



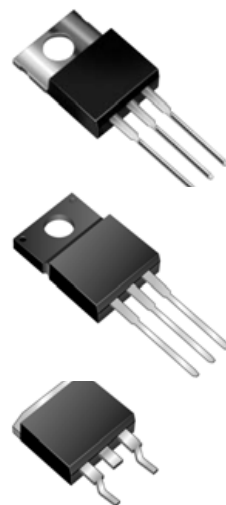
Dual Schottky Barrier Rectifiers
Reverse Voltage 100V Volts Forward Current 20.0 Amperes

Features

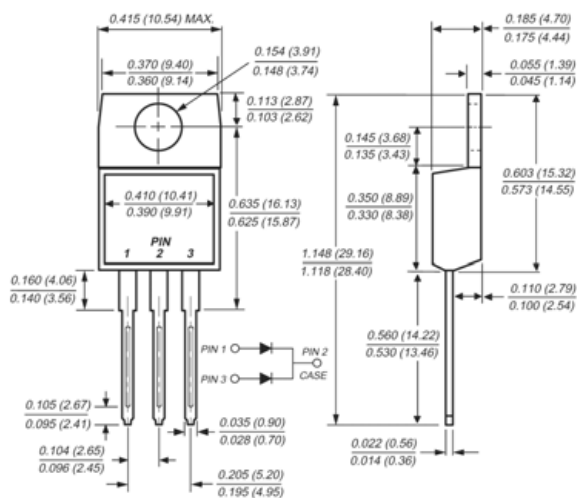
- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Dual rectifier construction, positive center tap
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ Guardring for overvoltage protection
- ◆ For use in low voltage, high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

Mechanical Data

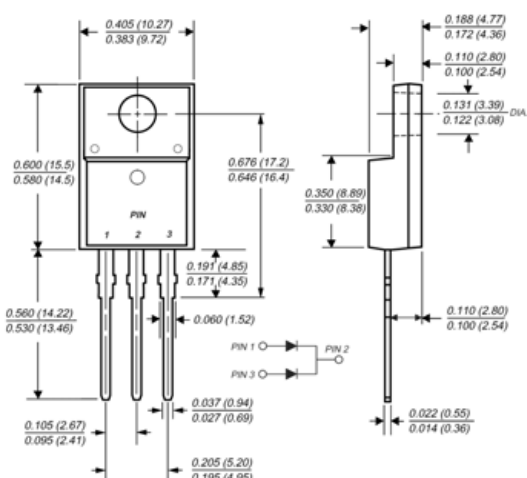
- ◆ Case: JEDEC TO-220AB, TO-220F, TO-263AB molded plastic body
- ◆ Terminals: Plated leads, solderable per MIL-STD-750, Method 2026
- ◆ Polarity: As marked
- ◆ Mounting Position: Any
- ◆ Mounting Torque: 10 in-lbs maximum
- ◆ Weight: 0.08 ounce, 2.24 grams



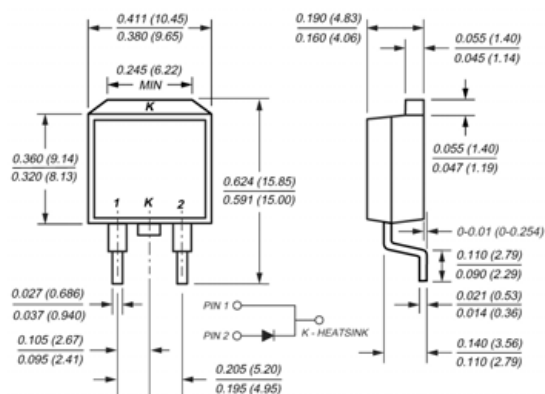
TO-220AB



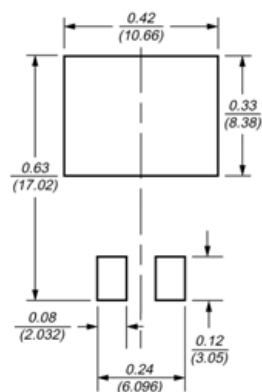
TO-220F



TO-263AB(D²PAK)



Mounting Pad Layout TO-263AB



Dimensions in inches and (millimeters)



