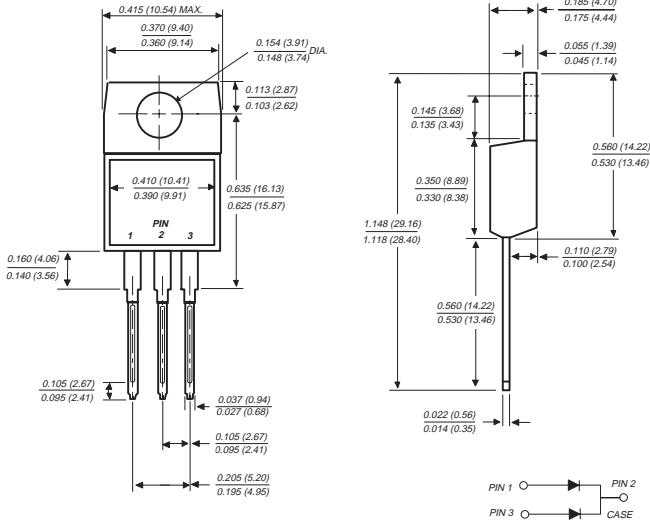


# MBR2035CT THRU MBR2060CT

## SCHOTTKY RECTIFIER

Reverse Voltage - 35 to 60 Volts Forward Current - 20.0 Amperes

### TO-220AB



### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 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
- ◆ Guardring for overvoltage protection
- ◆ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◆ High temperature soldering guaranteed: 250°C/10 seconds, 0.25" (6.35mm) from case



### MECHANICAL DATA

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

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	MBR2035CT	MBR2045CT	MBR2050CT	MBR2060CT	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 $T_C=135^\circ\text{C}$	$I_{(AV)}$	20.0				Amps
Peak repetitive forward current per leg at $T_C=135^\circ\text{C}$ (rated $V_R$ , sq. wave 2.0 KHz)	$I_{FRM}$	20.0				Amps
Peak forward surge current 8.3ms single half sine-wave superimposed 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 per leg at (NOTE 2)	$V_F$			0.80		Volts
$I_F=10\text{A}, T_C=25^\circ\text{C}$		0.57		0.70		
$I_F=10\text{A}, T_C=125^\circ\text{C}$		0.84		0.95		
$I_F=20\text{A}, T_C=25^\circ\text{C}$		0.72		0.85		
Maximum instantaneous reverse current at rated DC blocking voltage per leg	$I_R$			0.15		mA
$T_C=25^\circ\text{C}$		0.1		150.0		
$T_C=125^\circ\text{C}$		15.0				
Voltage rate of change, (rated $V_R$ )	$dv/dt$	10,000				V/ $\mu\text{s}$
Typical thermal resistance per leg (NOTE 3)	$R_{\theta JC}$	2.0				$^\circ\text{C}/\text{W}$
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) 2.0 $\mu\text{s}$  pulse width,  $f=1.0\text{KHz}$
- (2) Pulse test: 300 $\mu\text{s}$  pulse width, 1% duty cycle

