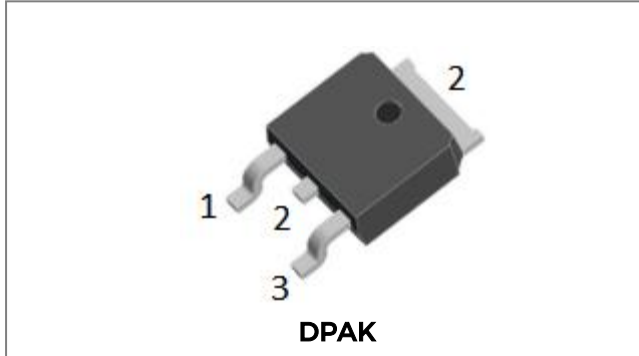


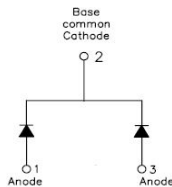
MBRD5200CT SCHOTTKY RECTIFIER



Features

- 150°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
- 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
- Battery charging

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 = 105°C, rectangular wave form | 2.5(Peg Leg) 5(Peg Device) | A |
| Peak One Cycle Non-Repetitive Surge Current(Peg Leg) | I _{FSM} | 8.3 ms, half Sine pulse | 60 | A |

Electrical Characteristics:

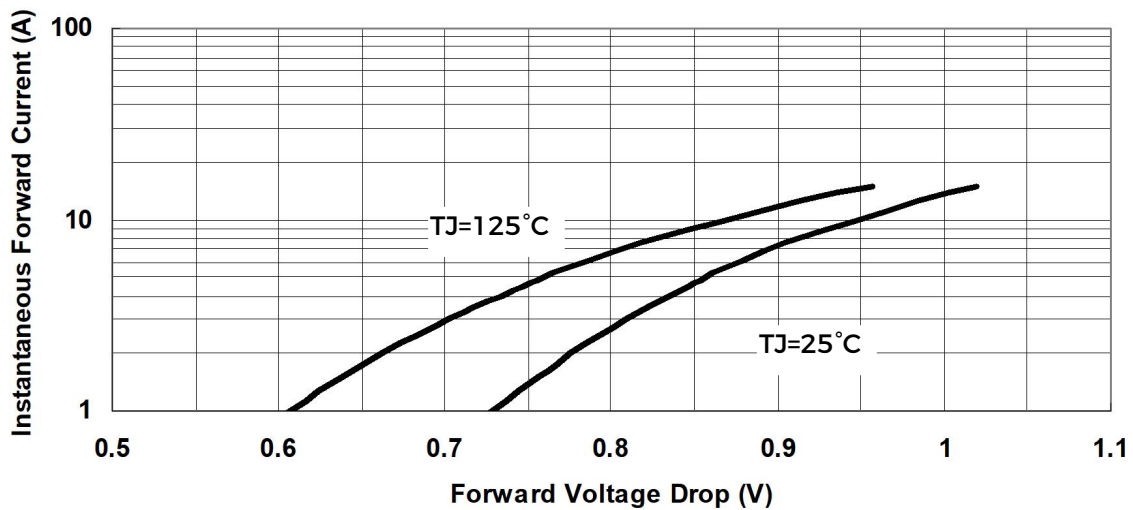
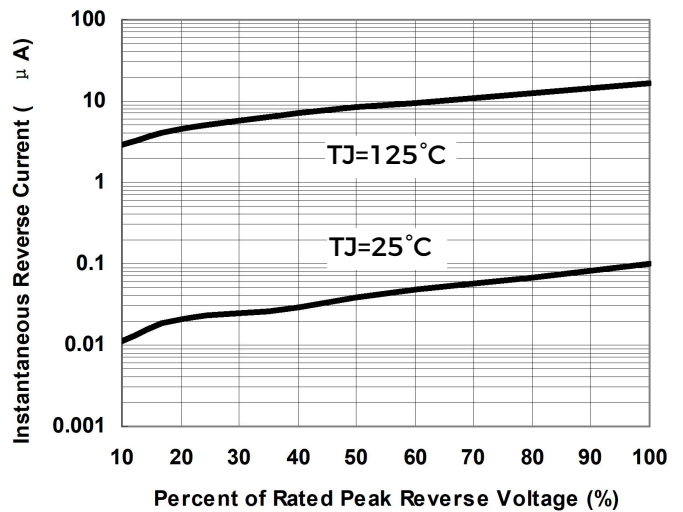
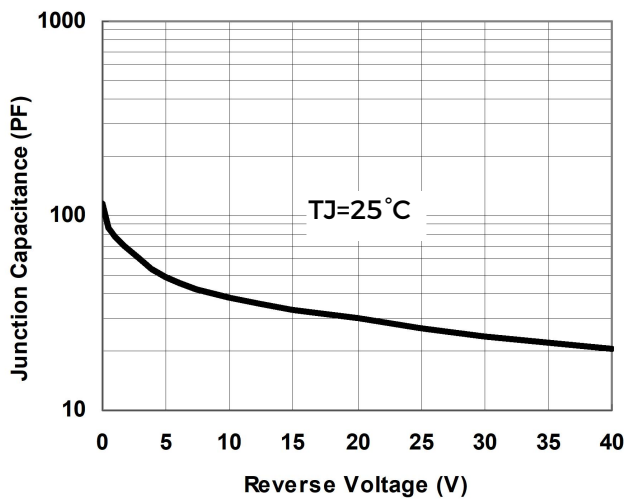
| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|---------------------------------|-----------------|--|--------------|--------------|-------|
| Forward Voltage Drop(Peg Leg) * | V _{F1} | @ 2.5 A, Pulse, T _C = 25 °C @ 5 A, Pulse, T _C = 25 °C | 0.79 0.86 | 0.85 0.95 | V |
| | V _{F2} | @ 2.5 A, Pulse, T _C = 125 °C @ 5 A, Pulse, T _C = 125 °C | 0.68 0.76 | 0.75 0.85 | V |
| Reverse Current (Peg Leg) * | I _{R1} | @V _R = rated V _R , T _J = 25 °C | 0.0001 | 1.0 | mA |
| | I _{R2} | @V _R = rated V _R , T _J = 125 °C | 0.02 | 7.0 | mA |
| Junction Capacitance(Peg Leg) | C _T | @V _R = 5V, T _C = 25 °C, f _{sig} = 1MHz | 50 | 150 | pF |
| Series Inductance(Peg Leg) | L _S | Measured lead to lead 5 mm from package body | 8.0 | - | nH |
| Voltage Rate of Change | dv/dt | - | - | 10,000 | V/μs |

