

Technical Data
Data Sheet 2881, Rev. -

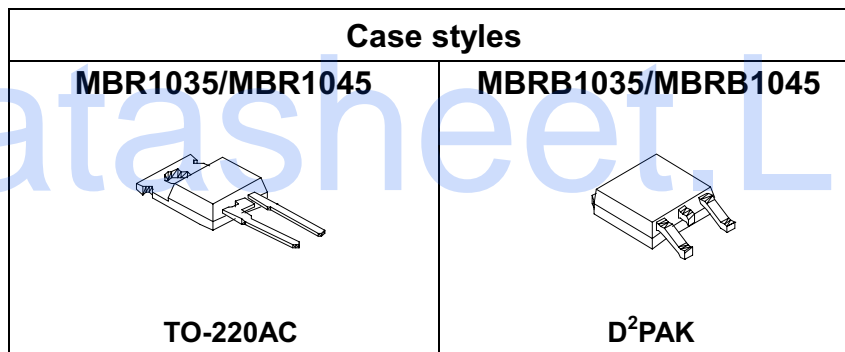
MBR1035/MBRB1035 / MBR1045/MBRB1045
SCHOTTKY RECTIFIER

Applications:

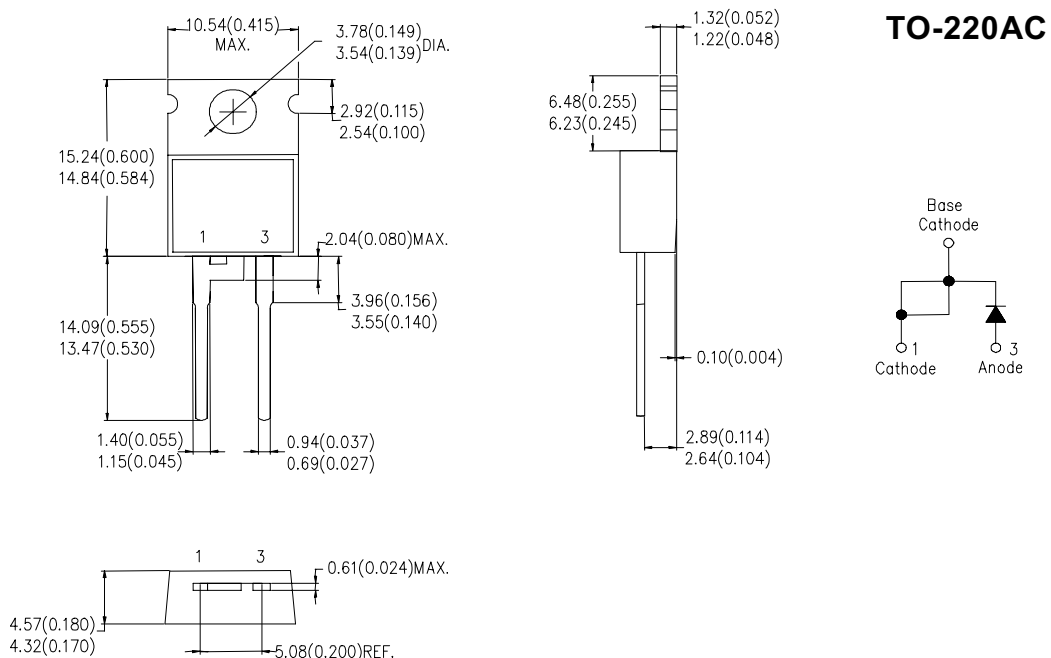
- Switching power supply • Converters • Free-Wheeling diodes • Reverse battery protection

Features:

