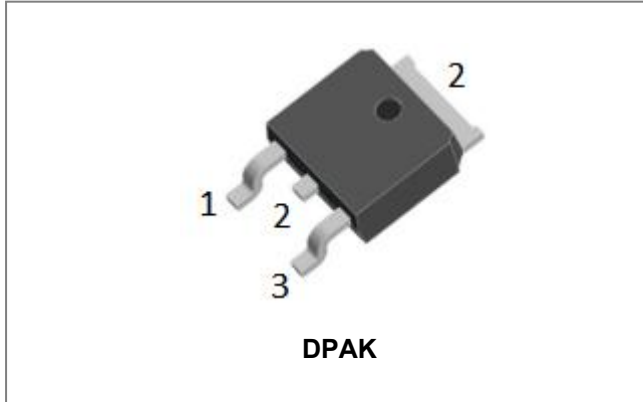




**THE DATASHEET OF
MBRD630CT**



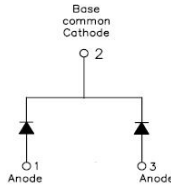
MBRD630CT SCHOTTKY RECTIFIER



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
- “-A” is an AEC-Q101 qualified device
- 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 (limiting values, T_C = 25°C unless otherwise specified)

| Characteristics | Symbol | Condition | Max. | Units |
|--|--|------------------------------|---------------|-------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V _{RRM} V _{RWM} V _R | - | 30 | V |
| Average Rectified Forward Current | I _{F(AV)} | T _C =147°C, In DC | 3(peg leg) | A |
| | | | 6(peg device) | |
| Peak One Cycle Non-Repetitive Surge Current(peg leg) | I _{FSM} | 8.3 ms, half Sine pulse | 75 | A |

Electrical Characteristics:

| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|----------------------------------|-----------------|---|------|------|-------|
| Forward Voltage Drop (per leg) * | V _{F1} | @ 3 A, Pulse, T _J = 25 °C | 0.46 | 0.70 | V |
| | | @ 6 A, Pulse, T _J = 25 °C | 0.52 | 0.90 | |
| Reverse Current (per leg) * | I _{R1} | @V _R = rated V _R , T _J = 25 °C | 0.01 | 0.1 | mA |
| | | @V _R = rated V _R , T _J = 125 °C | 5 | 50 | |
| Junction Capacitance(per leg) | C _T | @V _R = 5V, T _C = 25 °C, f _{SIG} = 1MHz | 220 | 220 | pF |

* 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 | $R_{\theta\text{JC}}$ | - | 1.6 | $^{\circ}\text{C/W}$ |
| Typical Thermal Resistance Junction to Ambient | $R_{\theta\text{JA}}$ | - | 85 | $^{\circ}\text{C/W}$ |
| Approximate Weight | wt | - | 0.39 | g |
| Case Style | DPAK | | | |

