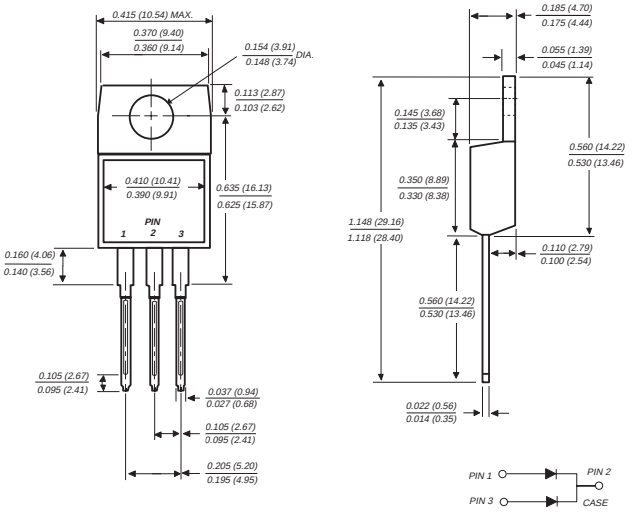
# MBR1535CT THRU MBR1560CT

## SCHOTTKY RECTIFIER

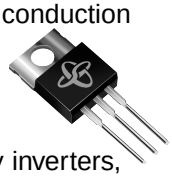
***Reverse Voltage -*** *35 to 60 Volts* ***Forward Current -*** *15.0 Amperes*

**TO-220AB**




*Dimensions in inches and (millimeters)*

## FEATURES



- Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Dual rectifier construction, positive center tap
- Guardring for transient protection
- High temperature soldering guaranteed: 250°C/10 seconds, 0.25" (6.35mm) from case

## MECHANICAL DATA

**Case:** JEDEC TO-220AB molded plastic body
**Terminals:** Leads solderable per MIL-STD-750, Method 2026
**Polarity:** As marked
**Mounting Position:** Any
**Mounting Torque:** 5 in. - lbs. max.
**Weight:** 0.08 ounces, 2.24 gram

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| | *SYMBOLS* | *MBR1535CT* | *MBR1545CT* | *MBR1550CT* | *MBR1560CT* | *UNITS* |
|---|---|---|---|---|---|---|
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | 35 | 45 | 50 | 60 | Volts |
| Maximum working peak reverse voltage | $V_{RWM}$ | 35 | 45 | 50 | 60 | Volts |
| Maximum DC blocking voltage | $V_{DC}$ | 35 | 45 | 50 | 60 | Volts |
| Maximum average forward rectified current at $T_C$=105°C | $I_{(AV)}$ | 15.0 | | | | Amps |
| Peak repetitive forward current at $T_C$=105°C per leg (rated $V_R$, 20KHz sq.wave) | $I_{FRM}$ | 15.0 | | | | Amps |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per leg (JEDEC method) | $I_{FSM}$ | 150.0 | | | | Amps |
| Peak repetitive reverse surge current per leg (NOTE 1) | $I_{RRM}$ | 1.0 | | 0.5 | | Amps |
| Maximum instantaneous forward voltage per leg at (NOTE 2) $I_F$=7.5A,$T_C$=25°C<br>$I_F$=7.5A,$T_C$=125°C<br>$I_F$=15A,$T_C$=25°C<br>$I_F$=15A,$T_C$=125°C | $V_F$ | – | | 0.75 | | Volts |
| | | 0.57 | | 0.65 | | |
| | | 0.84 | | – | | |
| | | 0.72 | | – | | |
| Maximum instantaneous reverse current at rated DC blocking voltage per leg $T_C$=25°C<br>(NOTE 2) $T_C$=125°C | $I_R$ | 0.1 | | 1.0 | | mA |
| | | 15.0 | | 50.0 | | |
| Voltage rate of change, (rated $V_R$) | dv/dt | 10,000 | | | | V/µs |
| Maximum thermal resistance per leg (NOTE 3) | $R_{\Theta JA}$<br>$R_{\Theta JC}$ | 60.0<br>3.0 | | | | °C/W |
| Operating junction temperature range | $T_J$ | -65 to +150 | | | | °C |
| Storage temperature range | $T_{STG}$ | -65 to +175 | | | | °C |

**NOTES:**
(1) 2.0µs pulse width, f=1.0 KHz
(2) 300µs, pulse width, 1% duty cycle
(3) Thermal resistance from junction to case and thermal resistance from junction to ambient



