



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

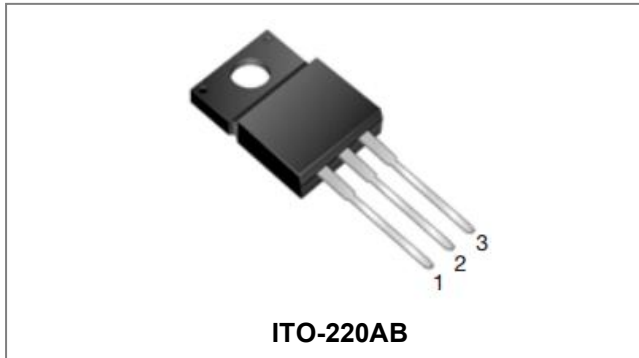
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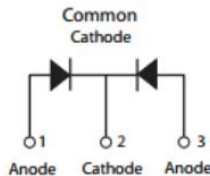
MBRF4030CT SCHOTTKY RECTIFIER



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

Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|--|---------------------|--|-------------------------------|-------|
| Peak Repetitive Reverse Voltage | V _{RRM} | - | 30 | V |
| Working Peak Reverse Voltage | V _{RWM} | - | 30 | V |
| DC Blocking Voltage | V _R | - | 30 | V |
| Average Rectified Forward Current | I _{F (AV)} | 50% duty cycle @T _c =148°C, rectangular wave form | 20(Per Leg) 40(Per Device) | A |
| Peak One Cycle Non-Repetitive Surge Current(Per Leg) | I _{FSM} | 8.3ms, Half Sine pulse | 300 | A |

Electrical Characteristics:

| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|--|------------------|---|------|--------|-------|
| Forward Voltage Drop(Per Leg)* | V _{F1} | @20A, Pulse, T _J = 25 °C | 0.50 | 0.55 | V |
| | V _{F2} | @20A, Pulse, T _J = 125 °C | 0.44 | 0.50 | V |
| Reverse Current(Per Leg)* | I _{R1} | @V _R = rated V _R , T _J = 25 °C | 0.15 | 1 | mA |
| | I _{R2} | @V _R = rated V _R , T _J = 125 °C | 35 | 50 | mA |
| Junction Capacitance(Per Leg) | C _T | @V _R = 5V, T _C = 25 °C, f _{SIG} = 1MHz | 480 | 500 | pF |
| Series Inductance(Per 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 |
| 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 | V |
| | | Screw mounting, the epoxy body is inside the heatsink. | - | 1500 | V |

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

Thermal-Mechanical Specifications:

| Characteristics | Symbol | Condition | Specification | Units |
|---|-----------------|--------------------------------------|---------------|-------|
| Junction Temperature | T_J | - | -55 to +150 | °C |
| Storage Temperature | T_{stg} | - | -55 to +150 | °C |
| Typical Thermal Resistance Junction to Case(PerLeg) | $R_{\theta JC}$ | DC operation | 3.25 | °C/W |
| Typical Thermal Resistance, case to Heat Sink | $R_{\theta cs}$ | Mounting surface, smooth and greased | 0.50 | °C/W |
| Approximate Weight | wt | - | 2 | g |
| Case Style | ITO-220AB | | | |

