



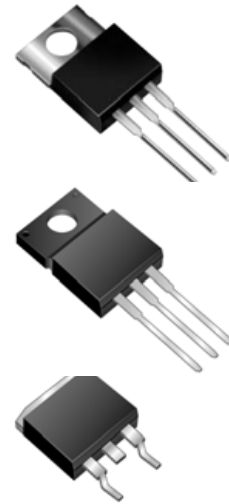
Dual Schottky Barrier Rectifiers  
Reverse Voltage 100V Volts Forward Current 20.0 Amperes

### Features

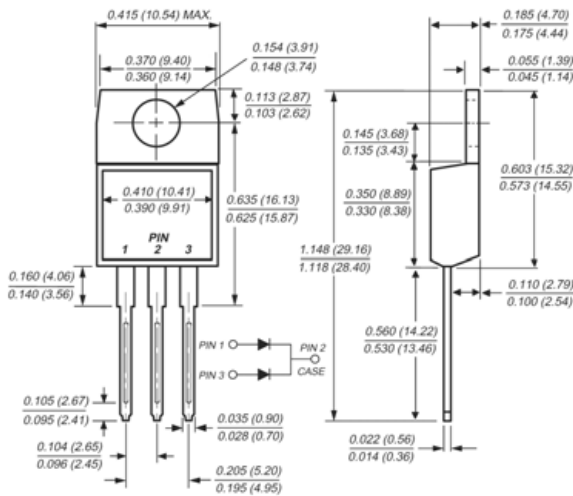
- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Dual rectifier construction, positive center tap
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ Guardring for overvoltage protection
- ◆ For use in low voltage, high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

### Mechanical Data

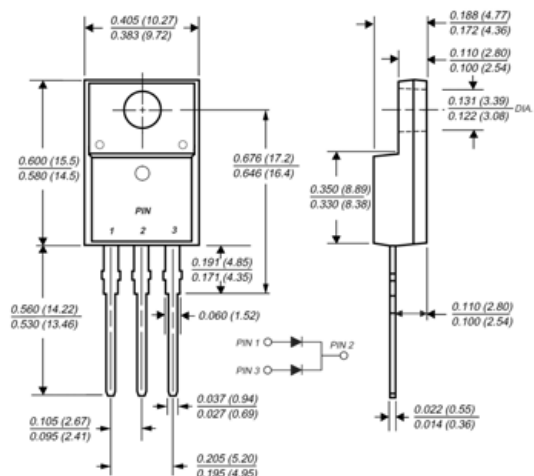
- ◆ Case: JEDEC TO-220AB, TO-220F, TO-263AB molded plastic body
- ◆ Terminals: Plated leads, solderable per MIL-STD-750, Method 2026
- ◆ Polarity: As marked
- ◆ Mounting Position: Any
- ◆ Mounting Torque: 10 in-lbs maximum
- ◆ Weight: 0.08 ounce, 2.24 grams



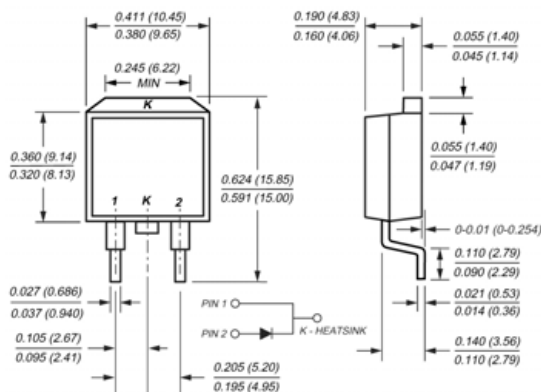
#### TO-220AB



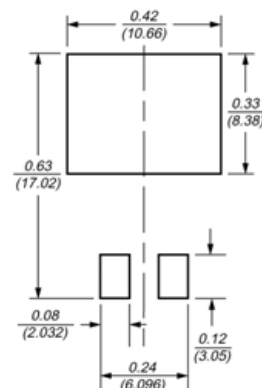
#### TO-220F



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



#### Mounting Pad Layout TO-263AB



Dimensions in inches and (millimeters)



**MBR2090CT, MBRF2090CT, MBRB2090CT**  
**MBR20100CT, MBRF20100CT, MBRB20100CT**

**Maximum Ratings and Electrical Characteristics**

( T<sub>C</sub> = 25°C unless otherwise noted )

