

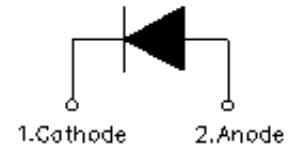
MBR1545 SCHOTTKY RECTIFIER

Applications:

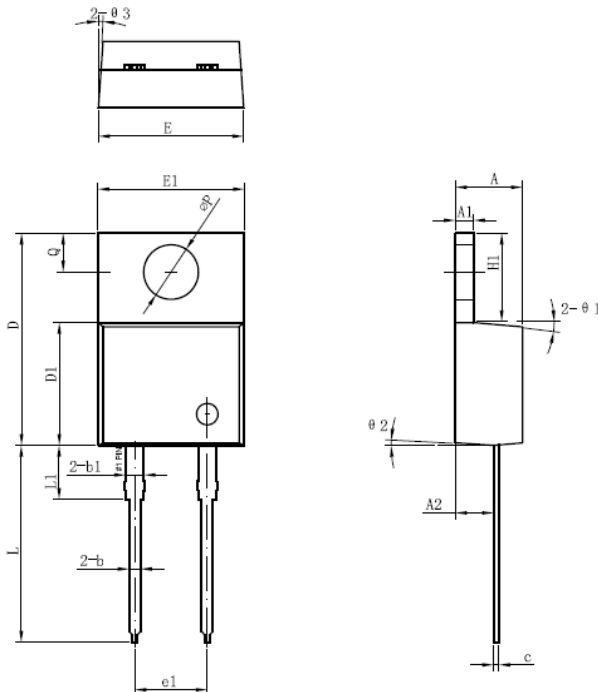
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection
- Center tap configuration

Features:

- 150 °C T_J operation
- 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



Mechanical Dimensions (In mm)

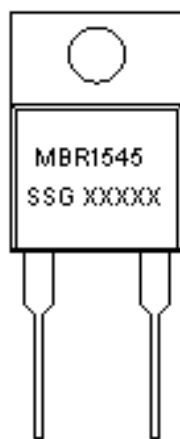


| Symbol | Dimensions in millimeters | | |
|--------|---------------------------|---------|-------|
| | Min. | Typical | Max. |
| A | 4.55 | 4.70 | 4.85 |
| A1 | 1.17 | 1.27 | 1.37 |
| A2 | 2.59 | 2.69 | 2.89 |
| b | 0.71 | 0.81 | 0.96 |
| b1 | | 1.27 | |
| c | 0.36 | 0.38 | 0.61 |
| D | 14.64 | 14.94 | 15.24 |
| D1 | 8.55 | 8.07 | 8.85 |
| E | 10.01 | 10.16 | 10.31 |
| E1 | 9.98 | 10.18 | 10.38 |
| e1 | | 5.08 | |
| H1 | 6.04 | 6.24 | 6.44 |
| L | 13.00 | 13.86 | 14.08 |
| L1 | | 3.80 | |
| ØP | 3.74 | 3.84 | 4.04 |
| Q | 2.54 | 2.74 | 2.94 |
| Ø1 | | 5° | |
| Ø2 | | 4° | |
| Ø3 | | 4° | |

TO-220AC

- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - sales@smc-diodes.com •

Marking Diagram:



Where XXXXX is YYWWL

MBR = Device Type
15 = Forward Current (15A)
45 = Reverse Voltage (45V)
SSG = SSG
YY = Year
WW = Week
L = Lot Number

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

Ordering Information:

| Device | Package | Shipping |
|---------|-------------------|-------------|
| MBR1545 | TO-220AC(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 Repetitive Reverse Voltage | V_{RRM} | - | 45 | |
| Working Peak Reverse Voltage | V_{RWM} | | | |
| DC Blocking Voltage | V_R | | | |
| Average Rectified Forward Current | $I_{F(AV)}$ | 50% duty cycle @ $T_C=123\text{ }^\circ\text{C}$, rectangular wave form | 15 | A |
| Peak One Cycle Non-Repetitive Surge Current | I_{FSM} | 8.3 ms, half Sine pulse | 240 | A |

Electrical Characteristics:

| Characteristics | Symbol | Condition | Max. | Units |
|-------------------------------------|----------|---|--------|------------------|
| Forward Voltage Drop* | V_{F1} | @ 15 A, Pulse, $T_J = 25\text{ }^\circ\text{C}$ | 0.70 | V |
| | V_{F2} | @ 15 A, Pulse, $T_J = 125\text{ }^\circ\text{C}$ | 0.60 | V |
| Reverse Current (per leg) * | I_{R1} | @ $V_R = \text{rated } V_R$ $T_C = 25\text{ }^\circ\text{C}$ | 1.0 | mA |
| | I_{R2} | @ $V_R = \text{rated } V_R$ $T_C = 125\text{ }^\circ\text{C}$ | 40 | mA |
| Junction Capacitance (per leg) | C_T | @ $V_R = 5\text{V}$, $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$ | 800 | pF |
| Typical 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 |