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# RATINGS AND CHARACTERISTIC CURVES MBR1535CT THRU MBR1560CT

**FIG. 1 - FORWARD CURRENT DERATING CURVE**

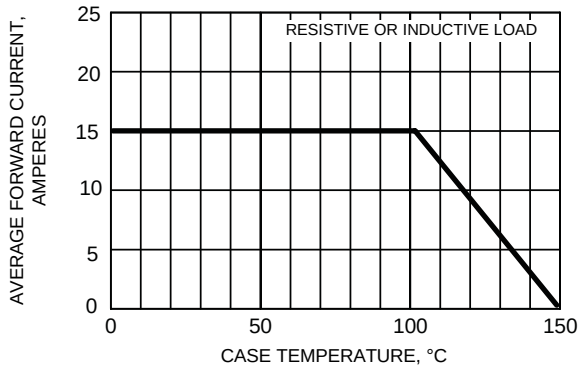



**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**

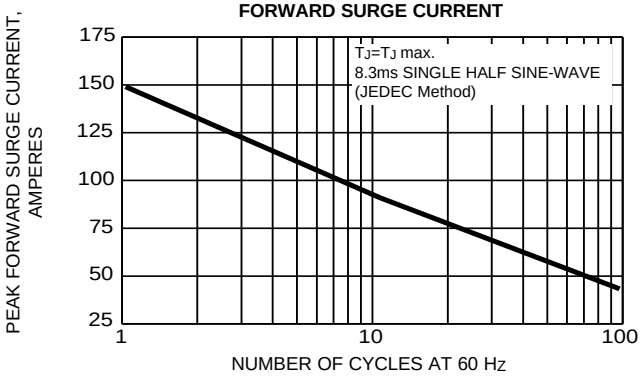



**FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**

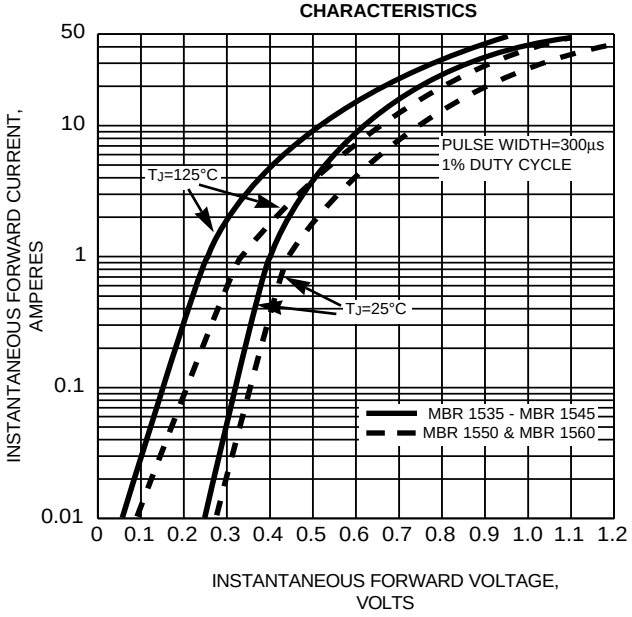



**FIG. 4 - TYPICAL REVERSE CHARACTERISTICS**

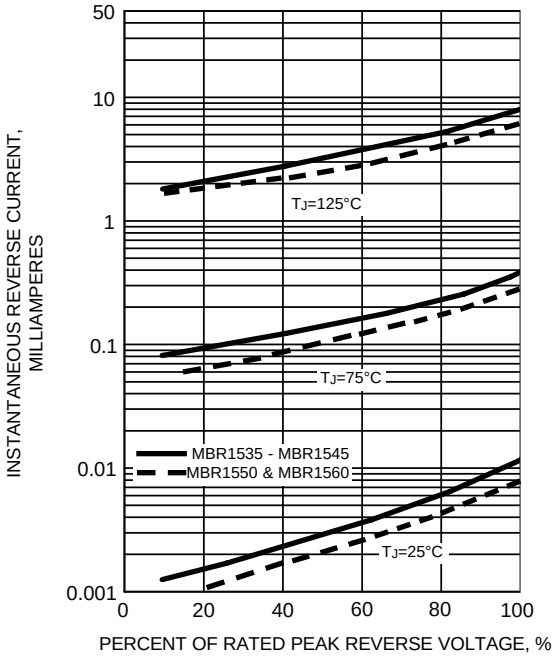



**FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG**

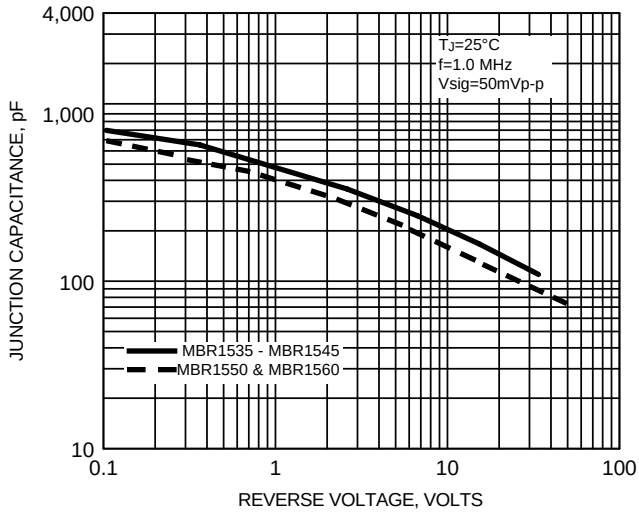
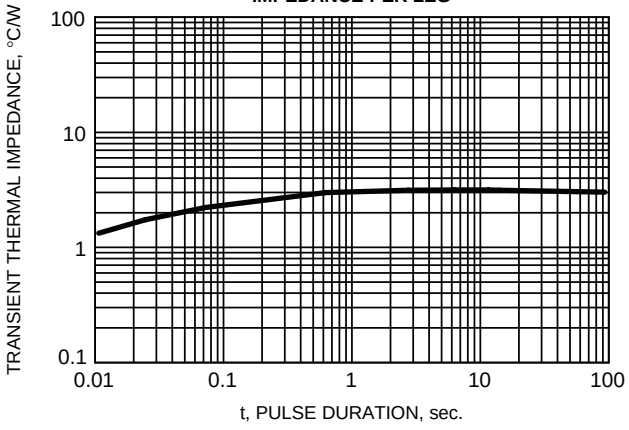



**FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG**

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