

Technical Data
Data Sheet 2910, Rev. A

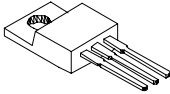
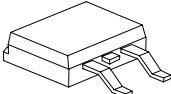
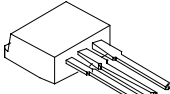
MBR25..CT/ MBRB25..CT/ MBR25..CT-1
SCHOTTKY RECTIFIER

Applications:

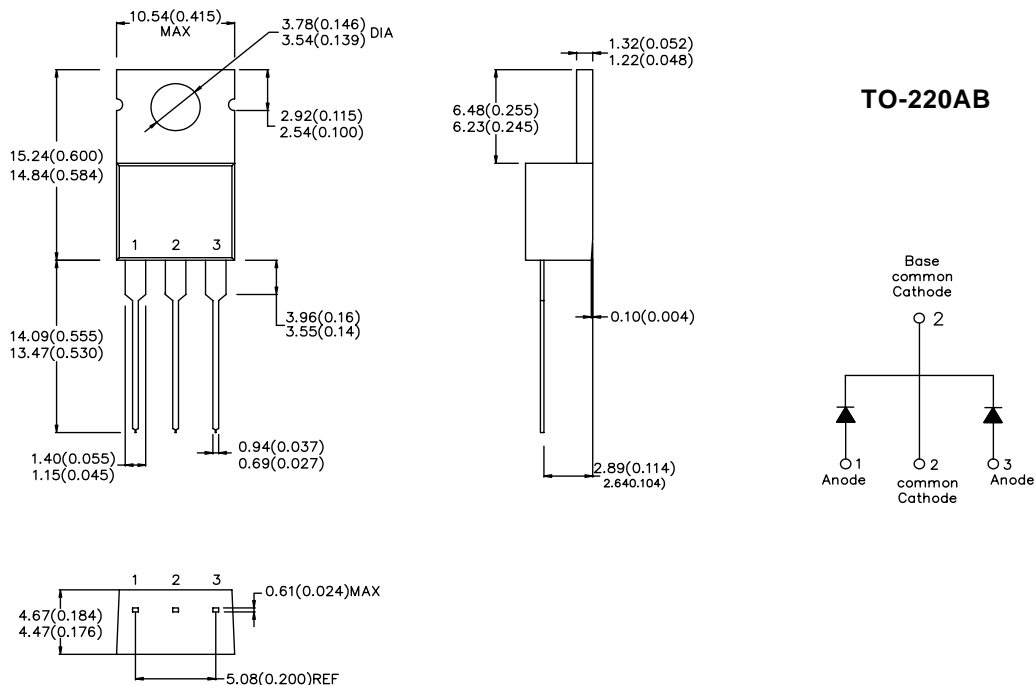
- Switching power supply • Converters • Free-Wheeling diodes • Reverse battery protection

Features:

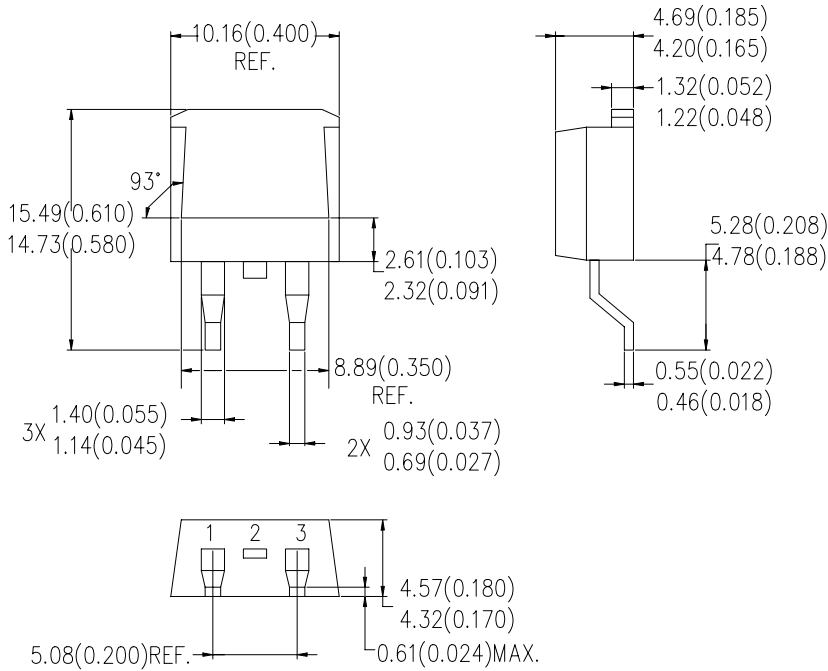
- 150 °C T_J operation
- Center tap configuration
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability

| Case styles | | |
|---|---|---|
| <p>MBR2535CT MBR2545CT</p>  <p>TO-220AB</p> | <p>MBRB2535CT MBRB2545CT</p>  <p>D²PAK</p> | <p>MBR2535CT-1 MBR2545CT-1</p>  <p>TO-262</p> |

