

MBR2535CT, MBR2545CT

MBR2545CT is a Preferred Device

SWITCHMODE™ Power Rectifiers

... using the Schottky Barrier principle with a platinum barrier metal. These state-of-the-art devices have the following features:

- Guardring for Stress Protection
- Low Forward Voltage
- 150°C Operating Junction Temperature

Mechanical Characteristics:

- Case: Epoxy, Molded
- Weight: 1.9 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped 50 units per plastic tube
- Marking: B2535, B2545

MAXIMUM RATINGS

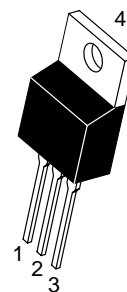
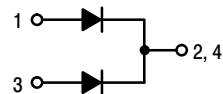
| Rating | Symbol | Value | Unit |
|--|---------------------------------|-------------|------------------|
| Peak Repetitive Reverse Voltage | V_{RRM} | | V |
| Working Peak Reverse Voltage | V_{RWM} | | |
| DC Blocking Voltage | MBR2535CT V_R MBR2545CT | 35 45 | |
| Average Rectified Forward Current (Rated V_R , $T_C = 130^\circ\text{C}$) | $I_{F(AV)}$ | 30 | A |
| Peak Repetitive Forward Current, per Diode Leg (Rated V_R , Square Wave, 20 kHz, $T_C = 130^\circ\text{C}$) | I_{FRM} | 30 | A |
| Non-Repetitive Peak Surge Current per Diode Leg (Surge Applied at Rated Load Conditions, Halfwave, Single Phase, 60 Hz) | I_{FSM} | 150 | A |
| Peak Repetitive Reverse Surge Current (2.0 μs , 1.0 kHz) | I_{RRM} | 1.0 | A |
| Storage Temperature Range | T_{stg} | -65 to +175 | °C |
| Operating Junction Temperature | T_J | -65 to +150 | °C |
| Voltage Rate of Change (Rated V_R) | dv/dt | 1000 | V/ μs |



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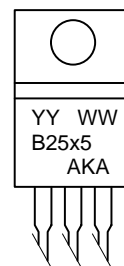
<http://onsemi.com>

SCHOTTKY BARRIER RECTIFIERS 25 AMPERES 35 and 45 VOLTS



TO-220AB
CASE 221A
PLASTIC

MARKING DIAGRAM



YY = Year
WW = Work Week
B25x5 = Device Code
x = 3 or 4
AKA = Diode Polarity

ORDERING INFORMATION

| Device | Package | Shipping |
|-----------|---------|---------------|
| MBR2535CT | TO-220 | 50 Units/Rail |
| MBR2545CT | TO-220 | 50 Units/Rail |

Preferred devices are recommended choices for future use and best overall value.

MBR2535CT, MBR2545CT

THERMAL CHARACTERISTICS (Per Diode Leg)

| Characteristic | Symbol | MBR2535CT | MBR2545CT | Unit |
|--|-----------------|-----------|-----------|---------------|
| Maximum Thermal Resistance, Junction to Case | $R_{\theta JC}$ | 1.5 | 1.5 | $^{\circ}C/W$ |

ELECTRICAL CHARACTERISTICS (Per Diode Leg)

| | | | | |
|--|-------|--------------|--------------|-------|
| Maximum Instantaneous Forward Voltage (Note 1.) ($i_F = 30$ Amps, $T_C = 125^{\circ}C$) ($i_F = 30$ Amps, $T_C = 25^{\circ}C$) | v_F | 0.73 0.82 | 0.73 0.82 | Volts |
| Maximum Instantaneous Reverse Current (Note 1.) (Rated dc Voltage, $T_C = 125^{\circ}C$) (Rated dc Voltage, $T_C = 25^{\circ}C$) | i_R | 40 0.2 | 40 0.2 | mA |

1. Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$.

