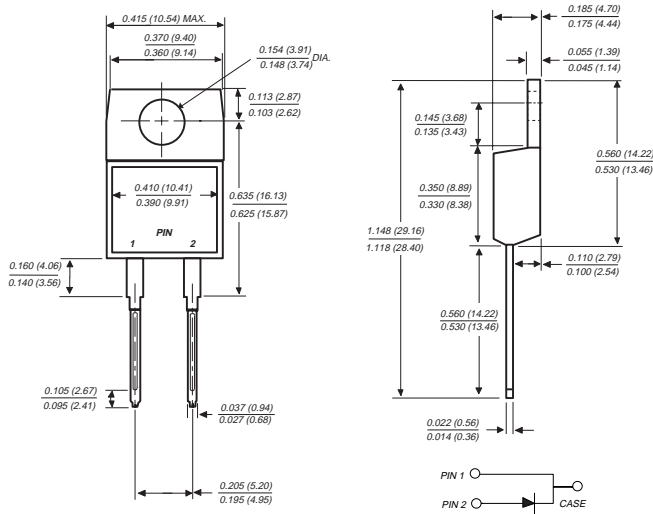


# MBR735 THRU MBR760

## SCHOTTKY RECTIFIER

Reverse Voltage - 35 to 60 Volts    Forward Current - 7.5 Amperes

### TO-220AC



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- ◆ Metal to silicon rectifier, 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 guaranteed: 250°C/10 seconds, 0.25" (6.35mm) from case



### MECHANICAL DATA

**Case:** JEDEC TO-220AC molded plastic body  
**Terminals:** Lead 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 grams

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	MBR735	MBR745	MBR750	MBR760	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 (SEE FIG 1)	$I_{(AV)}$	7.5				Amps
Peak repetitive forward current (square wave, 20 KHz) at $T_C=105^\circ\text{C}$	$I_{FRM}$	15.0				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 at (NOTE 2)	$V_F$	$I_F=7.5\text{A}, T_C=25^\circ\text{C}$ $I_F=7.5\text{A}, T_C=125^\circ\text{C}$ $I_F=15\text{A}, T_C=25^\circ\text{C}$ $I_F=15\text{A}, T_C=125^\circ\text{C}$		0.75 0.65 - -		Volts
Maximum instantaneous reverse current at rated DC blocking voltage (NOTE 1)	$I_R$	$T_C=25^\circ\text{C}$ $T_C=125^\circ\text{C}$		0.1 15.0		0.5 50 mA
Voltage rate of change (rated $V_R$ )	$dv/dt$	10,000				V/ $\mu\text{s}$
Maximum thermal resistance, (NOTE 3)	$R_{\theta JC}$ $R_{\theta JA}$	3.0 60.0				$^\circ\text{C}/\text{W}$
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

(3) Thermal resistance from junction to case and/or thermal resistance from junction to ambient