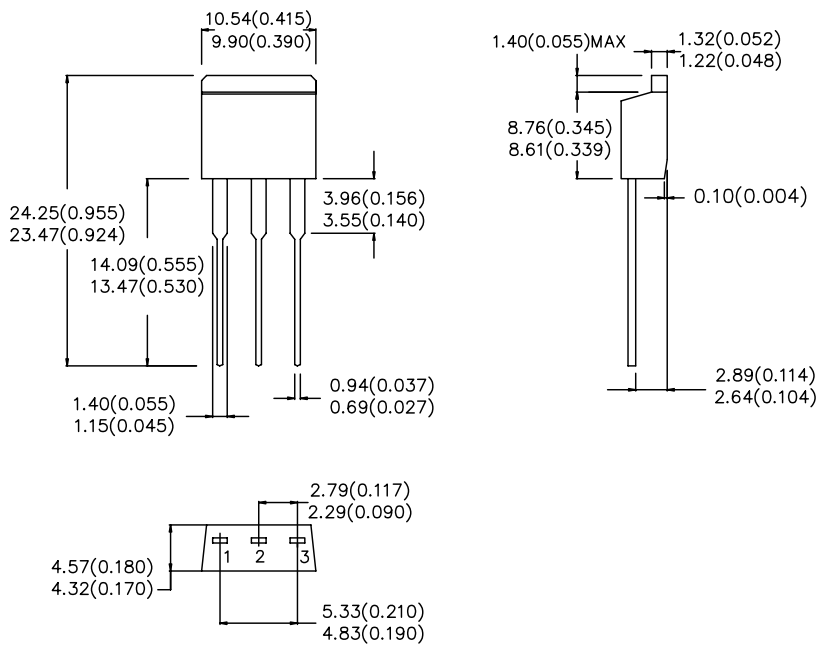
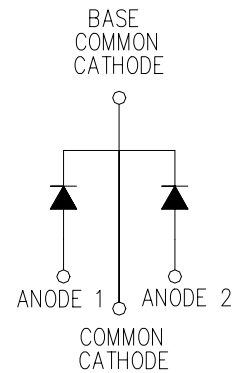
Mechanical Dimensions: In Inches / mm



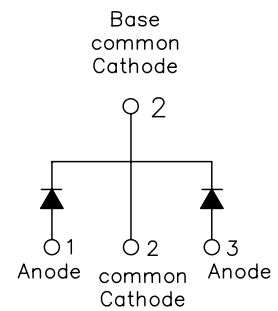
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D²PAK



TO-262



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Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|--|-------------|--|--|-------|
| Peak Inverse Voltage | V_{RWM} | - | 35 | V |
| | | | 45 | |
| | | | MBR2535CT MBRB2535CT MBR2535CT-1 | |
| | | | MBR2545CT MBRB2545CT MBR2545CT-1 | |
| Max. Average Forward Current | $I_{F(AV)}$ | 50% duty cycle @ $T_C = 130\text{ }^\circ\text{C}$, rectangular wave form | 15 (per leg) 30 (per device) | A |
| Peak Repetitive Forward Current (pre leg) | I_{FRM} | Rated V_R , square wave, 20kHz, $T_C = 130\text{ }^\circ\text{C}$ | 20 | A |
| Max. Peak One Cycle Non-Repetitive Surge Current (per leg) | I_{FSM} | 8.3 ms, half Sine pulse | 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 (per leg) * | V_{F1} | @ 30 A, Pulse, $T_J = 25\text{ }^\circ\text{C}$ | 0.82 | V |
| | V_{F2} | @ 30 A, Pulse, $T_J = 125\text{ }^\circ\text{C}$ | 0.73 | V |
| Max. Reverse Current (per leg) * | I_{R1} | @ $V_R = \text{rated } V_R$, Pulse $T_J = 25\text{ }^\circ\text{C}$ | 0.2 | mA |
| | I_{R2} | @ $V_R = \text{rated } V_R$, Pulse $T_J = 125\text{ }^\circ\text{C}$ | 40 | mA |
| Max. Junction Capacitance | C_T | @ $V_R = 5\text{ V}$, $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{ MHz}$, $V_{SIG} = 50\text{ mV (p-p)}$ | 700 | 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 |

