

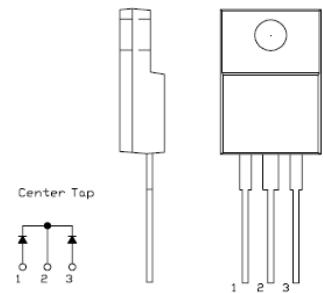
MBRF30100CTP SCHOTTKY RECTIFIER

Applications:

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

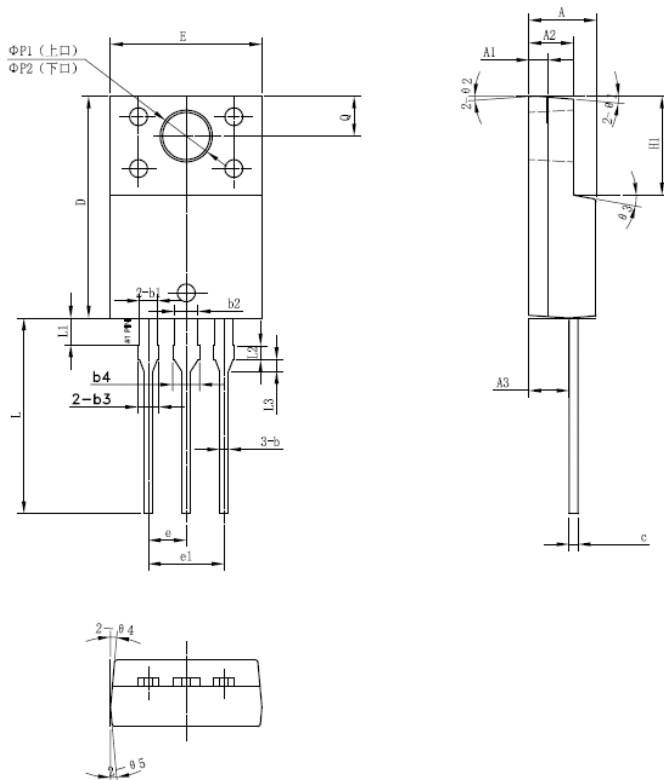
Features:

- 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



OUTLINE DRAWING

Mechanical Dimensions: In mm



| SYMBOL | 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 | 0.55 | 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° | |

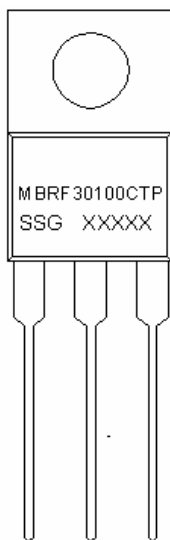
ITO-220AB



Technical Data
Data Sheet N1165, Rev. -

Green Products

Marking Diagram:



Where XXXXX is YYWWL

- MBR = Device Type
- F = Package type
- 30 = Forward Current (30A)
- 100 = Reverse Voltage (100V)
- CTP = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

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

Ordering Information:

| Device | Package | Shipping |
|--------------|------------------------|--------------|
| MBRF30100CTP | ITO-220AB (Pb-Free) | 50pcs / tube |

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

Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|--|-------------|--|------|-------|
| Peak Inverse Voltage | V_{RWM} | - | 100 | V |
| Max. Average Forward | $I_{F(AV)}$ | 50% duty cycle @ $T_C = 133^\circ C$, rectangular wave form | 30 | A |
| Peak Repetitive Forward Current(per leg) | I_{FRM} | Rated V_R square wave, 20KHz $T_C = 133^\circ C$ | 20 | A |
| Max. Peak One Cycle Non-Repetitive Surge Current (per leg) | I_{FSM} | Surge applied at rated load conditions halfwave, single phase,60Hz | 150 | A |



Electrical Characteristics:

| Characteristics | Symbol | Condition | Max. | Units |
|---------------------------------------|-----------------|---|--------|-------|
| Max. Forward Voltage Drop (per leg) * | V _{F1} | @ 15 A, Pulse, T _J = 25 °C | 0.85 | V |
| | V _{F2} | @ 15 A, Pulse, T _J = 125 °C | 0.70 | V |
| Max. Reverse Current (per leg) * | I _{R1} | @V _R = rated V _R T _J = 25 °C | 1.00 | mA |
| | I _{R2} | @V _R = rated V _R T _J = 125 °C | 6.0 | mA |
| Max. Junction Capacitance (per leg) | C _T | @V _R = 5V, T _C = 25 °C f _{SIG} = 1MHz | 400 | pF |
| Typical Series Inductance (per leg) | L _S | Measured lead to lead 5 mm from package body | 8.0 | nH |
| Max. Voltage Rate of Change | dv/dt | - | 10,000 | V/μs |