Parameter	Symbol	MBR2090CT	MBR20100CT	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	90	100	Volts
Working peak reverse voltage	V <sub>RWM</sub>	90	100	Volts
Maximum DC blocking voltage	V <sub>DC</sub>	90	100	Volts
Maximum average forward rectified current at T <sub>C</sub> =133°C	I <sub>F(AV)</sub> Total device Per leg	20		Amps
		10		
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I <sub>FSM</sub>	150		Amps
Peak repetitive reverse current per leg at t <sub>b</sub> = 2.0us, 1KHz	I <sub>RRM</sub>	0.5		Amp
Voltage rate of change (rated V <sub>R</sub> )	dv/dt	10,000		V/us
Maximum instantaneous forward voltage per leg (Note 4) at I <sub>F</sub> =10A, T <sub>C</sub> =25°C at I <sub>F</sub> =10A, T <sub>C</sub> =125°C at I <sub>F</sub> =20A, T <sub>C</sub> =25°C at I <sub>F</sub> =20A, T <sub>C</sub> =125°C	V <sub>F</sub>	0.80 0.65 0.95 0.75		Volts
Maximum reverse current per leg at working peak reverse voltage (Note 4)	I <sub>R</sub>	T <sub>J</sub> =25°C 100		uA
		T <sub>J</sub> =100°C 6.0		mA
Typical thermal resistance per leg	R <sub>θJA</sub> R <sub>θJC</sub>	MBR 60 / MBRF - / MBRB 60 MBR 2 / MBRF 3.5 / MBRB 2		°C/W
RMS Isolation voltage (MBRF type only) from terminals to heatsink with t = 1.0 second, RH ≤ 30%	V <sub>ISOL</sub>	4500 (Note 1) 3500 (Note 2) 1500 (Note 3)		Volts
Operating junction temperature range	T <sub>J</sub>	-55 to +150		°C
Storage temperature range	T <sub>STG</sub>	-55 to +150		°C

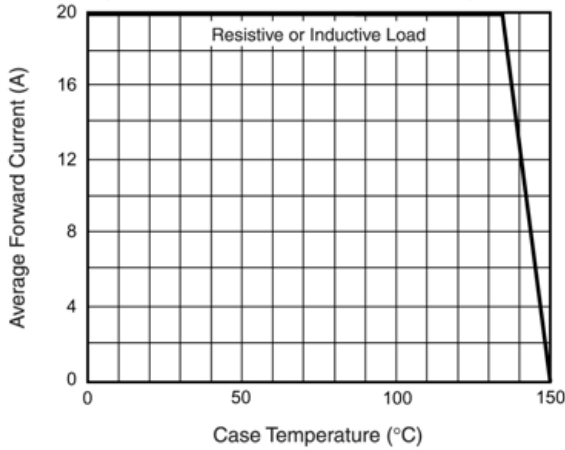
- Notes:**
1. Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset
  2. Clip mounting (on case), where leads do overlap heatsink
  3. Screw mounting with 4-40 screw, where washer diameter is < 4.9 mm (0.19")
  4. Pulse test: 300us pulse width, 1% duty cycle



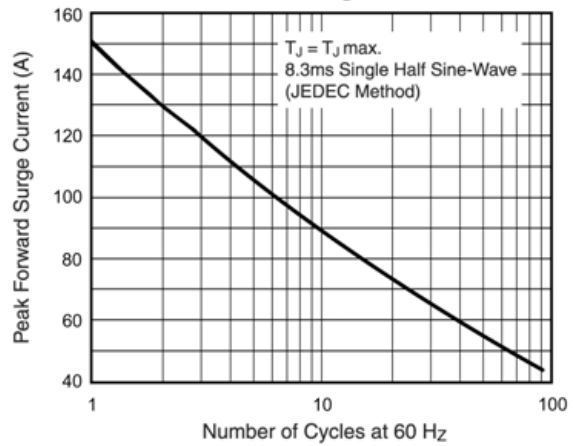
## RATINGS AND CHARACTERISTIC CURVES

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

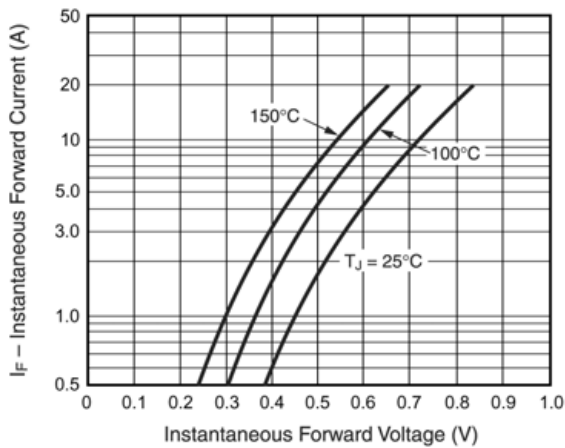
**Fig. 1 - Forward Current Derating Curve**



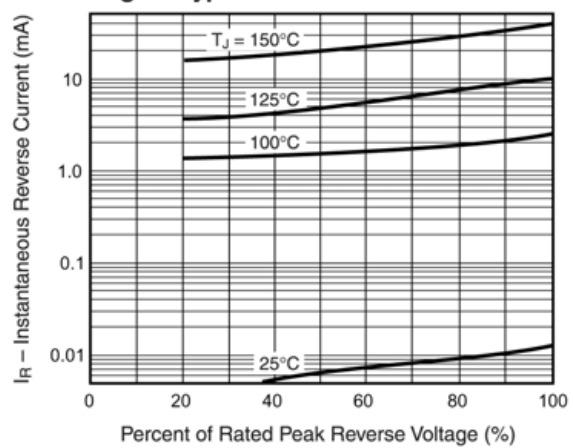
**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current**



**Fig. 3 - Typical Instantaneous Forward Characteristics**



**Fig. 4 - Typical Reverse Characteristics**



**Fig. 5 - Typical Transient Thermal Impedance**

