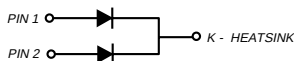
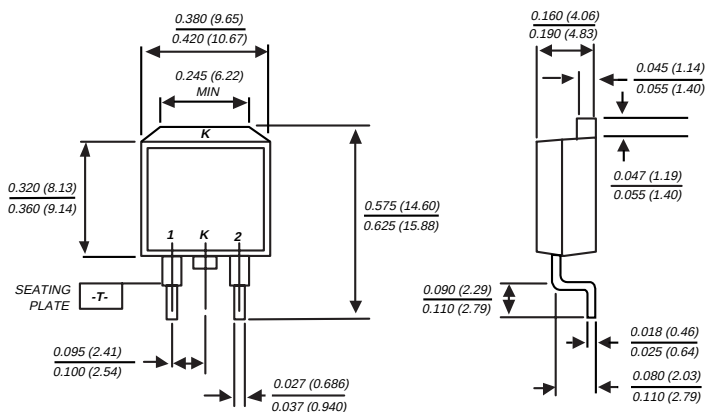


# MBRB2535CT THRU MBRB2560CT

## SCHOTTKY RECTIFIER

**Reverse Voltage - 35 to 60 Volts    Forward Current - 30.0 Amperes**

### TO-263AB



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- ◆ Dual rectifier construction, positive center-tap
- ◆ 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
- ◆ Guardring for overvoltage protection
- ◆ High temperature soldering in accordance with CECC 802 / Reflow guaranteed



### MECHANICAL DATA

**Case:** JEDEC TO-263AB molded plastic body

**Terminals:** Lead solderable per MIL-STD-750, Method 2026

**Polarity:** As marked

**Mounting Position:** Any

**Weight:** 0.08 ounce, 2.24 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

|                                                                                                                                                                                                                                         | SYMBOLS         | MBRB2535CT             | MBRB2545CT | MBRB2550CT             | MBRB2560CT | 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 $T_C=130^\circ\text{C}$                                                                                                                                                                    | $I_{(AV)}$      | 30.0                   |            |                        |            | Amps                   |
| Peak repetitive forward current per leg at $T_C=130^\circ\text{C}$ (rated $V_R$ , square wave, 20 KHz)                                                                                                                                  | $I_{FRM}$       | 30.0                   |            |                        |            | Amps                   |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed<br>on rated load (JEDEC Method)                                                                                                                                  | $I_{FSM}$       | 150.0                  |            |                        |            | Amps                   |
| Peak repetitive reverse surge current (NOTE 1)                                                                                                                                                                                          | $I_{RRM}$       | 1.0                    |            | 0.5                    |            | Amps                   |
| Maximum instantaneous forward voltage $I_F=15.0\text{A}, T_C=25^\circ\text{C}$<br>per leg at: (NOTE 2)<br>$I_F=15.0\text{A}, T_C=25^\circ\text{C}$<br>$I_F=30\text{A}, T_C=25^\circ\text{C}$<br>$I_F=30\text{A}, T_C=125^\circ\text{C}$ | $V_F$           | -<br>-<br>0.82<br>0.73 |            | 0.75<br>0.65<br>-<br>- |            | Volts                  |
| Maximum instantaneous reverse current at<br>rated DC blocking voltage per leg (NOTE 2)<br>$T_C=25^\circ\text{C}$<br>$T_C=125^\circ\text{C}$                                                                                             | $I_R$           | 0.2<br>40.0            |            | 1.0<br>50.0            |            | mA                     |
| Maximum thermal resistance (NOTE 3)                                                                                                                                                                                                     | $R_{\theta JC}$ | 1.5                    |            |                        |            | $^\circ\text{C/W}$     |
| Voltage rate of change (rated $V_R$ )                                                                                                                                                                                                   | $dv/dt$         | 10,000                 |            |                        |            | $\text{V}/\mu\text{s}$ |
| Operating junction temperature range                                                                                                                                                                                                    | $T_J$           | -65 to +150            |            |                        |            | $^\circ\text{C}$       |
| Storage temperature range                                                                                                                                                                                                               | $T_{STG}$       | -65 to +175            |            |                        |            | $^\circ\text{C}$       |

