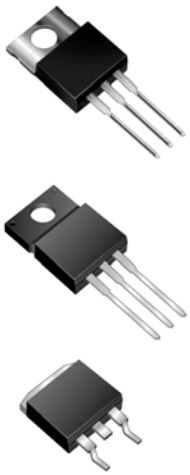
Dual Schottky Barrier Rectifiers

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

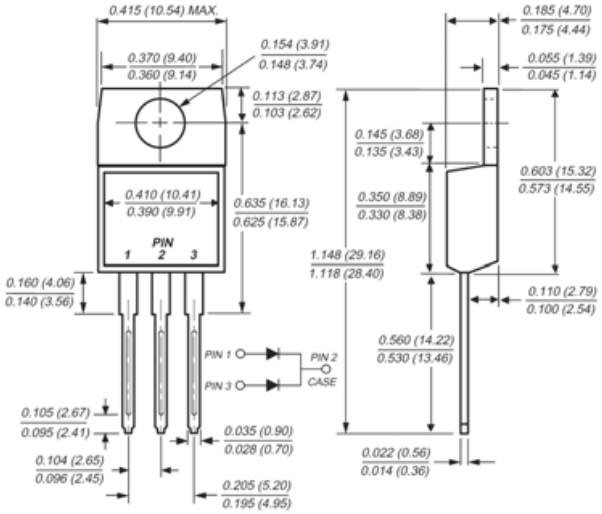


MECHANICAL DATA

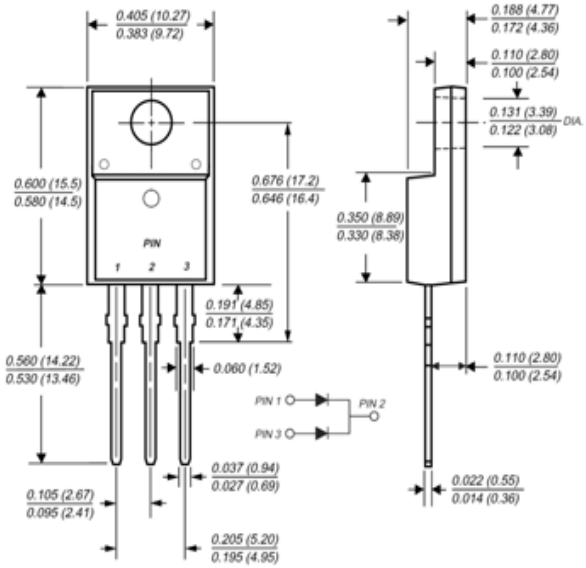
- Case: JEDEC TO-220AB, ITO-220AB, TO-263AB molded plastic body
- Terminals: Plated leads, solder-able per MIL-STD-750, Method 2026
- High temperature soldering guaranteed: 250^{o}C/10 seconds, 0.25" (6.35mm) from case (TO-220AB, ITO-220AB) at terminals (TO-236AB)
- Polarity: As marked Mounting Position: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

