

Dual High-Voltage Schottky Barrier Rectifiers
Reverse Voltage 90 to 100 Volts Forward Current 20.0 Amperes

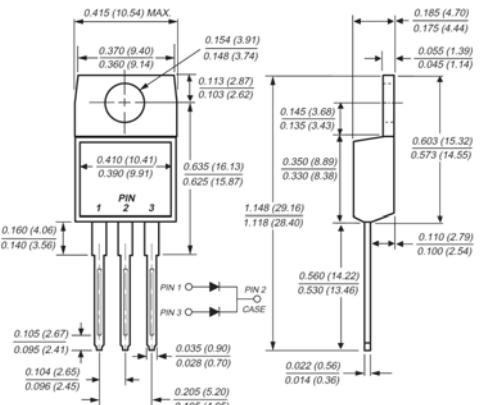
Features

- ◆ 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

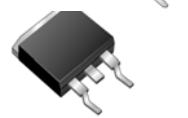
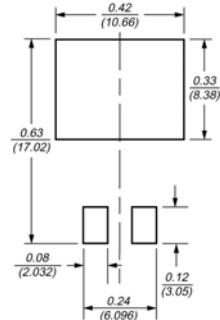
Mechanical Data

- ◆ 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

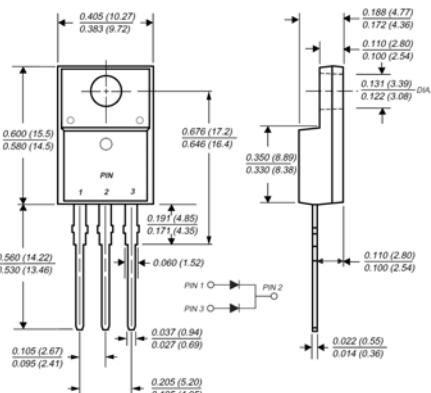
TO-220AB



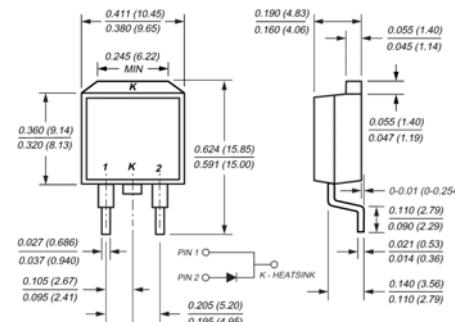
Mounting Pad Layout TO-263AB



ITO-220AB



TO-263AB(D²PAK)



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 $t_r = 2.0\mu\text{s}$, 1KHz	I_{RRM}		0.5	Amp
Voltage rate of change (rated V_R)	dv/dt		10,000	$\text{V}/\mu\text{s}$
Maximum instantaneous forward voltage per leg (Note 4)				
at $I_f=10\text{A}$, $T_c=25^\circ\text{C}$			0.80	
at $I_f=10\text{A}$, $T_c=125^\circ\text{C}$	V_F		0.65	Volts
at $I_f=20\text{A}$, $T_c=25^\circ\text{C}$			0.95	
at $I_f=20\text{A}$, $T_c=125^\circ\text{C}$			0.75	
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	μA mA
Typical thermal resistance per leg	R_{\thetaJA} R_{\thetaJC}		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, $\text{RH} \leq 30\%$	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: 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

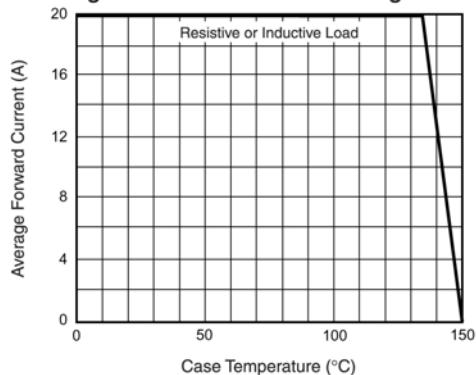


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

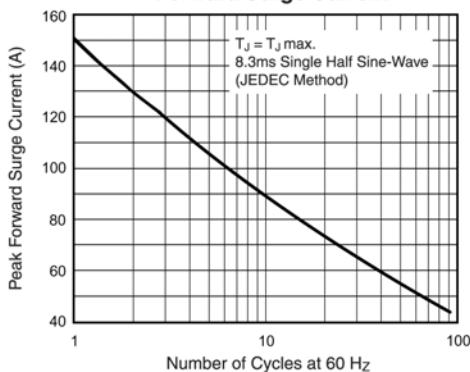


Fig. 3 - Typical Instantaneous Forward Characteristics

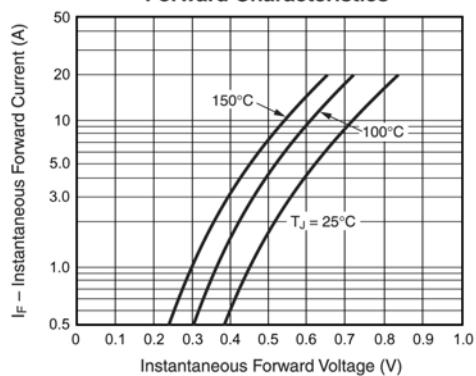


Fig. 4 - Typical Reverse Characteristics

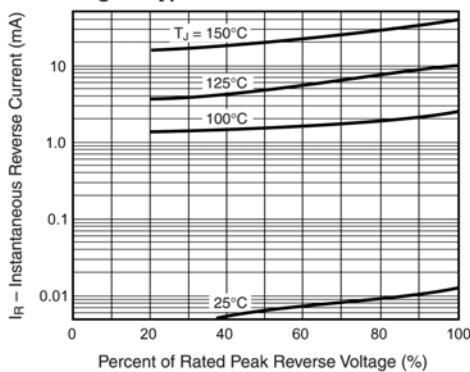


Fig. 5 - Typical Transient Thermal Impedance