* 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 (per leg) | $R_{\theta JC}$ | DC operation | 1.6 | $^\circ\text{C/W}$ |
| Approximate Weight | wt | - | 1.6 | g |
| Case Style | TO-220AC | | | |

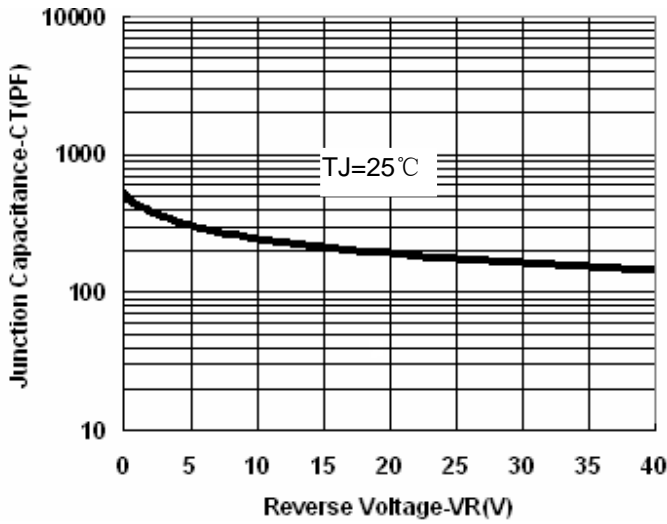


Fig.1-Typical Junction Capacitance

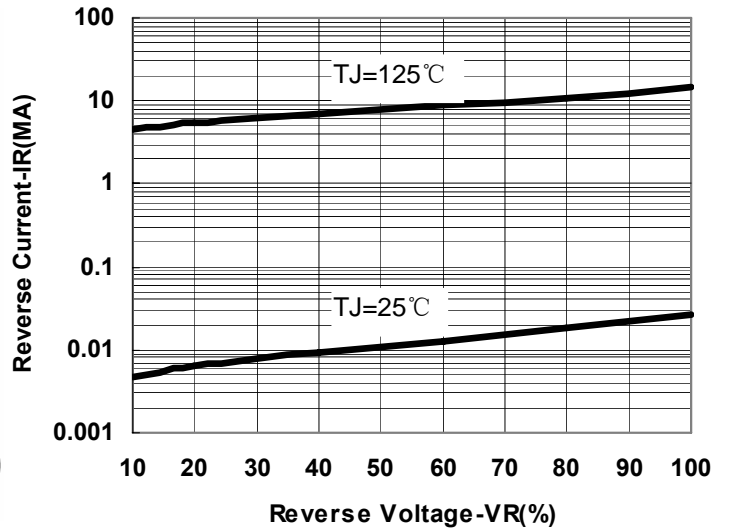


Fig.2-Typical Reverse Characteristics

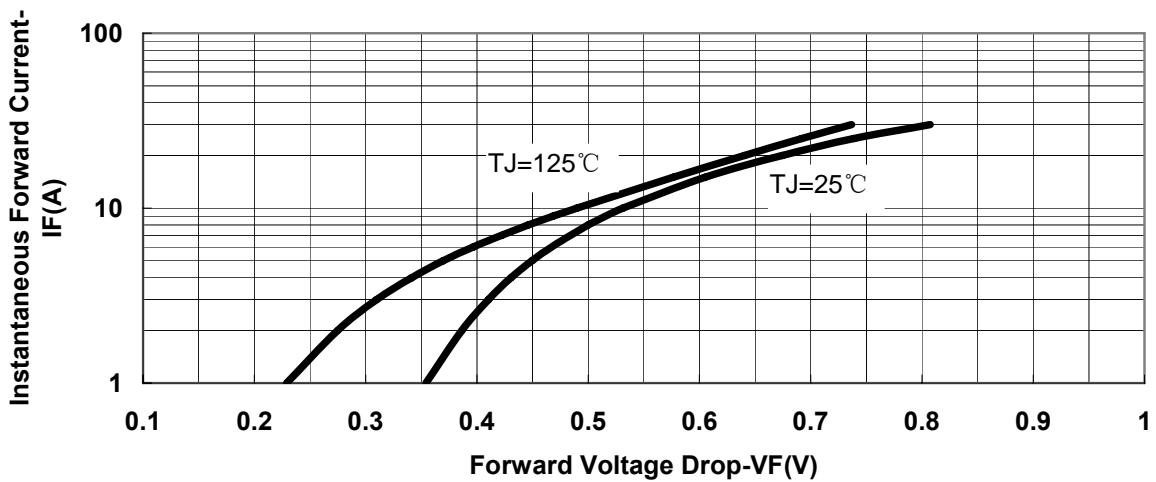


Fig.3-Typical Instantaneous Forward Voltage Characteristics



MBR1545

Technical Data
Data Sheet N0130, Rev. B

Green Products

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