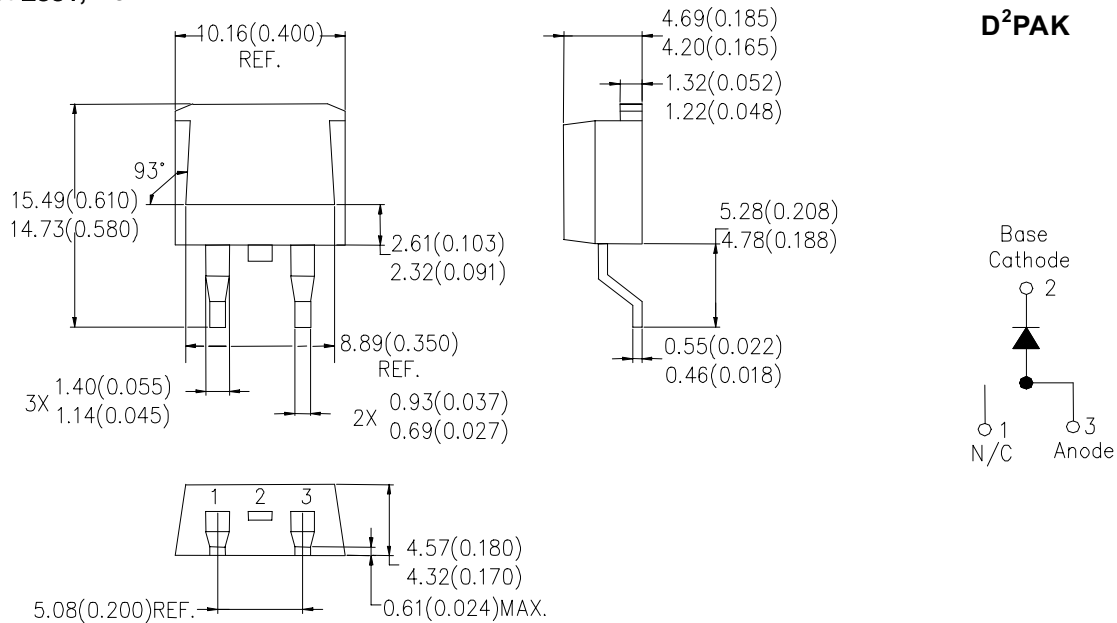
- 175 °C T_J operation
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability



Mechanical Dimensions: In Inches / mm



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Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|--|-------------|---|------------------------------|-------|
| Peak Inverse Voltage | V_{RWM} | - | 35(MBR.1035) 45(MBR.1045) | V |
| Max. Average Forward Current | $I_{F(AV)}$ | @ $T_C = 135^\circ\text{C}$ (Rated V_R) | 10 | A |
| Peak Repetitive Forward | I_{FRM} | @ $T_C = 135^\circ\text{C}$ (Rated V_R) squarewave, 20kHz | 20 | A |
| Max. Peak One Cycle Non-Repetitive Surge Current | I_{FSM} | Surge applied at rated load conditions halfwave , single phase, 60 Hz | 150 | A |
| Peak Repetitive Reverse Surge Current | I_{RRM} | 2.0 μsec 1.0 KHz | 1.0 | A |

Electrical Characteristics:

| Characteristics | Symbol | Condition | Max. | Units |
|--|----------|--|--------------|------------------|
| Max. Forward Voltage Drop * | V_{F1} | @ 20 A, Pulse, $T_J = 25^\circ\text{C}$ | 0.84 | V |
| | V_{F2} | @ 10 A, Pulse, $T_J = 125^\circ\text{C}$ @ 20 A, Pulse, $T_J = 125^\circ\text{C}$ | 0.57 0.72 | V |
| Max. Reverse Current * | I_{R1} | @ $V_R = \text{Rated } V_R$, Pulse, $T_J = 25^\circ\text{C}$ | 0.1 | mA |
| | I_{R2} | @ $V_R = \text{Rated } V_R$, Pulse, $T_J = 125^\circ\text{C}$ | 15 | mA |
| Max. Junction Capacitance | C_T | @ $V_R = 5\text{ V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$, | 600 | pF |
| Typical Series Inductance | L_S | Measured lead to lead 5 mm from package body | 8.0 | nH |
| Max. Voltage Rate of Change (Rated V_R) | dv/dt | - | 10,00 | V/ μs |