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

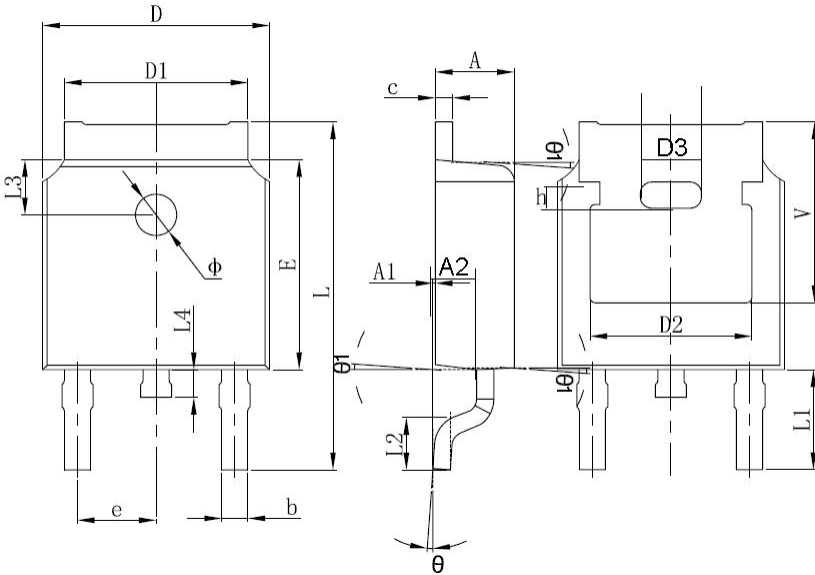
Thermal-Mechanical Specifications:

