

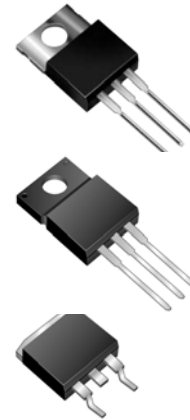
### Dual High-Voltage Schottky Barrier Rectifiers

#### PRODUCT SUMMARY

Reverse Voltage 90 to 100 Volts  
Forward Current 20.0 Amperes

#### FEATURES

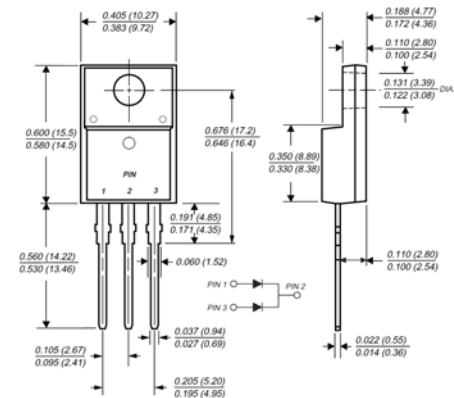
Plastic package has Underwriters Laboratory Flammability Classification 94V-0  
Dual rectifier construction, positive center tap  
Metal silicon junction, majority carrier conduction  
Low power loss, high efficiency  
Guardring for overvoltage protection  
For use in low voltage, high frequency inverters,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



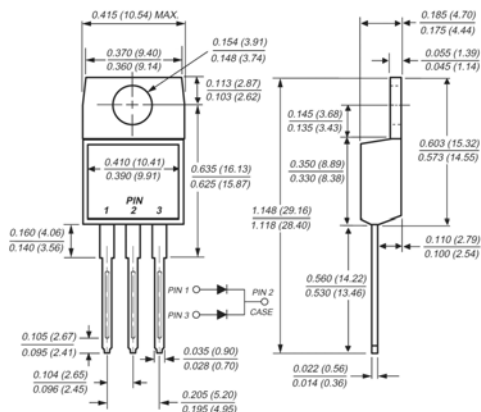
#### MECHANICAL DATA

Case: JEDEC TO-220AB, 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

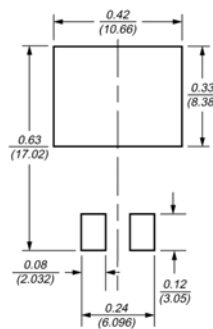
#### ITO-220AB



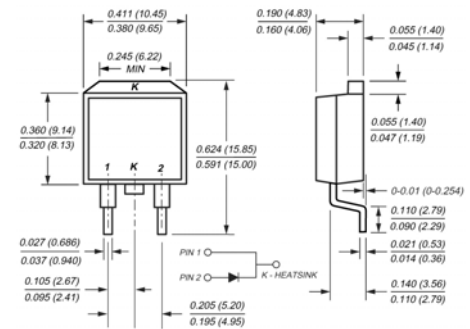
#### TO-220AB



#### Mounting Pad Layout TO-263AB



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



Dimensions in inches and (millimeters)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

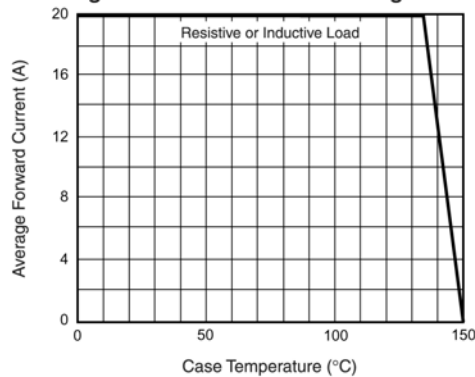
(  $T_C = 25^{\circ}\text{C}$  unless otherwise noted )