# RATINGS AND CHARACTERISTIC CURVES MBR2035CT THRU MBR2060CT

FIG. 1 - FORWARD CURRENT DERATING CURVE

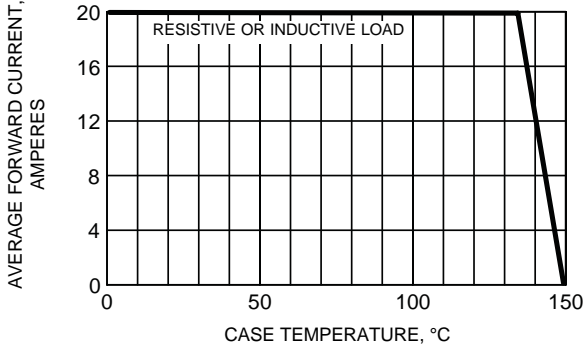


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

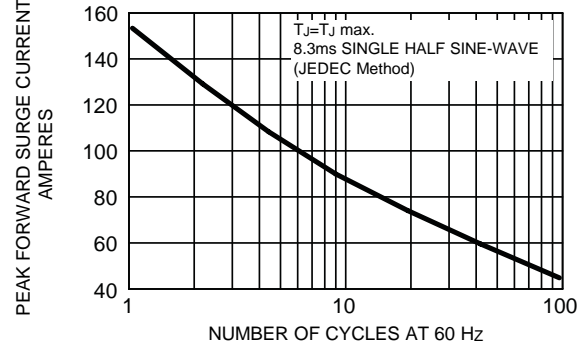


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

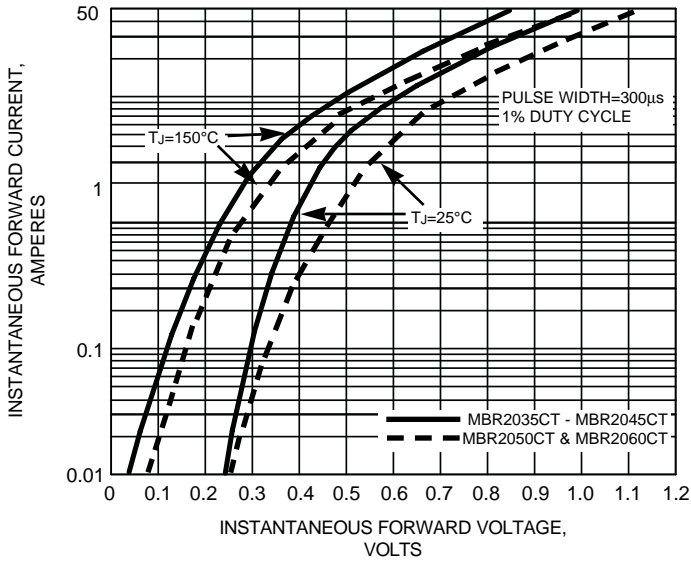


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER LEG

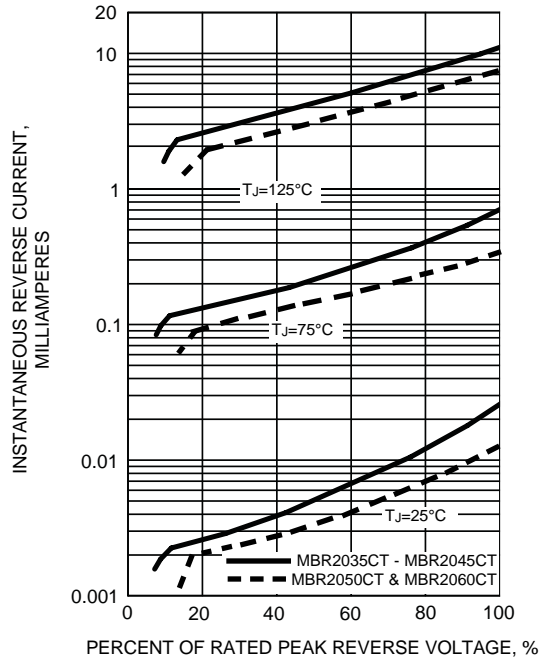


FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG

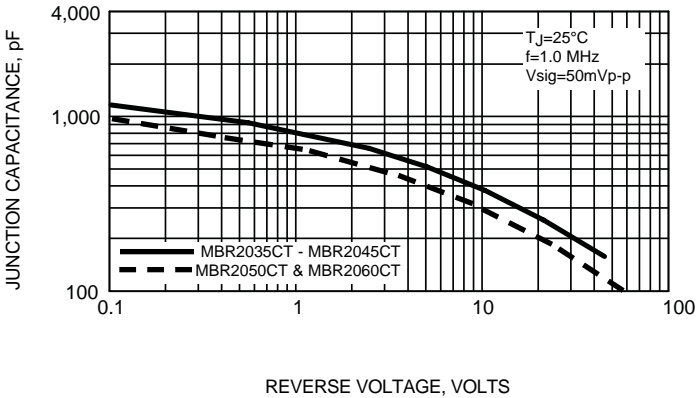


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