# RATINGS AND CHARACTERISTIC CURVES MBR735 THRU MBR760

FIG. 1 - FORWARD CURRENT DERATING CURVE

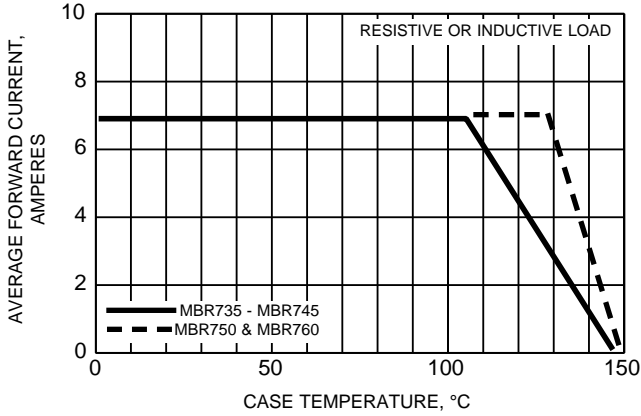


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

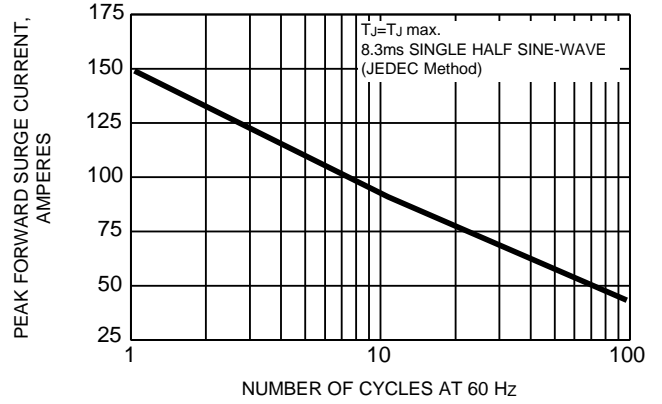


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

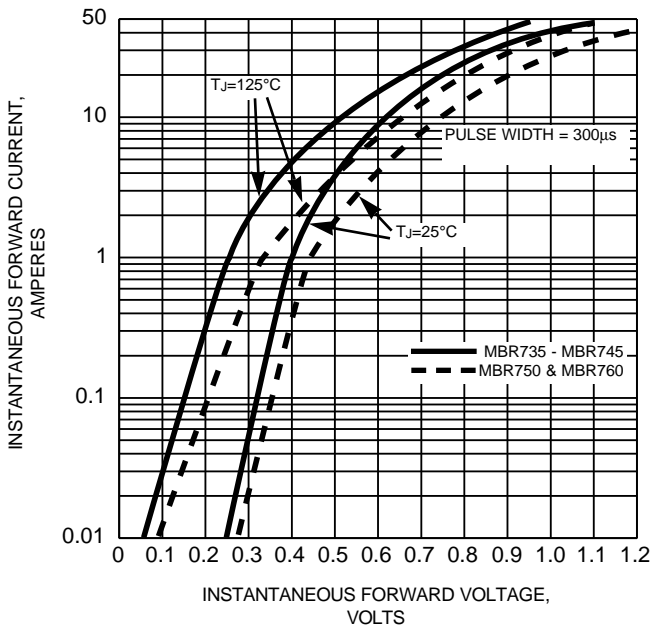


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

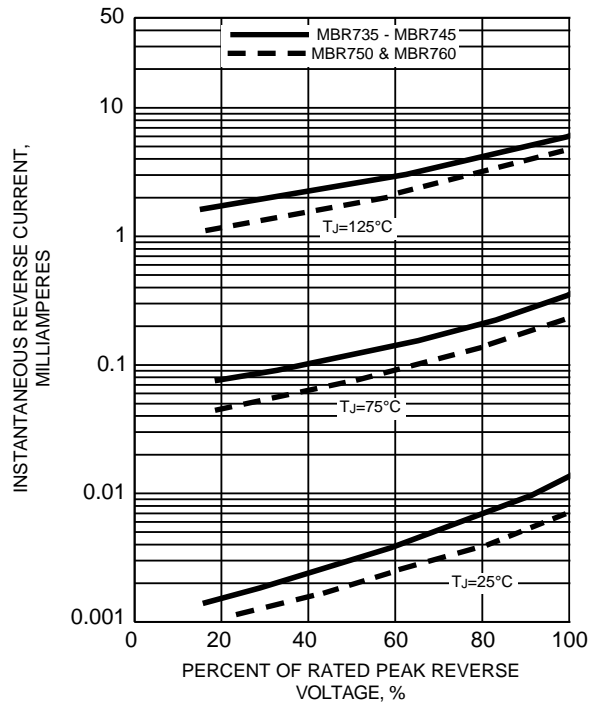


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

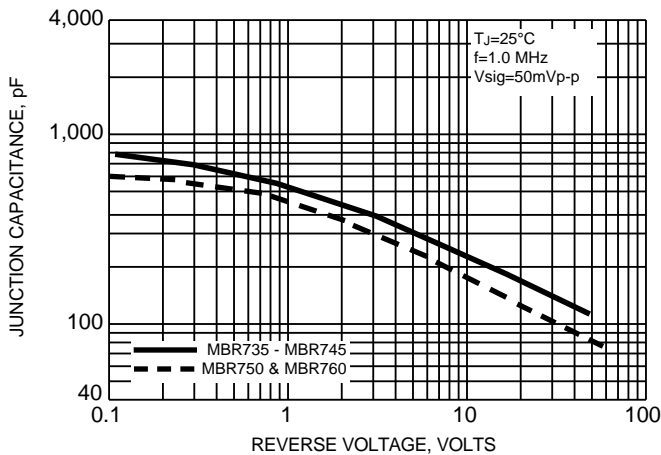


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

