



MBR25xxCT, MBRF25xxCT & MBRB25xxCT Series

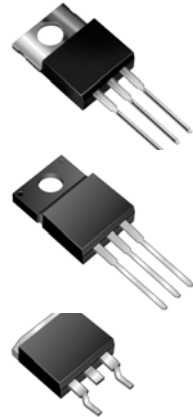
Dual Schottky Barrier Rectifiers
Reverse Voltage 35 to 60 Volts Forward Current 25.0 Amperes

Features

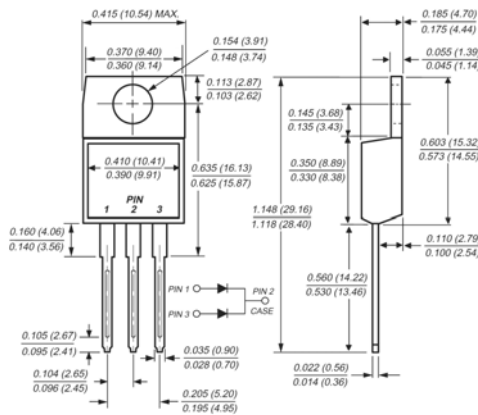
- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Dual rectifier construction, positive center tap
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ Guardring for overvoltage protection
- ◆ For use in low voltage, high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

Mechanical Data

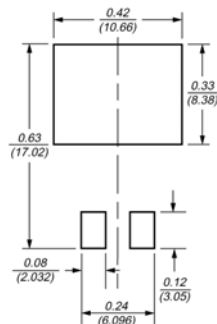
- ◆ Case: JEDEC TO-220AB, ITO-220AB molded plastic body
- ◆ Terminals: Plated leads, solderable per MIL-STD-750, Method 2026
- ◆ Polarity: As marked
- ◆ Mounting Position: Any
- ◆ Mounting Torque: 10 in-lbs maximum
- ◆ Weight: 0.08 ounce, 2.24 grams



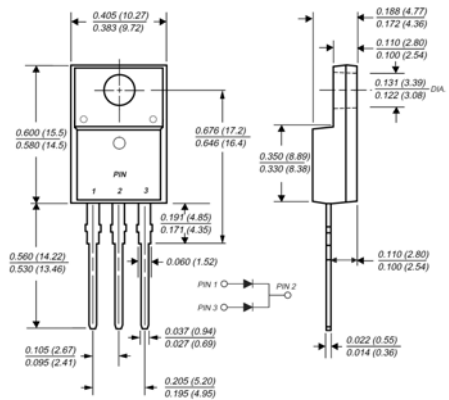
TO-220AB



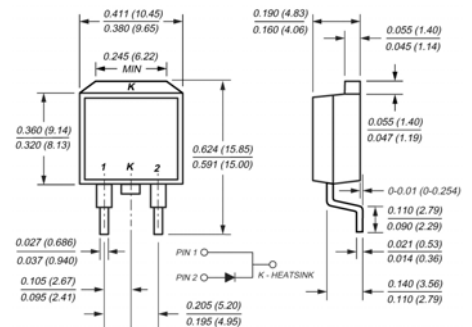
Mounting Pad Layout TO-263AB



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	MBR2535CT	MBR2545CT	MBR2550CT	MBR2560CT	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	35	45	50	60	Volts
Working peak reverse voltage	V_{RWM}	35	45	50	60	Volts
Maximum DC blocking voltage	V_{DC}	35	45	50	60	Volts
Maximum average forward rectified current at $T_c=130^\circ\text{C}$	$I_{F(AV)}$	Total device		25		Amps
		Per leg		12.5		
Peak repetitive forward current per leg (rated V_{R1} sq. wave, 20KHz) at $T_c=130^\circ\text{C}$	I_{FRM}	30				Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I_{FSM}	150				Amps
Peak repetitive reverse surge current per leg at $t_b = 2.0\mu\text{s}$, 1KHz	I_{RRM}	1.0		0.5		Amp
Voltage rate of change (rated V_R)	dv/dt	10,000				V/ μs
Maximum instantaneous forward voltage per leg (Note 4)	V_F	at $I_F=12.5\text{A}$, $T_c=25^\circ\text{C}$		0.75		Volt
		at $I_F=12.5\text{A}$, $T_c=125^\circ\text{C}$		0.65		
		at $I_F=25\text{A}$, $T_c=25^\circ\text{C}$		0.82		
		at $I_F=25\text{A}$, $T_c=125^\circ\text{C}$		0.73		
Maximum instantaneous reverse current at rated DC blocking voltage per leg (Note 4)	I_R	$T_c=25^\circ\text{C}$	0.2		1.0	mA
		$T_c=125^\circ\text{C}$	40		50	
Typical thermal resistance from junction to case per leg	$R_{\theta JC}$	MBR 1.5 / MBRF 4.5 / MBRB 1.5				$^\circ\text{C}/\text{W}$
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				$^\circ\text{C}$

- 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)