Ratings and Characteristics Curves

Figure 1 Typical Forward Characteristics

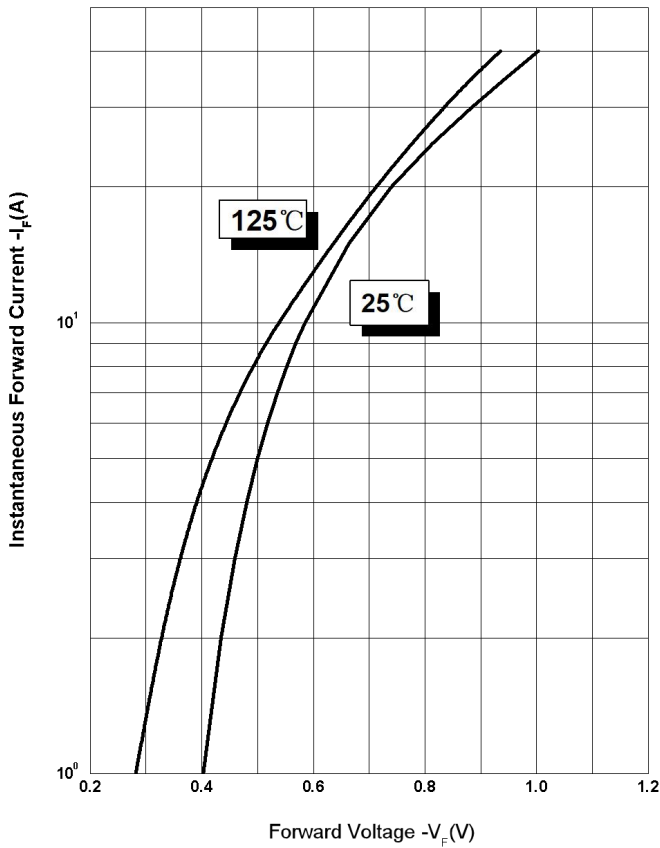


Figure 2 Typical Reverse Characteristics

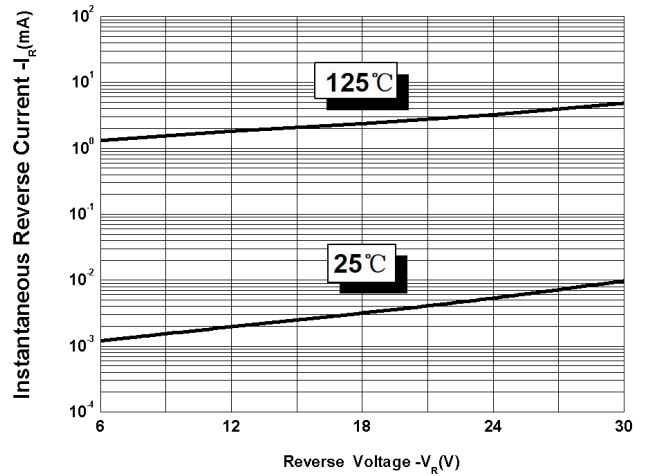
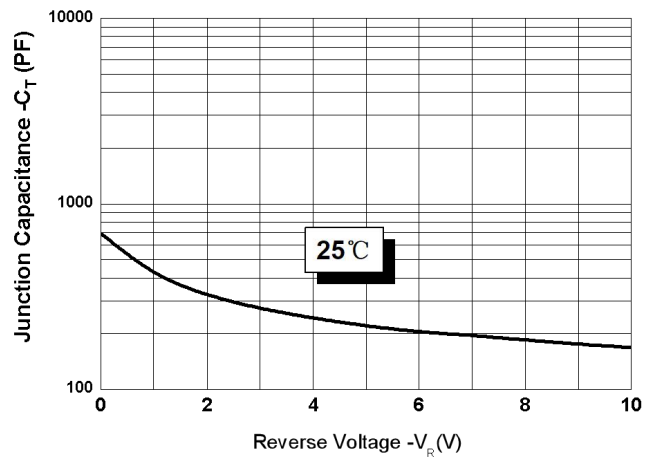
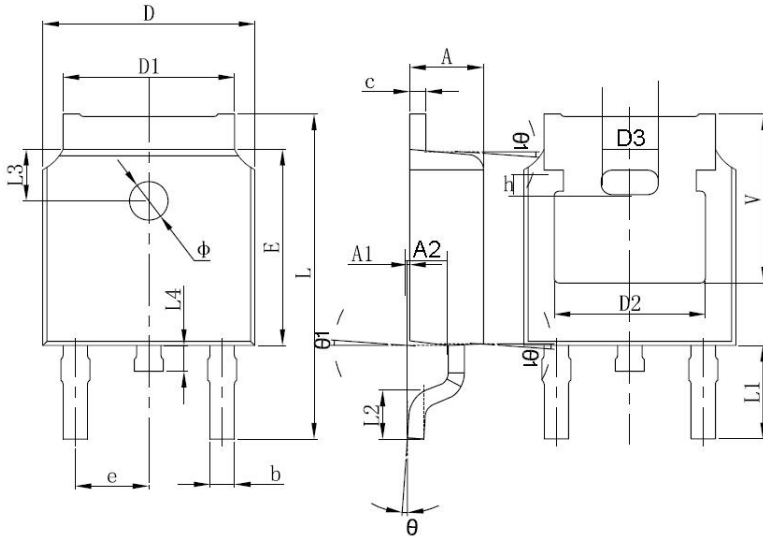


Figure 3 Typical Junction Capacitance



Mechanical Dimensions DPAK


| Symbol | Dimensions in millimeters | | |
|--------|---------------------------|---------|-------|
| | Min. | Typical | Max. |
| A | 2.18 | - | 2.39 |
| A1 | - | - | 0.13 |
| b | 0.64 | - | 0.89 |
| c | 0.46 | - | 0.89 |
| D | 6.35 | - | 6.73 |
| D1 | 4.95 | - | 5.46 |
| D2 | 4.32 | - | - |
| E | 5.97 | 6.1 | 6.22 |
| e | 2.29BSC | | |
| L | 9.4 | - | 10.41 |
| L1 | 2.90 REF. | | |
| L2 | 1.4 | 1.52 | 1.78 |
| L3 | 1.60 REF. | | |
| L4 | - | - | 1.02 |
| Φ | 1.1 | - | 1.3 |
| Θ | 0° | - | 10° |
| V | 5.21 | - | - |

The outline from different package houses may have slight differences. So the outline above is just schematic. The dimensions are controlled per specifications.

Ordering Information

| Device | Package | Shipping |
|-------------|----------------|----------------|
| MBRD630CT | DPAK (Pb-Free) | 2500pcs / reel |
| MBRD630CTTR | DPAK (Pb-Free) | 2500pcs / reel |

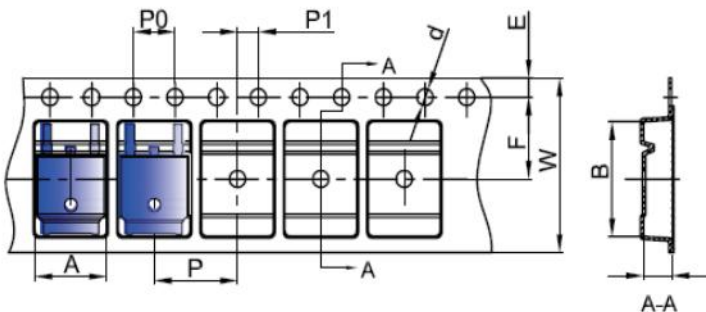
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel Packaging specification.

Marking Diagram


Where XXXXX is YYWWL

- MBR = Device Type
- D = Package type
- 6 = Forward Current (6A)
- 30 = Reverse Voltage (30V)
- CT = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-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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