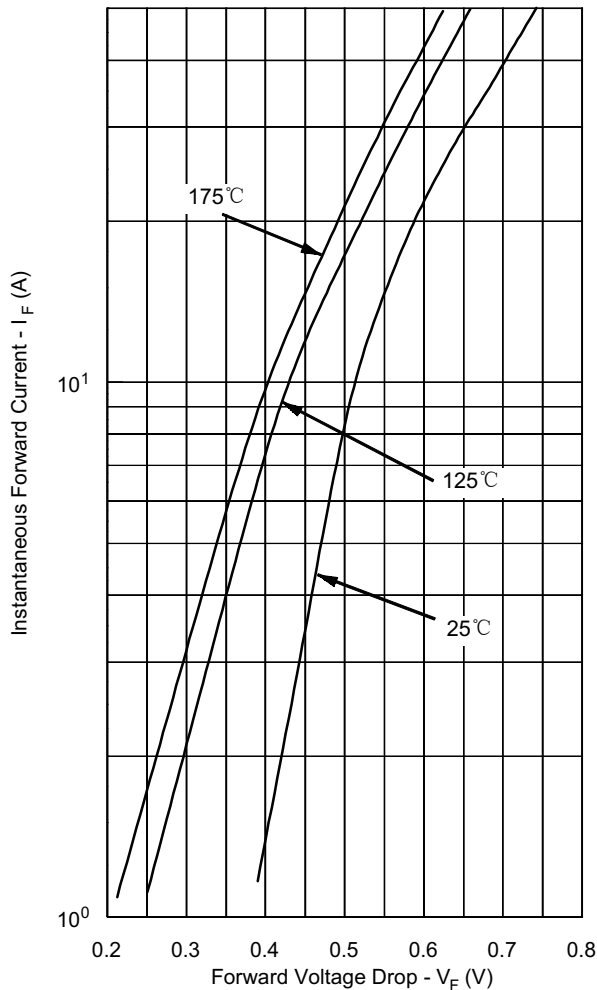
* Pulse Width < 300 μs , Duty Cycle <2%

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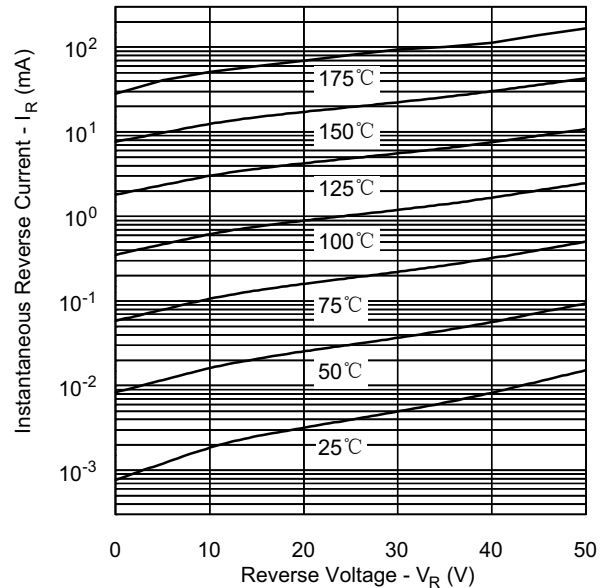
Thermal-Mechanical Specifications:

| Characteristics | Symbol | Condition | Specification | Units |
|---|---|--------------------------------------|---------------------|-------|
| Max. Junction Temperature | T_J | - | -65 to +150 | °C |
| Max. Storage Temperature | T_{stg} | - | -65 to +175 | °C |
| Maximum Thermal Resistance Junction to Case | $R_{\theta JC}$ | DC operation | 2.0 | °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 |
| Mounting Torque | T_M | - | 6 (min) 12 (max) | Kg-cm |
| Case Style | TO-220AC D ² PAK (Suffix "s" for D ² PAK; "MBRB xxxx" for D ² PAK) | | | |

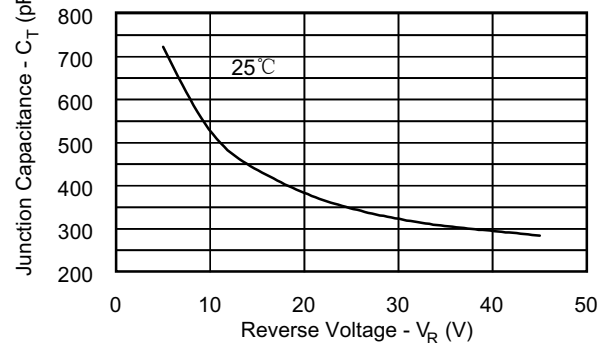
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



TECHNICAL DATA

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