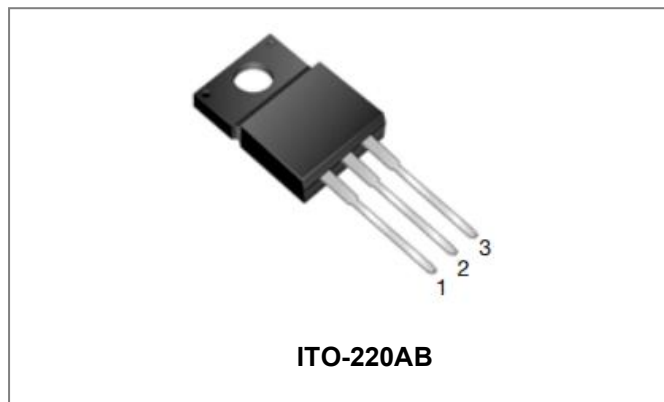


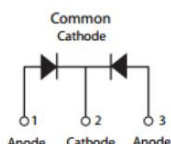
MBRF60150CT SCHOTTKY RECTIFIER



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: Tin Lead-free plated
- 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, T_C =25°C unless otherwise specified)

| Characteristics | Symbol | Condition | Max. | Units |
|--|---------------------|------------------------|-------------------------------|-------|
| Peak Repetitive Reverse Voltage | V _{RRM} | - | 150 | V |
| Working Peak Reverse Voltage | V _{RWM} | | | |
| DC Blocking Voltage | V _R | | | |
| Average Rectified Forward Current | I _{F (AV)} | T _C =90°C | 30(Per Leg) 60(Per Device) | A |
| Peak One Cycle Non-Repetitive Surge Current(Per Leg) | I _{FSM} | 8.3ms, Half Sine pulse | 270 | A |

Electrical Characteristics:

| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|--|------------------|---|--------|--------|-------|
| Forward Voltage Drop(Per Leg)* | V _{F1} | @ 30A, Pulse, T _J = 25 °C | 0.90 | 0.94 | V |
| | V _{F2} | @ 30A, Pulse, T _J = 125 °C | 0.79 | 0.85 | V |
| Reverse Current(Per Leg)* | I _{R1} | @V _R = rated V _R , T _J = 25 °C | 0.0005 | 1.00 | mA |
| | I _{R2} | @V _R = rated V _R , T _J = 125 °C | 0.07 | 10 | mA |
| Junction Capacitance(Per Leg) | C _T | @V _R = 5V, T _C = 25 °C, f _{sig} = 1MHz | 490 | 800 | pF |
| Voltage Rate of Change | dv/dt | - | - | 10,000 | V/μs |
| RSM Isolation Voltage (t = 1.0 second, R. H. < =30%, T _A = 25 °C) | V _{ISO} | Clip mounting, the epoxy body away from the heatsink edge by more than 0.110" along the lead direction. | - | 4500 | V |
| | | Clip mounting, the epoxy body is inside the heatsink. | - | 3500 | |
| | | Screw mounting, the epoxy body is inside the heatsink. | - | 1500 | |

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

Thermal-Mechanical Specifications:

| Characteristics | Symbol | Condition | Specification | Units |
|--|-----------------|--------------|---------------|-------|
| Junction Temperature | T_J | - | -55 to +175 | °C |
| Storage Temperature | T_{stg} | - | -55 to +175 | °C |
| Typical Thermal Resistance Junction to Case(Per Leg) | $R_{\theta JC}$ | DC operation | 3.5 | °C/W |
| Approximate Weight | wt | - | 2 | g |
| Case Style | ITO-220AB | | | |