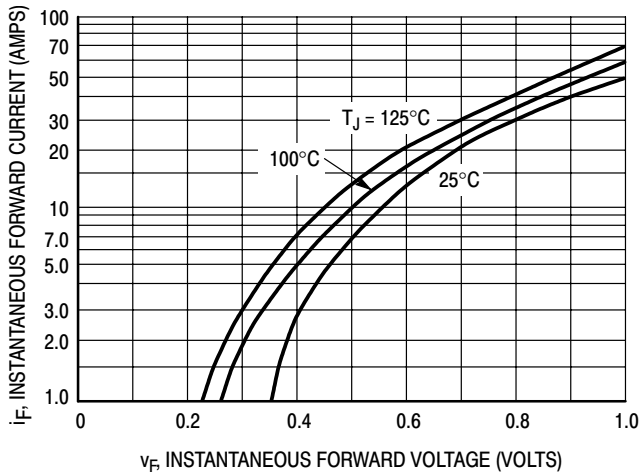


Figure 1. Typical Forward Voltage

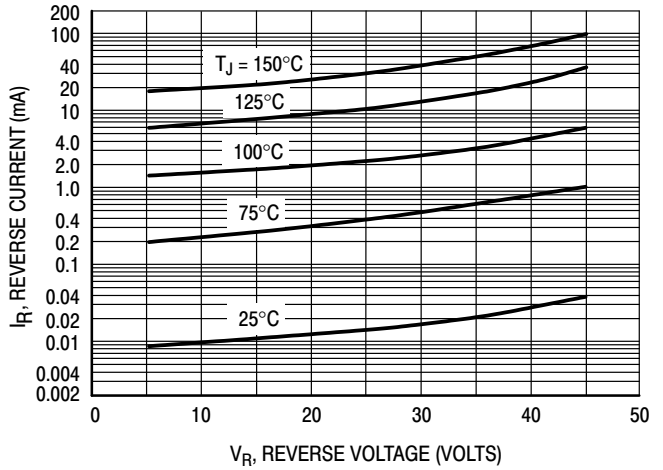


Figure 2. Typical Reverse Current

MBR2535CT, MBR2545CT

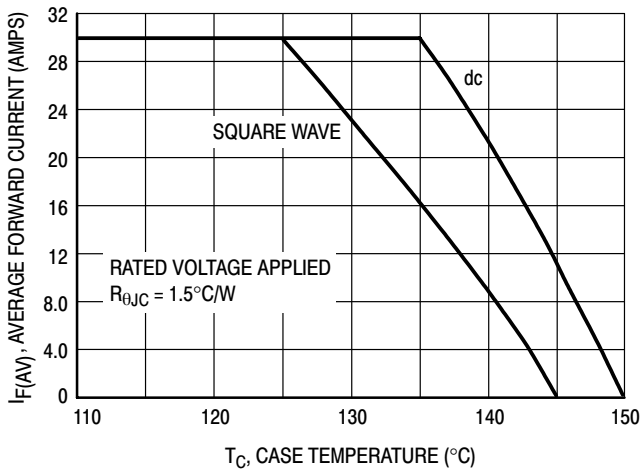


Figure 3. Current Derating, Case

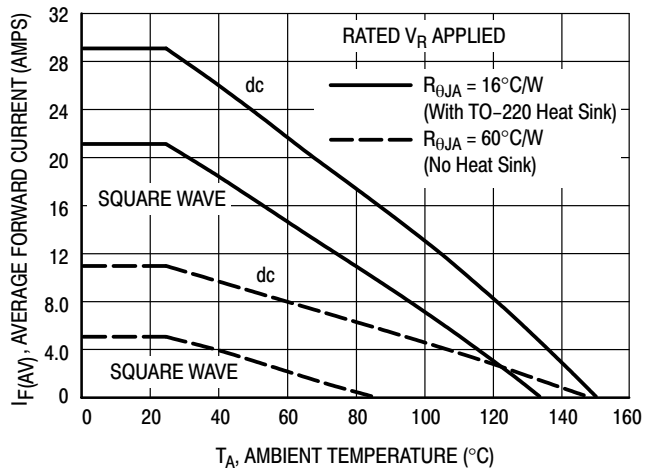


Figure 4. Current Derating, Ambient

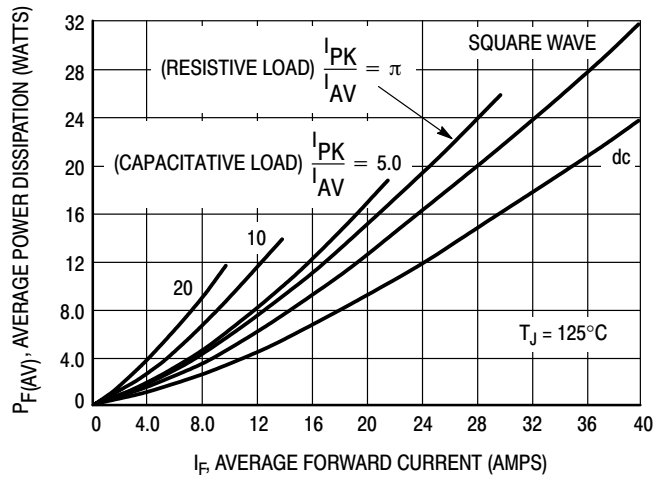
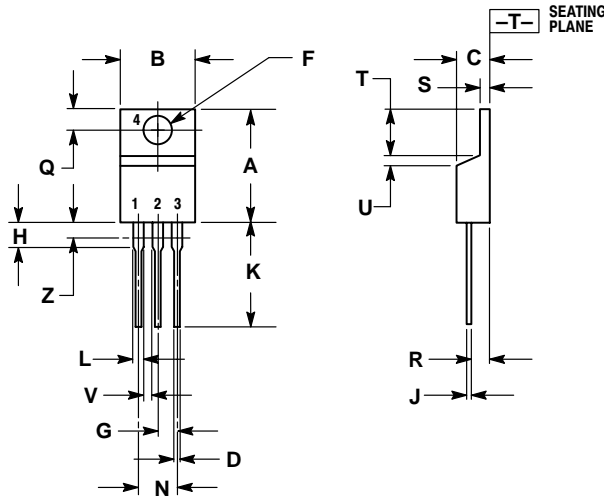


Figure 5. Forward Power Dissipation

MBR2535CT, MBR2545CT

PACKAGE DIMENSIONS

TO-220
PLASTIC
CASE 221A-09
ISSUE AA




NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSION Z DEFINES A ZONE WHERE ALL BODY AND LEAD IRREGULARITIES ARE ALLOWED.

| DIM | INCHES | | MILLIMETERS | |
|-----|--------|-------|-------------|-------|
