forward Voltage Drop (Per Leg) * | V _{F1} | @ 30A, Pulse, T _J = 25 °C | 0.85 | 0.90 | V |
| | V _{F2} | @ 30A, Pulse, T _J = 25 °C | 0.76 | 0.81 | V |
| Reverse Current (Per Leg) * | I _{R1} | @V _R = rated V _R , T _J = 25 °C | 0.01 | 1.0 | mA |
| | I _{R2} | @V _R = rated V _R , T _J = 125 °C | 8 | 20 | mA |
| Junction Capacitance(Per Leg) | C _T | @V _R = 5V, T _C = 25 °C, f _{SIG} = 1MHz | 400 | 800 | pF |
| Voltage Rate of Change | dv/dt | - | - | 10,000 | V/μs |

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

Thermal-Mechanical Specifications:

| Characteristics | Symbol | Condition | Specification | Units |
|---|-----------------------|--------------|---------------|----------------------|
| Junction Temperature | T_J | - | -55 to +175 | $^{\circ}\text{C}$ |
| Storage Temperature | T_{stg} | - | -55 to +175 | $^{\circ}\text{C}$ |
| Typical Thermal Resistance Junction to Case(Per Leg) | $R_{\theta\text{JC}}$ | DC operation | 2.0 | $^{\circ}\text{C/W}$ |
| Typical Thermal Resistance Junction to Ambient(Per Leg) | $R_{\theta\text{JA}}$ | DC operation | 50 | $^{\circ}\text{C/W}$ |
| Approximate Weight | wt | - | 1.85 | g |
| Case Style | D ² PAK | | | |