Ratings and Characteristics Curves

Figure 1
Typical Forward Characteristics

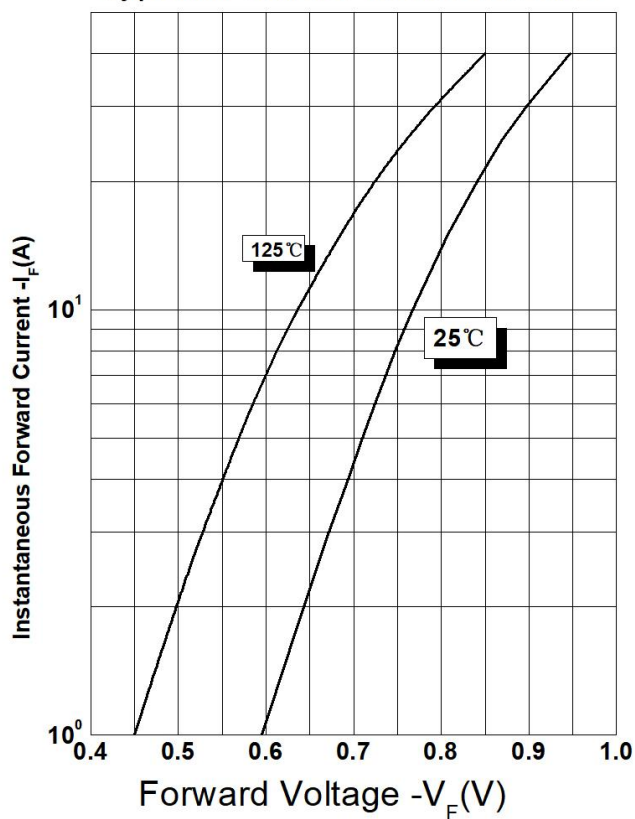


Figure 2
Typical Reverse Characteristics

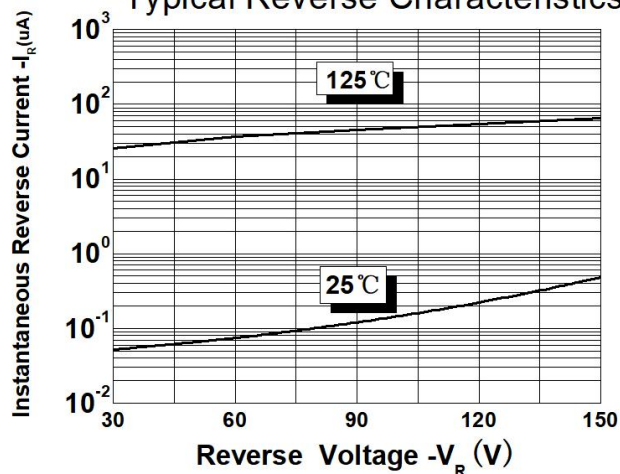
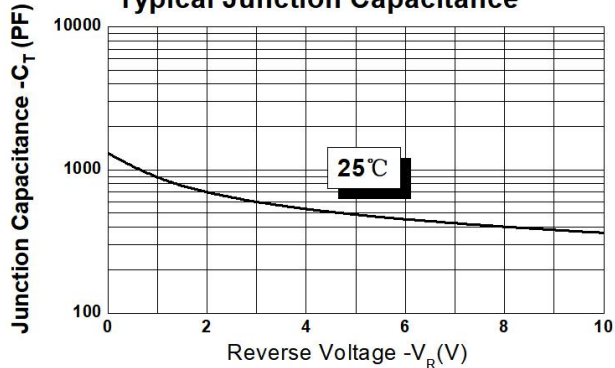