PACKAGE DIMENSIONS

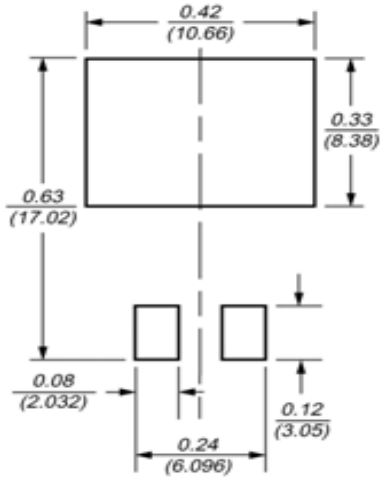
TO-220AB



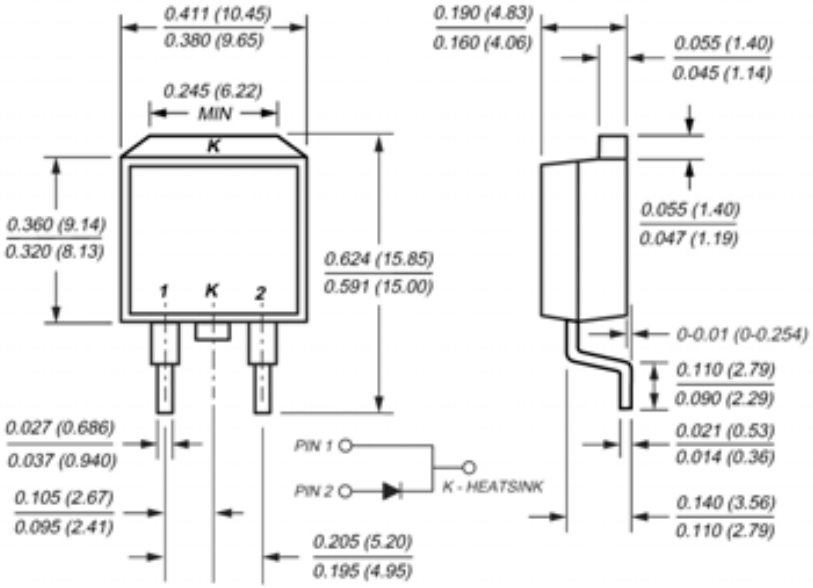
ITO-220AB



Mounting Pad Layout TO-263AB



TO-263AB(D2PAK)



ELECTRICAL CHARACTERISTICS AND MAXIMUM RATINGS

Unless otherwise specified, these specifications apply over the operating ambient temperature of 25℃.

Parameter	Symbol	MBR3035CT	MBR3045CT	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	35	45	Volts
Working peak reverse voltage	V_{RWM}	35	45	Volts
Maximum DC blocking voltage	V_{DC}	35	45	Volts
Maximum average forward rectified current (See Fig. 1) Total device Per leg	$I_{F(AV)}$	30 15		Amps
Peak repetitive forward current (rated V_R, sq. wave, 20KHz) at T_C=105°C	I_{FRM}	30		Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I_{FSM}	200		Amps
Peak repetitive reverse surge current per leg at t_p = 2.0μs, 1KHz	I_{RRM}	2.0		Amps
Voltage rate of change (rated V_R)	dv/dt	10,000		V/μs
Maximum instantaneous forward voltage per leg (Note 4) at I_F=15A, T_C=125°C at I_F=30A, T_C=25°C at I_F=30A, T_C=125°C	V_F	 0.60 0.76 0.72		Volt
Maximum instantaneous reverse current at rated DC blocking voltage per leg (Note 4) T_J=25°C T_J=125°C	I_R	1.0 60		mA
Typical thermal resistance per leg	$R_{\theta JC}$	MBR 1.5 / MBRF 4.5 / MBRB 1.5		°C/W
RMS Isolation voltage (MBRF type only) from terminals to heatsink with t = 1.0 second, RH ≤ 30%	V_{ISOL}	4500 (Note 1) 3500 (Note 2) 1500 (Note 3)		Volts
Operating junction temperature range	T_J	-55 to +150		°C
Storage temperature range	T_{STG}	-55 to +150		°C

Notes:

1. Clip mounting (on case), where lead does not overlap heat sink with 0.110" offset
2. 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")
3. Pulse test: 300μs pulse width, 1% duty cycle

RATINGS AND CHARACTERISTIC CURVES (T_A = 25℃ unless otherwise specified)