| Characteristics | Symbol | Condition | Specification | Units |
|--|-----------------------|-----------|---------------|-----------------------------|
| Junction Temperature | T_J | - | -55 to +150 | $^{\circ}\text{C}$ |
| Storage Temperature | T_{stg} | - | -55 to +150 | $^{\circ}\text{C}$ |
| Typical Thermal Resistance Junction to Case(Peg Leg) | $R_{\theta\text{JC}}$ | - | 6 | $^{\circ}\text{C}/\text{W}$ |
| Approximate Weight | wt | - | 0.39 | g |
| Case Style | DPAK | | | |

Ratings and Characteristics Curves



Mechanical Dimensions DPAK



| SYMBOL | Millimeters | | Inches | |
|--------|-------------|-------|------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 2.20 | 2.40 | 0.087 | 0.094 |
| A1 | 0.00 | 0.127 | 0.000 | 0.005 |
| b | 0.66 | 0.86 | 0.026 | 0.034 |
| c | 0.46 | 0.60 | 0.018 | 0.024 |
| D | 6.50 | 6.70 | 0.256 | 0.264 |
| D1 | 5.13 | 5.46 | 0.202 | 0.215 |
| D2 | 4.83 REF. | | 0.190 REF. | |
| E | 6.00 | 6.20 | 0.236 | 0.244 |
| e | 2.186 | 2.386 | 0.086 | 0.094 |
| L | 9.70 | 10.40 | 0.381 | 0.409 |
| L1 | 2.90 REF. | | 0.144 REF. | |
| L2 | 1.40 | 1.70 | 0.055 | 0.067 |
| L3 | 1.60 REF. | | 0.063 REF. | |
| L4 | 0.60 | 1.00 | 0.024 | 0.039 |
| φ | 1.10 | 1.30 | 0.043 | 0.051 |
| θ | 0° | 8° | 0° | 8° |
| h | 0.00 | 0.30 | 0.000 | 0.012 |
| V | 5.35 REF. | | 0.211 REF. | |

Ordering Information

| Device | Package | Shipping |
|------------|----------------|----------------|
| MBRD5200CT | DPAK (Pb-Free) | 2500pcs / 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

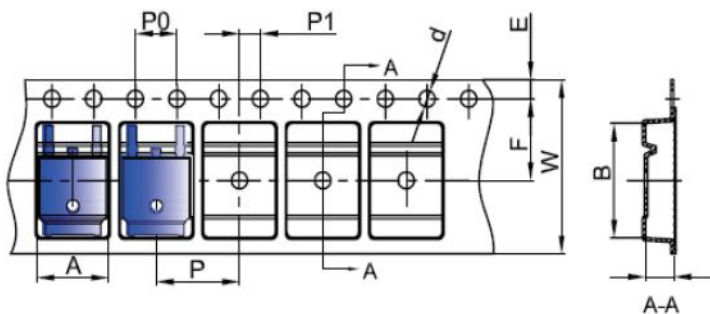


Where XXXXX is YYWWL

- MBR = Device Type
- D = Package type
- 5 = Forward Current (5A)
- 200 = Reverse Voltage (200V)
- CT = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

Cautions: Molding resin
Epoxy resin UL94V-0

Carrier Tape Specification DPAK



| SYMBOL | Millimeters | |
|--------|-------------|-------|
| | Min. | Max. |
| A | 6.80 | 7.00 |
| B | 10.40 | 10.60 |
| C | 2.60 | 2.80 |
| d | φ1.45 | φ1.65 |
| E | 1.65 | 1.85 |
| F | 7.40 | 7.60 |
| P0 | 3.90 | 4.10 |
| P | 7.90 | 8.10 |
| P1 | 1.90 | 2.10 |
| W | 15.90 | 16.30 |

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