**NOTES:** (1) 2.0μs pulse width, f=1.0 KHz

(2) Pulse test: 300μs pulse width, 1% duty cycle

(3) Thermal resistance from junction to case per leg

# RATINGS AND CHARACTERISTIC CURVES MBRB2535CT THRU MBRB2560CT

FIG. 1 - FORWARD CURRENT DERATING CURVE

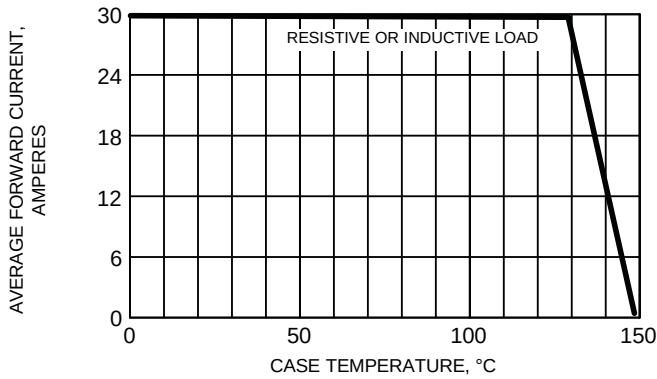


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

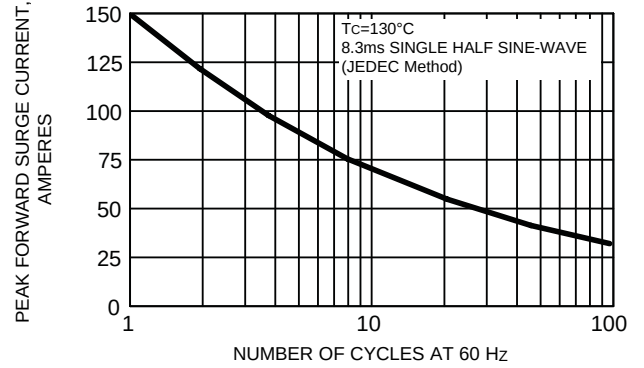


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

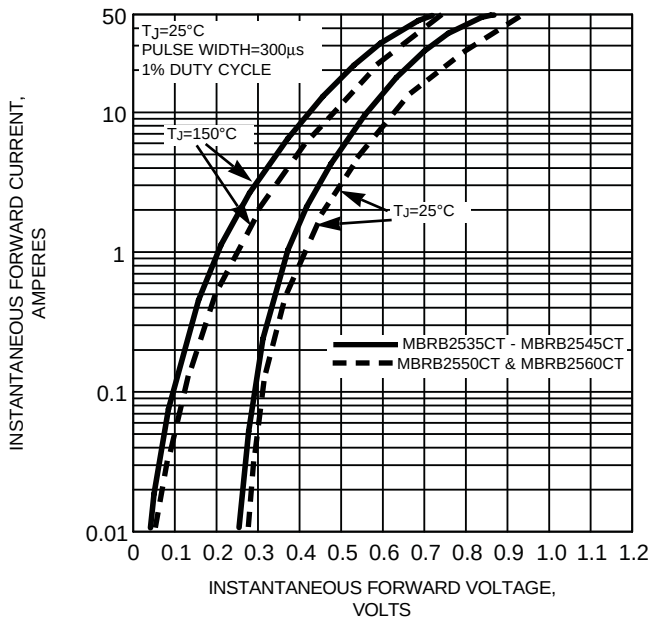


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER LEG

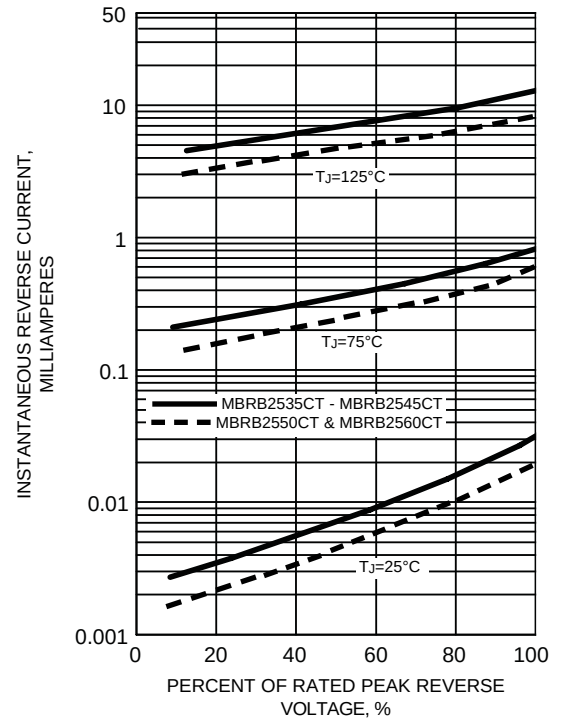


FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG

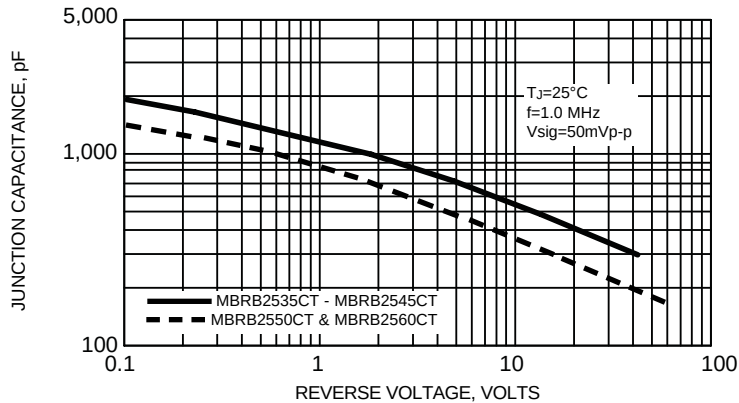


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