Fig. 1 – Forward Current Derating Curve

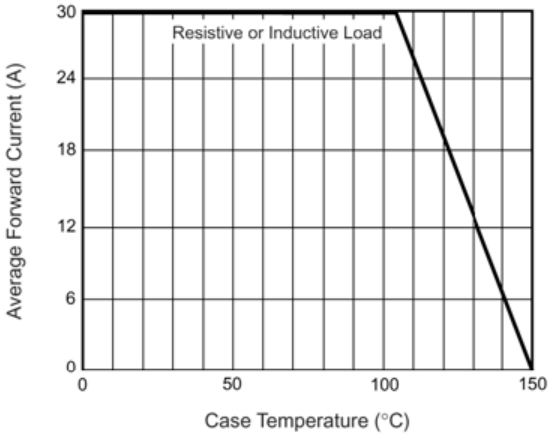


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg

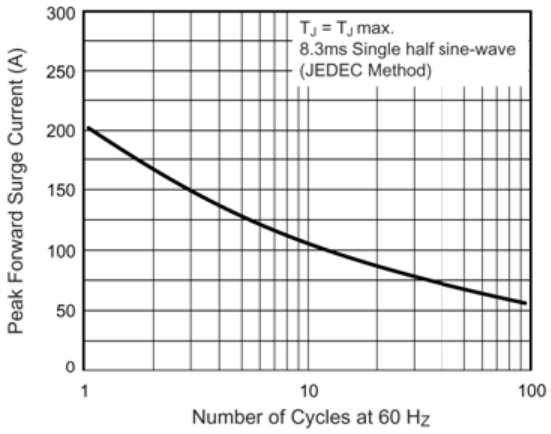


Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg

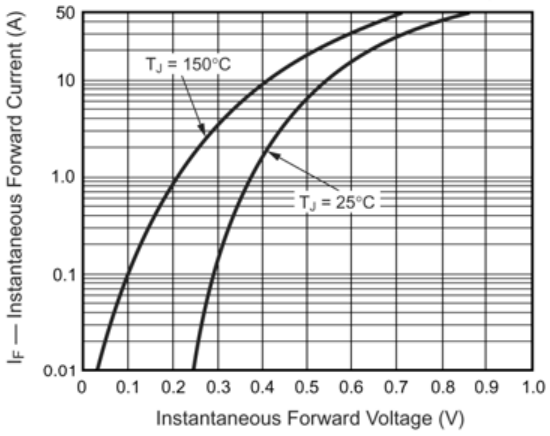


Fig. 4 – Typical Reverse Characteristics Per Leg

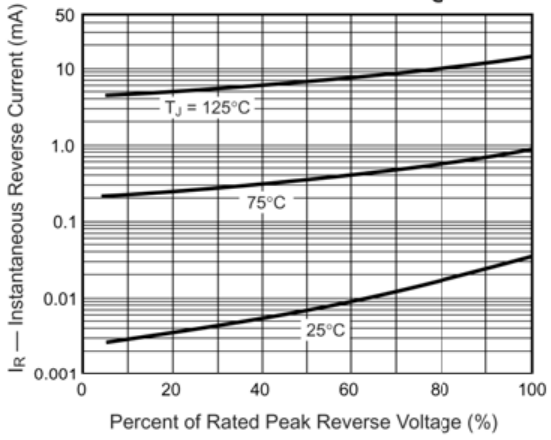


Fig. 5 – Typical Junction Capacitance Per Leg

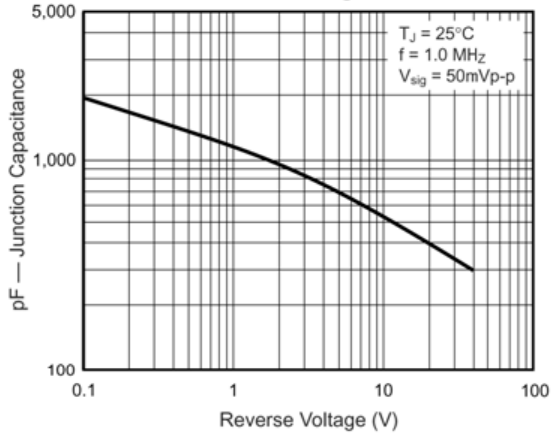


Fig. 6 – Typical Transient Thermal Impedance Per Leg