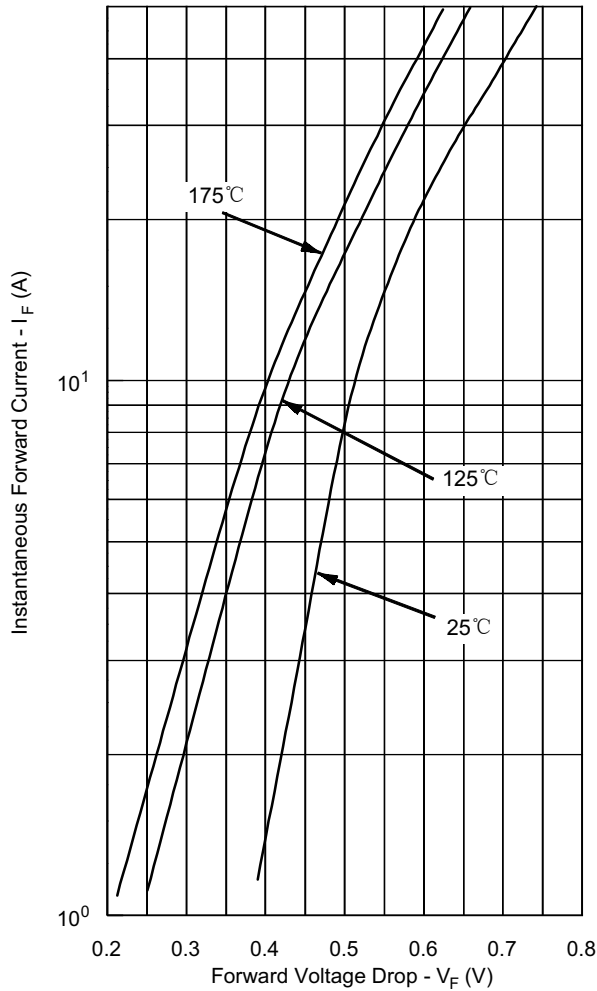
* Pulse Width < 300 μs , Duty Cycle <2%

Thermal-Mechanical Specifications:

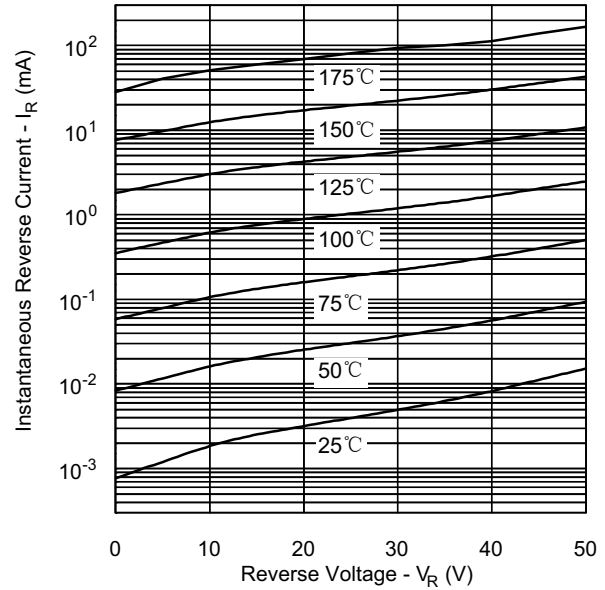
| Characteristics | Symbol | Condition | Specification | Units |
|---|---|--|---------------------|--------------------|
| Max. Junction Temperature | T_J | - | -65 to +150 | $^\circ\text{C}$ |
| Max. Storage Temperature | T_{stg} | - | -65 to +175 | $^\circ\text{C}$ |
| Maximum Thermal Resistance Junction to Case (per leg) | $R_{\theta JC}$ | DC operation | 2.0 | $^\circ\text{C/W}$ |
| Maximum Thermal Resistance, Case to Heat Sink | $R_{\theta CS}$ | Mounting surface, smooth and greased (only for TO-220) | 0.5 | $^\circ\text{C/W}$ |
| Approximate Weight | wt | - | 2 | g |
| Mounting Torque | T_M | - | 6(Min.) 12(Max.) | Kg-cm |
| Case Style | TO-220AB D ² PAK TO-262 (Suffix "-1" for TO-262,"MBRB x" for D ² PAK) | | | |

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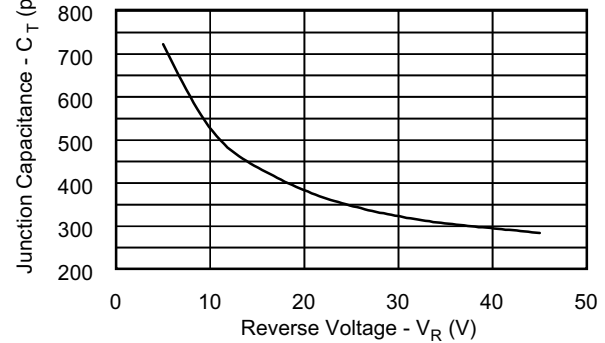
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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