

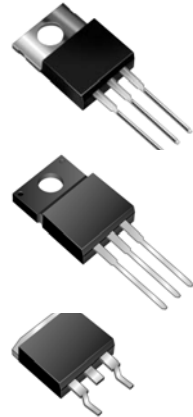


# MBR15xxCT, MBRF15xxCT & MBRB15xxCT Series

Dual Schottky Barrier Rectifiers  
Reverse Voltage 35 to 60 Volts Forward Current 15.0 Amperes

## Features

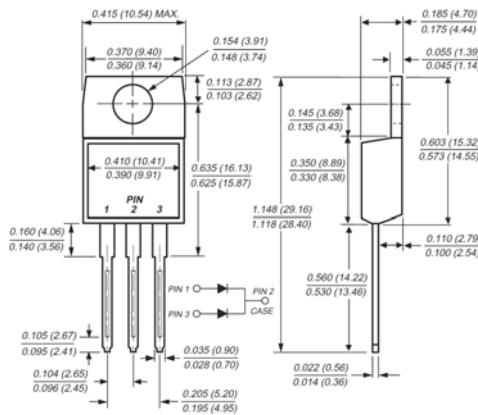
- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Dual rectifier construction, positive center tap
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ Guardring for overvoltage protection
- ◆ For use in low voltage, high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



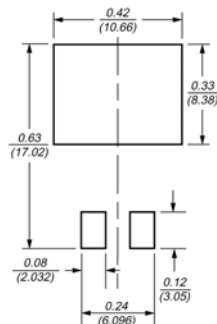
## Mechanical Data

- ◆ Case: JEDEC TO-220AB, ITO-220AB & TO-263AB molded plastic body
- ◆ Terminals: Plated leads, solderable per MIL-STD-750, Method 2026
- ◆ Polarity: As marked
- ◆ Mounting Position: Any
- ◆ Mounting Torque: 10 in-lbs maximum
- ◆ Weight: 0.08 ounce, 2.24 grams

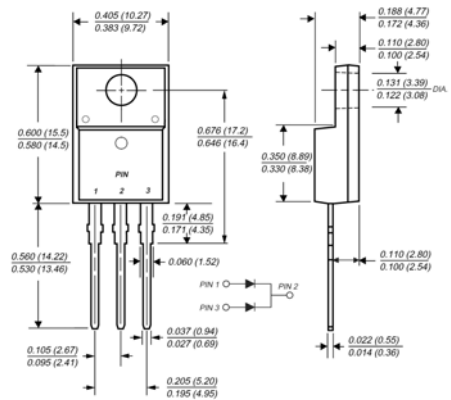
### TO-220AB



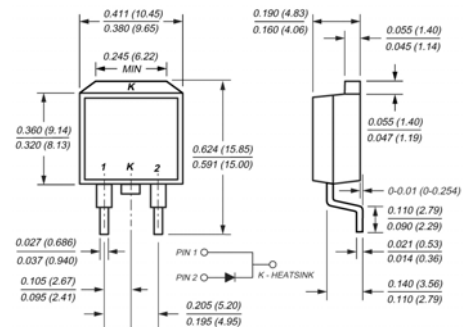
### Mounting Pad Layout TO-263AB



### ITO-220AB



### TO-263AB(D<sup>2</sup>PAK)



Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

( $T_C = 25^\circ\text{C}$  unless otherwise noted)