Ratings and Characteristics Curves

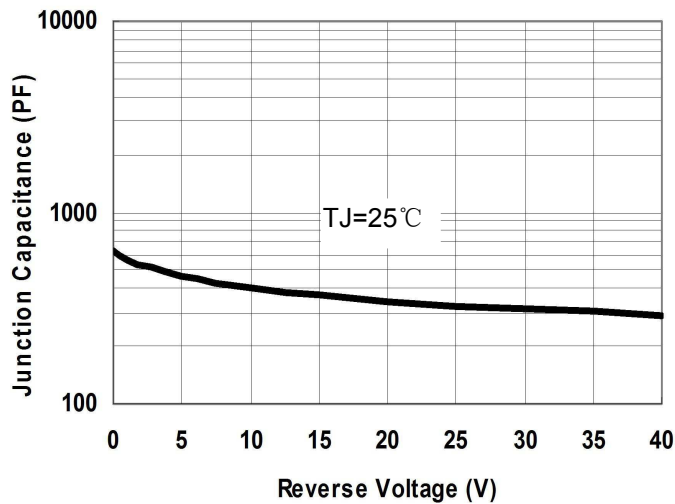


Fig.1-Typical Junction Capacitance

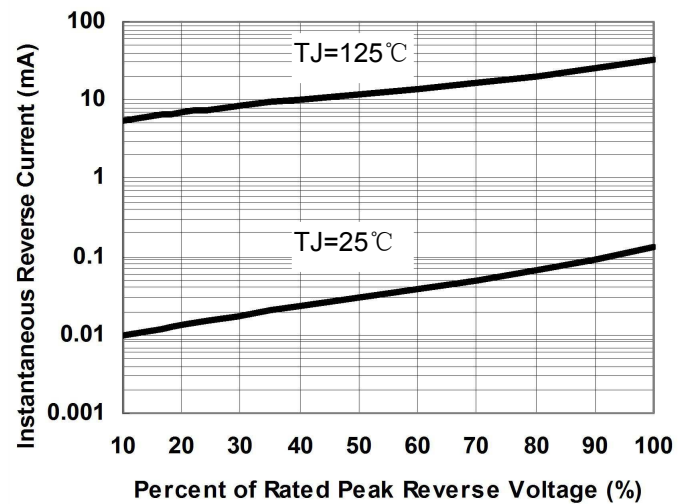


Fig.2-Typical Reverse Characteristics

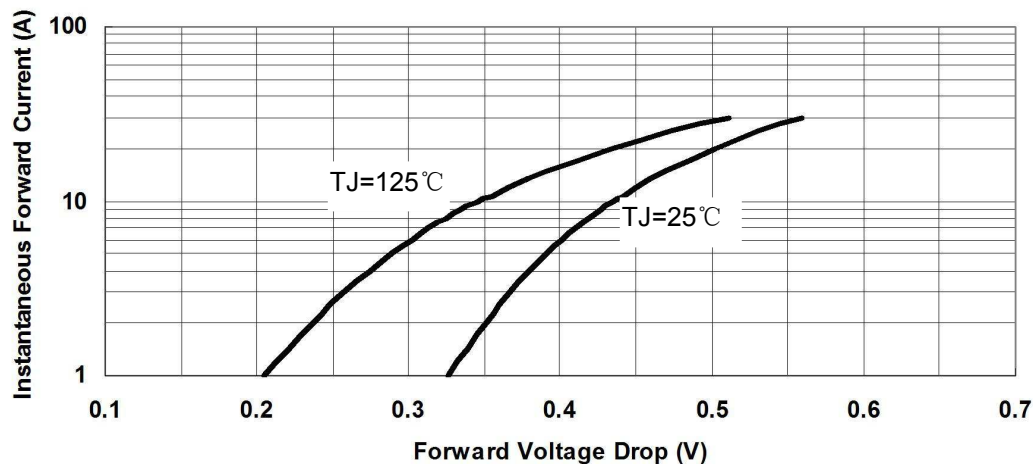
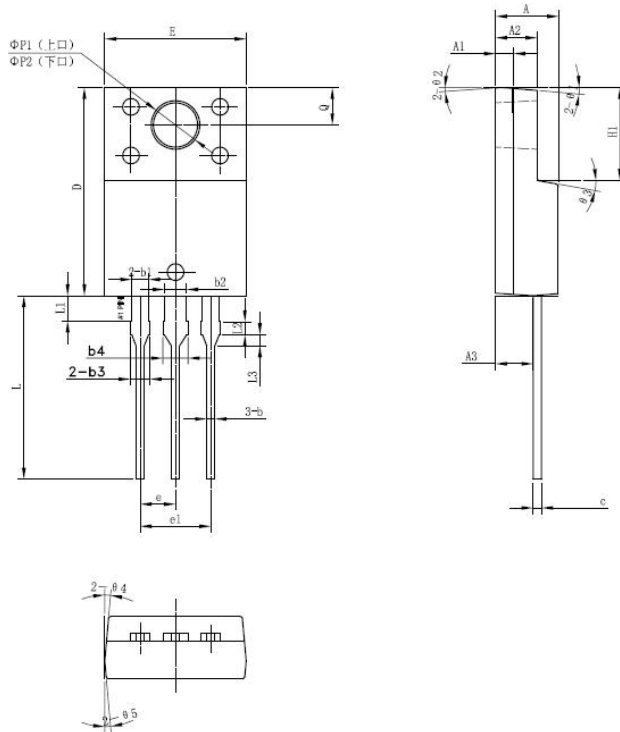
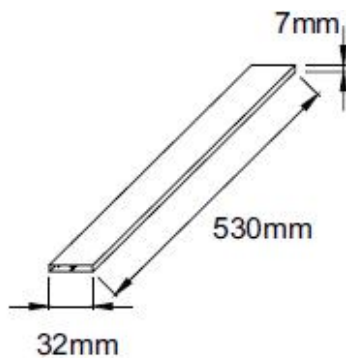
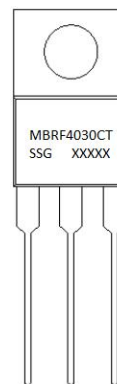


Fig.3-Typical Instantaneous Forward Voltage Characteristics

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
 40 = Forward Current (40A)
 30 = Reverse Voltage (30V)
 CT = Configuration
 SSG = SSG
 YY = Year
 WW = Week
 L = Lot Number

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

Ordering Information

| Device | Package | Shipping |
|------------|------------------------|--------------|
| MBRF4030CT | ITO-220AB (Pb-Free) | 50 pcs/ tube |

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

Technical Data
Data Sheet N1118, Rev. B



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