| | MIN | MAX | MIN | MAX |
| A | 0.570 | 0.620 | 14.48 | 15.75 |
| B | 0.380 | 0.405 | 9.66 | 10.28 |
| C | 0.160 | 0.190 | 4.07 | 4.82 |
| D | 0.025 | 0.035 | 0.64 | 0.88 |
| F | 0.142 | 0.147 | 3.61 | 3.73 |
| G | 0.095 | 0.105 | 2.42 | 2.66 |
| H | 0.110 | 0.155 | 2.80 | 3.93 |
| J | 0.018 | 0.025 | 0.46 | 0.64 |
| K | 0.500 | 0.562 | 12.70 | 14.27 |
| L | 0.045 | 0.060 | 1.15 | 1.52 |
| N | 0.190 | 0.210 | 4.83 | 5.33 |
| Q | 0.100 | 0.120 | 2.54 | 3.04 |
| R | 0.080 | 0.110 | 2.04 | 2.79 |
| S | 0.045 | 0.055 | 1.15 | 1.39 |
| T | 0.235 | 0.255 | 5.97 | 6.47 |
| U | 0.000 | 0.050 | 0.00 | 1.27 |
| V | 0.045 | --- | 1.15 | --- |
| Z | --- | 0.080 | --- | 2.04 |

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