

# **Dual Schottky Barrier Rectifiers**

## FEATURES

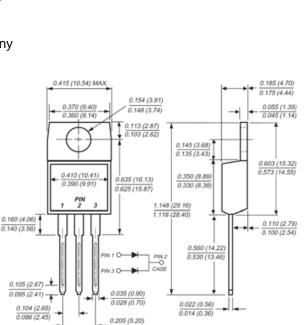
- Reverse voltage 35 to 45 V
- Forward current 3.0 A
- Plastic package has Underwriters Laboratory
  Flammability Classification 94V-0
- Dual rectifier construction, positive center tap
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- Guard ring for over voltage protection
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

### **MECHANICAL DATA**

- Case: JEDEC TO-220AB, ITO-220AB, TO-263AB molded plastic body
- Terminals: Plated leads, solder-able per MIL-STD-750, Method 2026
- High temperature soldering guaranteed: 250°C/10 seconds, 0.25" (6.35mm) from case (TO-220AB, ITO-220AB) at terminals (TO-236AB)
- Polarity: As marked Mounting Position: Any
- Mounting Torque: 10 in-lbs maximum
- Weight: 0.08 ounce, 2.24 grams

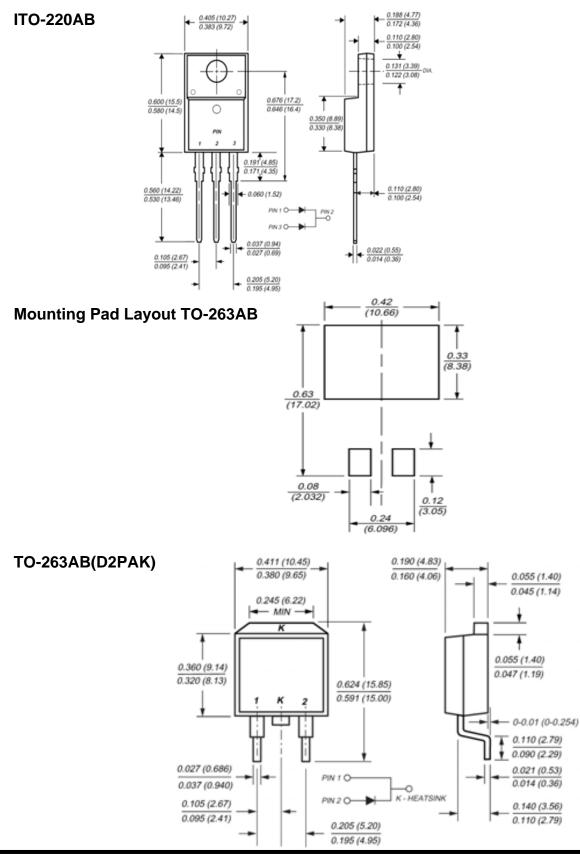
# PACKAGE DIMENSIONS

TO-220AB



0.195 (4.95)







# ELECTRICAL CHARACTERISTICS AND MAXIMUM RATINGS

Unless otherwise specified, these specifications apply over the operating ambient temperature of  $25^{\circ}$ C.

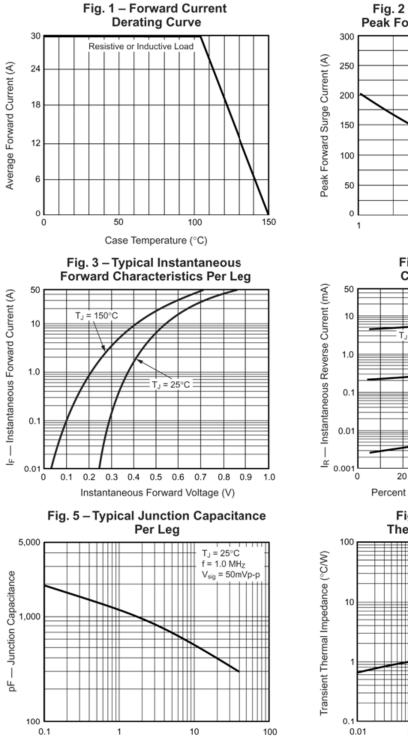
Parameter	Symbol	MBR3035CT	MBR3045CT	Unit
Maximum repetitive peak reverse voltage	$V_{\rm RRM}$	35	45	Volts
Working peak reverse voltage	$V_{\rm RWM}$	35	45	Volts
Maximum DC blocking voltage	V <sub>DC</sub>	35	45	Volts
Maximum average forwardTotal devicerectified current (See Fig. 1)Per leg	l <sub>F(AV)</sub>	30 15		Amps
Peak repetitive forward current (rated $\rm V_{R^{\prime}}$ sq. wave, 20KHz) at $\rm T_{c}{=}105^{o}\rm C$	I <sub>FRM</sub>	30		Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I <sub>FSM</sub>	200		Amps
Peak repetitive reverse surge current per leg at $t_{\rm p}$ = 2.0 us, 1KHz	I RRM	2.0		Amps
Voltage rate of change (rated $V_{\rm R}$ )	dv/dt	10,000		V/uS
Maximum instantaneous forward voltage per leg (Note 4) at I <sub>F</sub> =15A, T <sub>c</sub> =125°C at I <sub>F</sub> =30A, T <sub>c</sub> =25°C at I <sub>F</sub> =30A, T <sub>c</sub> =125°C	V <sub>F</sub>	0.60 0.76 0.72		Volt
Maximum instantaneous reverse current at rated DC blocking voltage per leg (Note 4) T_=25°C T_=125°C	I <sub>R</sub>		1.0 60	
Typical thermal resistance per leg	R <sub>euc</sub>	MBR 1.5 / MBR	R 1.5 / MBRF 4.5 / MBRB 1.5	
RMS Isolation voltage (MBRF type only) from terminals to heatsink with t = 1.0 second, RH $\leq$ 30%	V <sub>ISOL</sub>	4500 (Note 1) 3500 (Note 2) 1500 (Note 3)		Volts
Operating junction temperature range	T,	-55 to +150		۰C
Storage temperature range	Τ <sub>stg</sub>	-55 to	-55 to +150	

#### Notes:

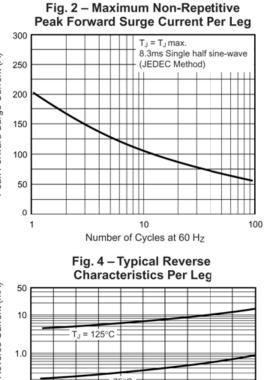
- 1. Clip mounting (on case), where lead does not overlap heat sink with 0.110" offset
- Clip mounting (on case), where leads do overlap heat sink Screw mounting with 4-40 screw, where washer diameter is < 4.9 mm (0.19")</li>
- 3. Pulse test: 300us pulse width, 1% duty cycle

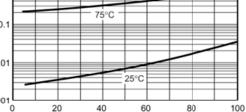


### **RATINGS AND CHARACTERISTIC CURVES** (TA = $25^{\circ}$ C unless otherwise specified)



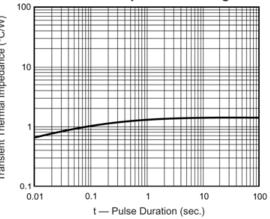
Reverse Voltage (V)







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





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