Figure 3
Typical Junction Capacitance



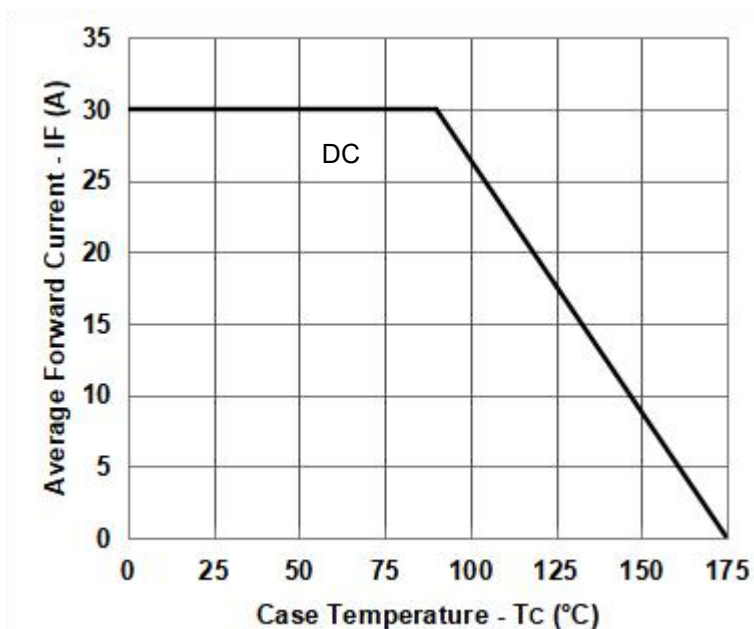
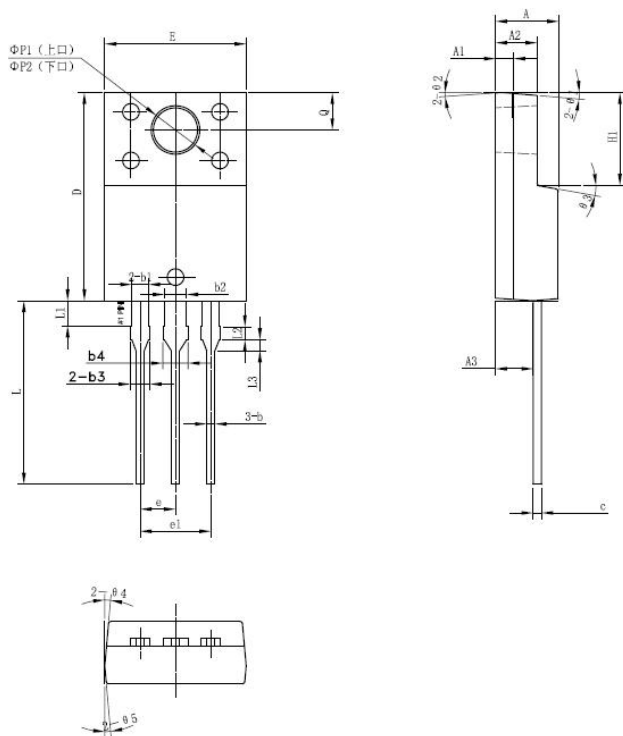


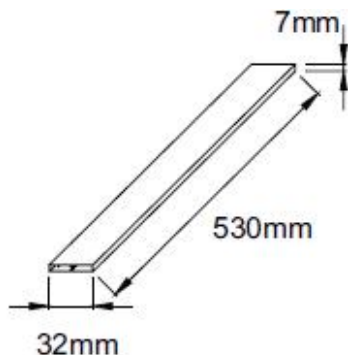
Fig.4 Forward Current Derating Curve

Mechanical Dimensions ITO-220AB

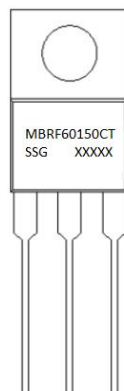


| SYMBOL | Millimeters | | |
|---------|-------------|-------|-------|
| | MIN. | TYP. | MAX. |
| A | 4.30 | 4.50 | 4.70 |
| A1 | 1.10 | 1.30 | 1.50 |
| A2 | 2.80 | 3.00 | 3.20 |
| A3 | 2.50 | 2.70 | 2.90 |
| b | 0.50 | 0.60 | 0.75 |
| b1 | 1.10 | 1.20 | 1.35 |
| b2 | 1.50 | 1.60 | 1.75 |
| b3 | 1.20 | 1.30 | 1.45 |
| b4 | 1.60 | 1.70 | 1.85 |
| c | 0.50 | 0.60 | 0.75 |
| D | 14.80 | 15.00 | 15.20 |
| E | 9.96 | 10.16 | 10.36 |
| e | | 2.55 | |
| e1 | | 5.10 | |
| H1 | 6.50 | 6.70 | 6.90 |
| L | 12.70 | 13.20 | 13.70 |
| L1 | 1.60 | 1.80 | 2.00 |
| L2 | 0.80 | 1.00 | 1.20 |
| L3 | 0.60 | 0.80 | 1.00 |
| ΦP1(上口) | 3.30 | 3.50 | 3.70 |
| ΦP2(下口) | 2.99 | 3.19 | 3.39 |
| Q | 2.50 | 2.70 | 2.90 |
| Θ1 | | 5° | |
| Θ2 | | 4° | |
| Θ3 | | 10° | |
| Θ4 | | 5° | |
| Θ5 | | 5° | |

Tube Specification



Marking Diagram



Where XXXXX is YYWWL

MBR = Device Type
F = Package type
60 = Forward Current (60A)
150 = Reverse Voltage (150V)
CT = Configuration
SSG = SSG
YY = Year
WW = Week
L = Lot Number

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

Ordering Information

| Device | Package | Shipping |
|-------------|------------------------|--------------|
| MBRF60150CT | ITO-220AB (Pb-Free) | 50 pcs/ tube |

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