Ratings and Characteristics Curves

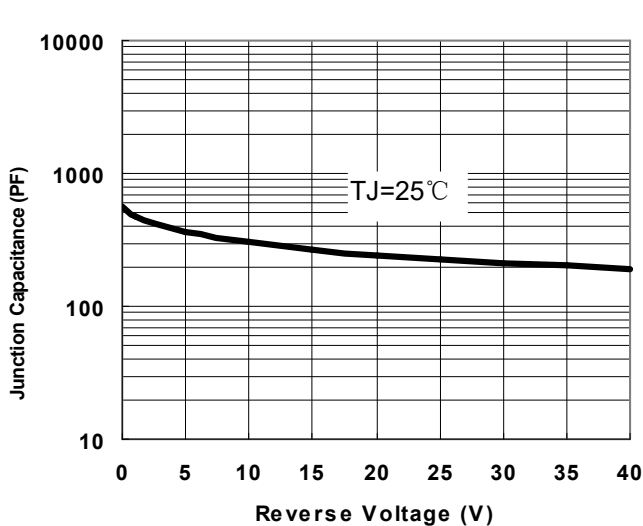


Fig.1-Typical Junction Capacitance

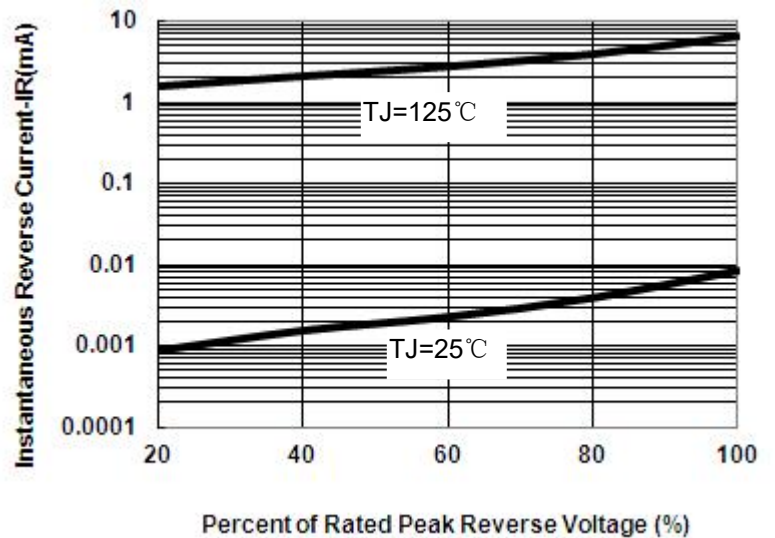


Fig.2-Typical Reverse Characteristics

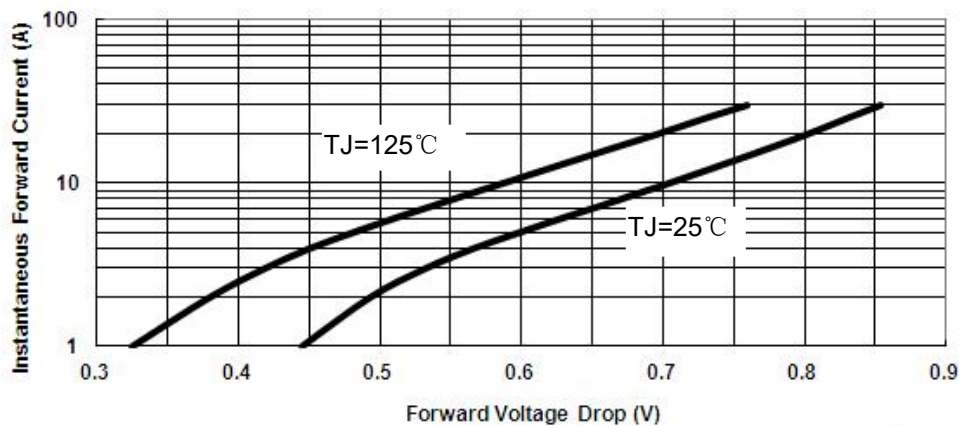
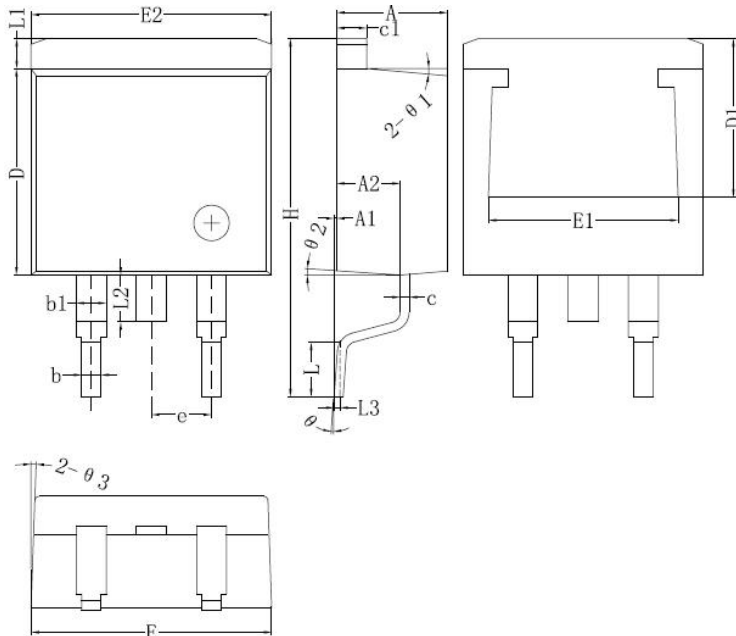


Fig.3-Typical Instantaneous Forward Voltage Characteristics

Mechanical Dimensions D²PAK



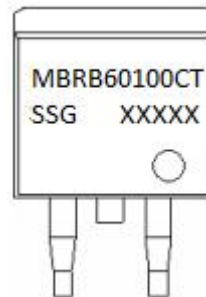
| Symbol | Dimensions in millimeters | |
|--------|---------------------------|-------|
| | Min. | Max. |
| A | 4.06 | 4.83 |
| A1 | 0 | 0.26 |
| b | 0.51 | 0.99 |
| b1 | 1.14 | 1.78 |
| c | 0.31 | 0.74 |
| c1 | 1.14 | 1.65 |
| D | 8.38 | 9.65 |
| D1 | 6.4 | |
| E1 | 6.22 | |
| E2 | 9.65 | 10.67 |
| e | 2.54BSC | |
| H | 14.6 | 15.88 |
| L | 1.78 | 2.8 |
| L1 | - | 1.68 |
| L2 | - | 2.2 |
| L3 | 0.255BSC | |
| Θ | 0 | 8° |

Ordering Information

| Device | Package | Shipping |
|---------------|--------------------|---------------|
| MBRB60100CT | D ² PAK | 800pcs / reel |
| MBRB60100CTTR | D ² PAK | 800pcs / 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

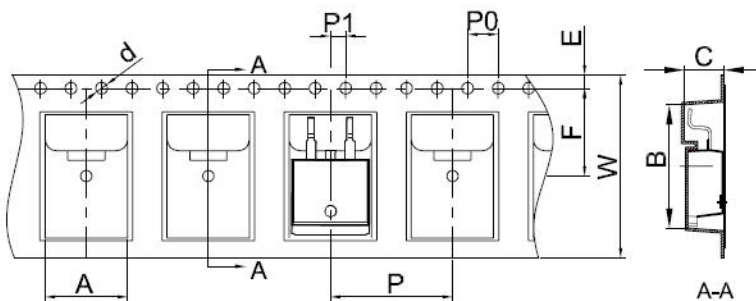


Where XXXXX is YYWWL

MBR = Device Type
B = Package type
60 = Forward Current (60A)
100 = Reverse Voltage(100V)
CT = Configuration
SSG = SSG
YY = Year
WW = Week
L = Lot Number

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

Carrier Tape Specification D²PAK



| SYMBOL | Millimeters | |
|--------|-------------|-------|
| | Min. | Max. |
| A | 10.70 | 10.90 |
| B | 16.03 | 16.23 |
| C | 5.11 | 5.31 |
| d | 1.45 | 1.65 |
| E | 1.65 | 1.85 |
| F | 11.40 | 11.60 |
| P0 | 3.90 | 4.10 |
| P | 15.90 | 16.10 |
| P1 | 1.90 | 2.10 |
| W | 23.90 | 24.30 |

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