* Pulse Width < 300μs, Duty Cycle <2%

Thermal-Mechanical Specifications:

| Characteristics | Symbol | Condition | Specification | Units |
|---|------------------|--------------------------------------|---------------|-------|
| Max. Junction Temperature | T _J | - | -55 to +150 | °C |
| Max. Storage Temperature | T _{stg} | - | -55 to +150 | °C |
| Maximum Thermal Resistance Junction to Case | R _{θJC} | DC operation | 2.0 | °C/W |
| Maximum Thermal Resistance, Case to Heat Sink | R _{θJA} | DC operation | 50 | °C/W |
| Maximum Thermal Resistance, Case to Heat Sink | R _{θCS} | Mounting surface, smooth and greased | 0.50 | °C/W |
| Approximate Weight | wt | - | 2 | g |
| Case Style | ITO-220AB | | | |

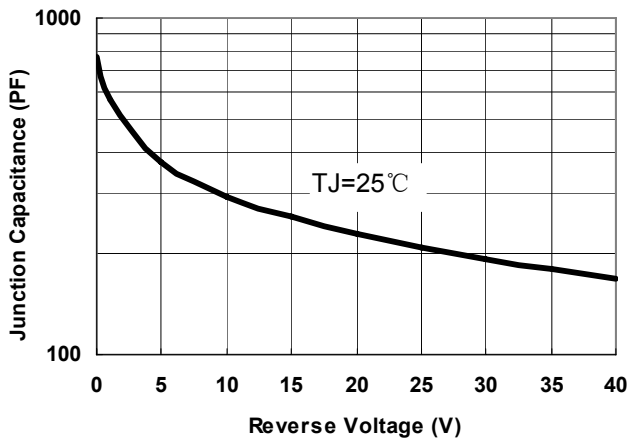


Fig.1-Typical Junction Capacitance

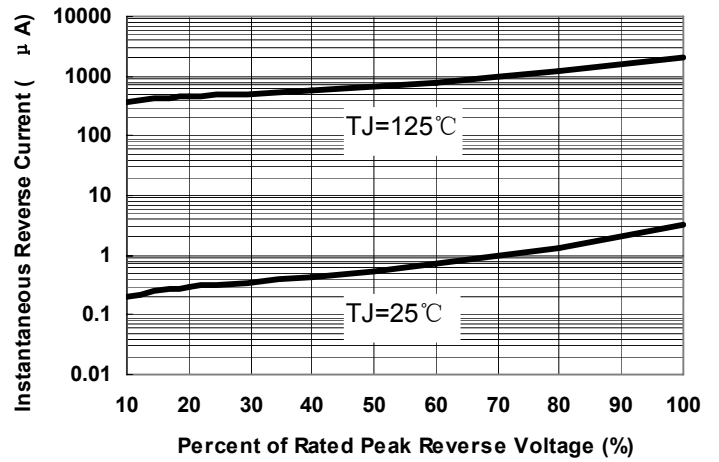


Fig.2-Typical Reverse Characteristics

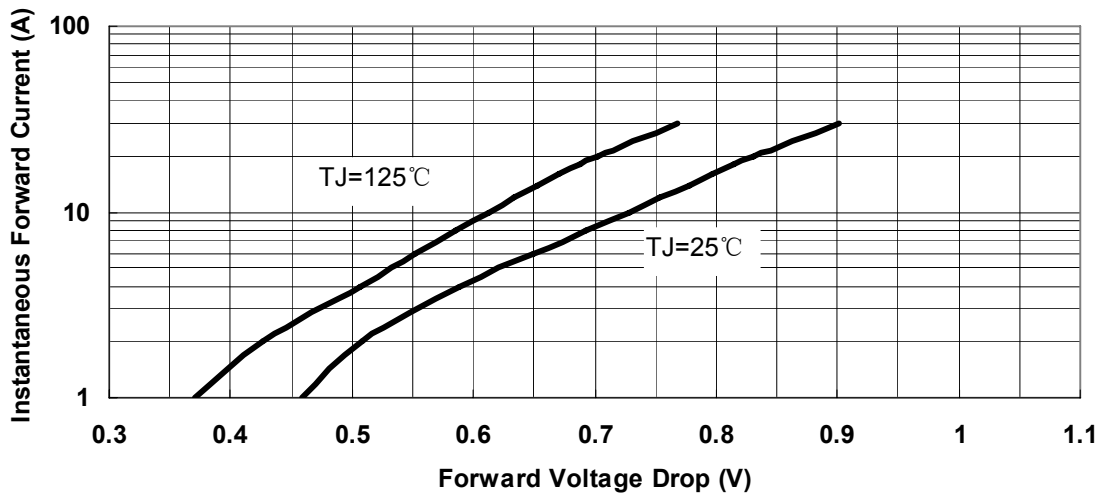


Fig.3-Typical Instantaneous Forward Voltage Characteristics

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