Parameter	Symbol	MBR2090CT	MBR20100CT	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	90	100	Volts
Working peak reverse voltage	$V_{RWM}$	90	100	Volts
Maximum DC blocking voltage	$V_{DC}$	90	100	Volts
Maximum average forward rectified current at $T_C=133^{\circ}\text{C}$ Total device Per leg	$I_{F(AV)}$	20 10		Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	$I_{FSM}$	150		Amps
Peak repetitive reverse current per leg at $t_p = 2.0\mu\text{s}$ , 1KHz	$I_{RRM}$	0.5		Amp
Voltage rate of change (rated $V_R$ )	$dv/dt$	10,000		V/ $\mu\text{s}$
Maximum instantaneous forward voltage per leg (Note 4) at $I_F=10\text{A}$ , $T_C=25^{\circ}\text{C}$ at $I_F=10\text{A}$ , $T_C=125^{\circ}\text{C}$ at $I_F=20\text{A}$ , $T_C=25^{\circ}\text{C}$ at $I_F=20\text{A}$ , $T_C=125^{\circ}\text{C}$	$V_F$	0.80 0.65 0.95 0.75		Volts
Maximum reverse current per leg at working peak reverse voltage (Note 4) $T_J=25^{\circ}\text{C}$ $T_J=100^{\circ}\text{C}$	$I_R$	100 6.0		$\mu\text{A}$ $\text{mA}$
Typical thermal resistance per leg	$R_{\theta JA}$ $R_{\theta JC}$	MBR 60 / MBRF - / MBRB 60 MBR 2 / MBRF 3.5 / MBRB 2		$^{\circ}\text{C}/\text{W}$
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		$^{\circ}\text{C}$

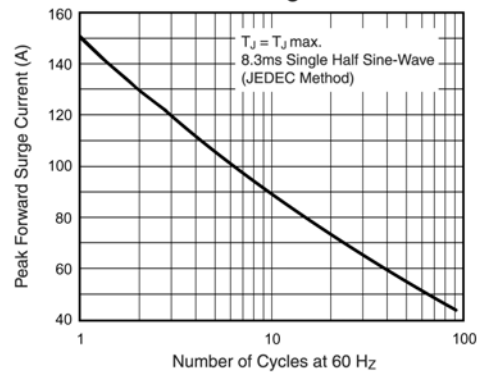
## RATINGS AND CHARACTERISTIC CURVES

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

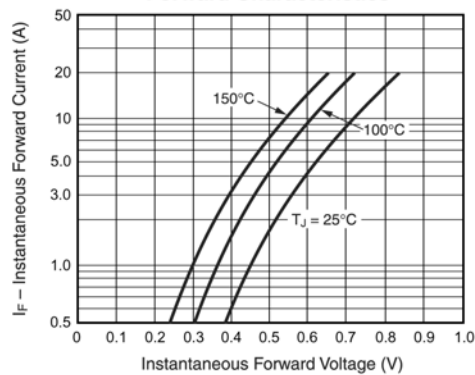
**Fig. 1 - Forward Current Derating Curve**



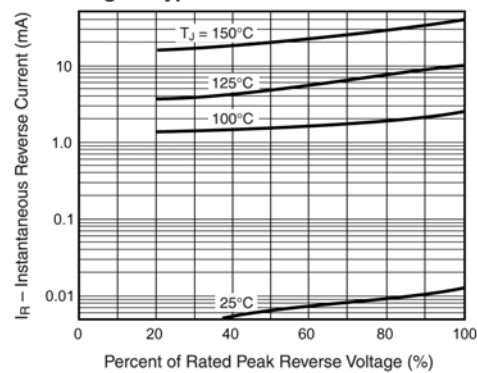
**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current**



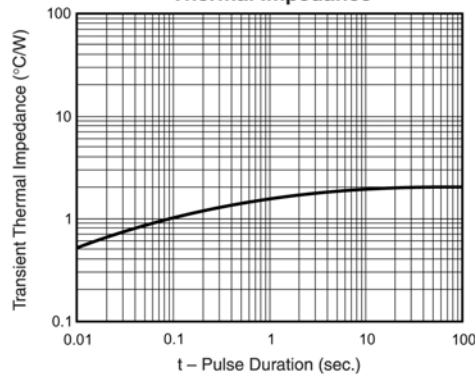
**Fig. 3 - Typical Instantaneous Forward Characteristics**



**Fig. 4 - Typical Reverse Characteristics**



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



Information furnished by Silicon Standard Corporation is believed to be accurate and reliable. However, Silicon Standard Corporation makes no guarantee or warranty, expressed or implied, as to the reliability, accuracy, timeliness or completeness of such information and assumes no responsibility for its use, or for infringement of any patent or other intellectual property rights of third parties that may result from its use. Silicon Standard reserves the right to make changes as it deems necessary to any products described herein for any reason, including without limitation enhancement in reliability, functionality or design. No license is granted, whether expressly or by implication, in relation to the use of any products described herein or to the use of any information provided herein, under any patent or other intellectual property rights of Silicon Standard Corporation or any third parties.