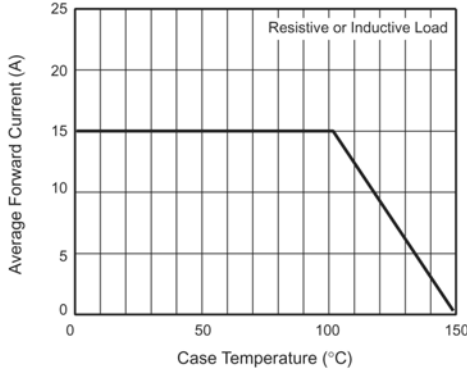
Parameter	Symbol	MBR1535CT	MBR1545CT	MBR1550CT	MBR1560CT	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	35	45	50	60	Volts
Working peak reverse voltage	$V_{RWM}$	35	45	50	60	Volts
Maximum DC blocking voltage	$V_{DC}$	35	45	50	60	Volts
Maximum average forward rectified current at $T_C=105^\circ\text{C}$	Total device Per leg $I_{F(AV)}$			15 7.5		Amps
Peak repetitive forward current at (rated $V_{R1}$ sq. wave, 20KHz) at $T_C=105^\circ\text{C}$	$I_{FRM}$			15		Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$			150		Amps
Peak repetitive reverse surge current per leg at $t_p = 2.0\mu\text{s}$ , 1KHz	$I_{RRM}$	1.0			0.5	Amps
Voltage rate of change (rated $V_R$ )	$dv/dt$			10,000		V/ $\mu\text{s}$
Maximum instantaneous forward voltage per leg (Note 4) at $I_F=7.5\text{A}$ , $T_C=25^\circ\text{C}$ at $I_F=7.5\text{A}$ , $T_C=125^\circ\text{C}$ at $I_F=15\text{A}$ , $T_C=25^\circ\text{C}$ at $I_F=15\text{A}$ , $T_C=125^\circ\text{C}$	$V_F$		- 0.57 0.84 0.72		0.75 0.65 - -	Volt
Maximum instantaneous reverse current at rated DC blocking voltage per leg (Note 4) $T_C=25^\circ\text{C}$ $T_C=125^\circ\text{C}$	$I_R$		0.1 15		1.0 50	mA
Maximum thermal resistance per leg	$R_{\theta JA}$ $R_{\theta JC}$		MBR 60 / MBRF --- / MBRB 60 MBR 3.0 / MBRF 5.0 / MBRB 3.0			$^\circ\text{C}/\text{W}$
RMS Isolation voltage (MBRF type only) from terminals to heatsink with $t = 1.0$ second, $RH \leq 30\%$	$V_{ISOL}$		4500 (Note 1) 3500 (Note 2) 1500 (Note 3)			Volts
Operating junction temperature range	$T_J$		-55 to +150			$^\circ\text{C}$
Storage temperature range	$T_{STG}$		-55 to +150			$^\circ\text{C}$

- Notes:**
1. Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset
  2. Clip mounting (on case), where leads do overlap heatsink
  3. Screw mounting with 4-40 screw, where washer diameter is < 4.9 mm (0.19")
  4. Pulse test: 300 $\mu\text{s}$  pulse width, 1% duty cycle

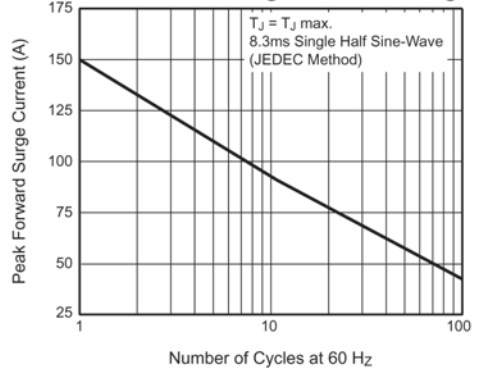
# RATINGS AND CHARACTERISTIC CURVES

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

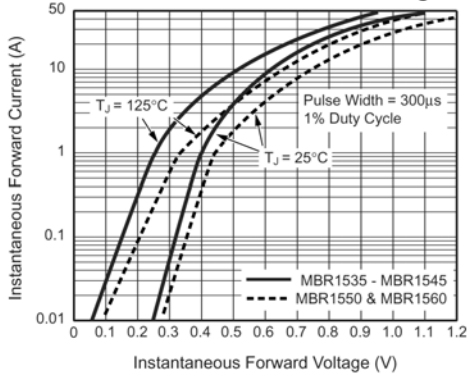
**Fig. 1 – Forward Current Derating Curve**



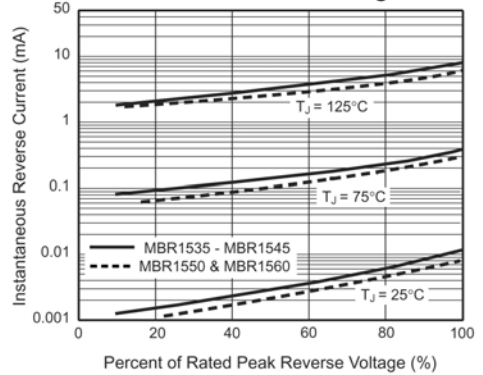
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg**



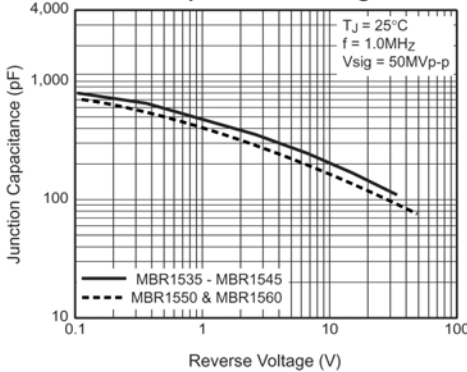
**Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg**



**Fig. 4 – Typical Reverse Characteristics Per Leg**



**Fig. 5 – Typical Junction Capacitance Per Leg**



**Fig. 6 – Typical Transient Thermal Impedance Per Leg**