MBR2090CT, MBRF2090CT, MBRB2090CT MBR20100CT, MBRF20100CT, MBRB20100CT

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 $t_b = 2.0\mu\text{s}$, 1KHz	I_{RRM}	0.5		Amp
Voltage rate of change (rated V_R)	dv/dt	10,000		V/ μs
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		μA mA
Typical thermal resistance per leg	$R_{\theta JA}$ $R_{\theta JC}$	MBR 60 / MBRF - / MBRB 60 MBR 2 / MBRF 3.5 / MBRB 2		$^\circ\text{C/W}$
RMS Isolation voltage (MBRF type only) from terminals to heatsink with $t = 1.0$ second, $RH \leq 30\%$	V_{SOL}	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 μs pulse width, 1% duty cycle

RATINGS AND CHARACTERISTIC CURVES

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

Fig. 1 - Forward Current Derating Curve

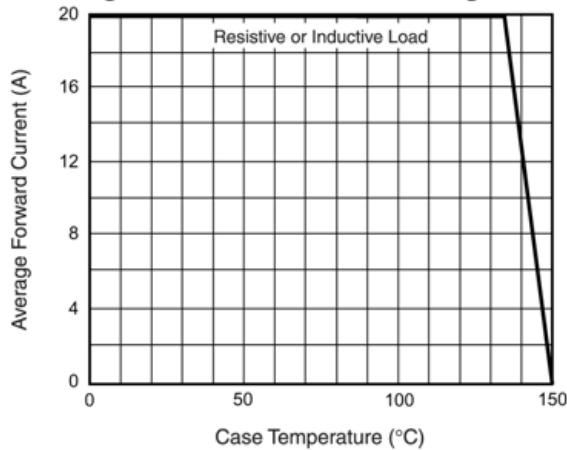


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

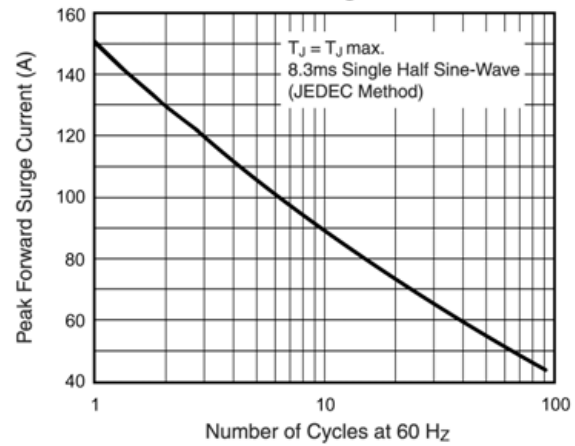


Fig. 3 - Typical Instantaneous Forward Characteristics

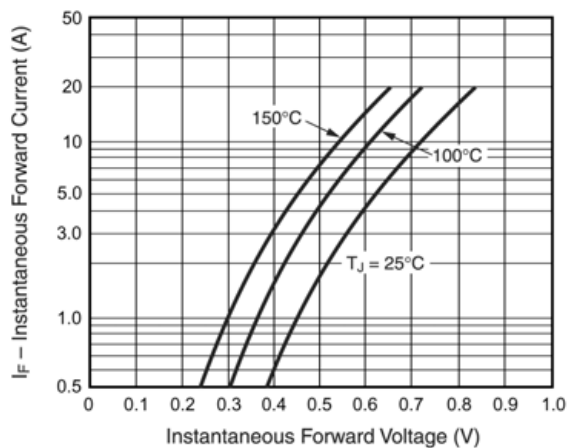


Fig. 4 - Typical Reverse Characteristics

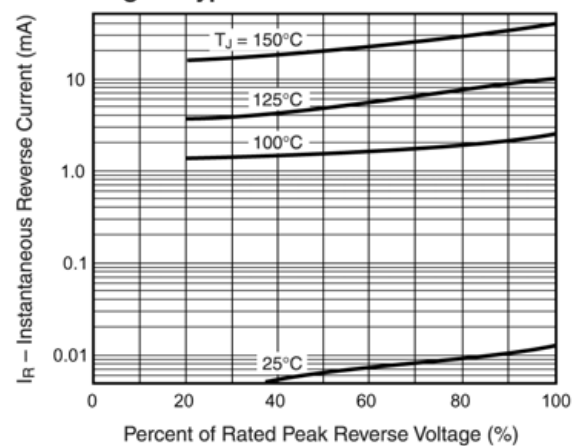


Fig. 5 - Typical Transient Thermal Impedance

