

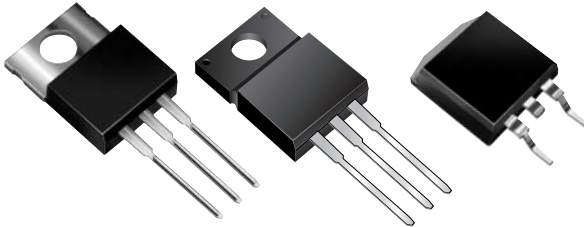


# MBR25xxCT, MBRF25xxCT & MBRB25xxCT Series

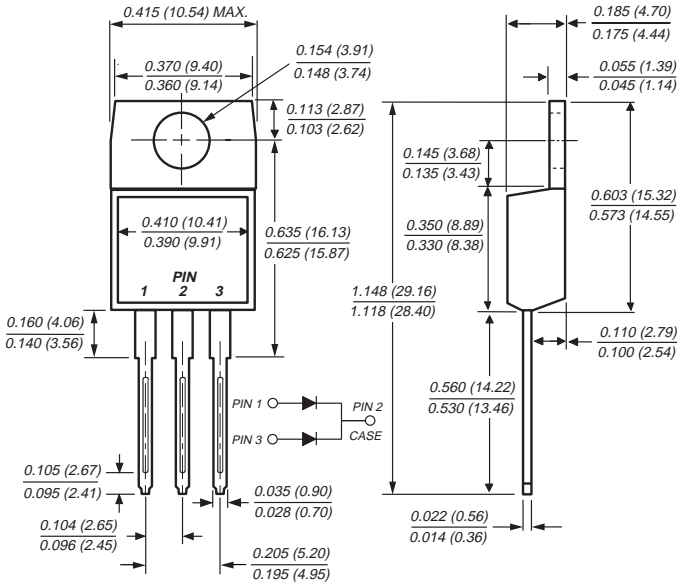
Vishay Semiconductors  
formerly General Semiconductor

## Dual Schottky Barrier Rectifier

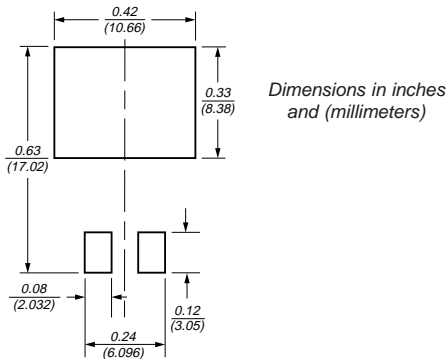
Reverse Voltage 35 to 60A  
Forward Current 30A



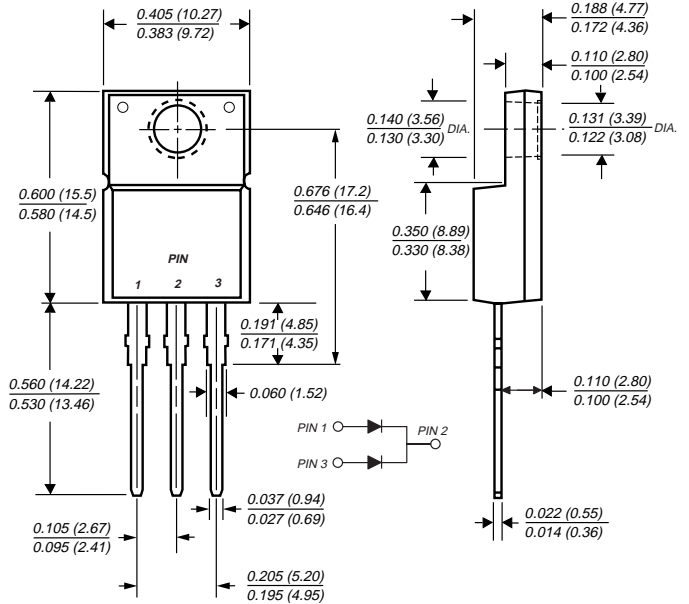
TO-220AB (MBR25xxCT)



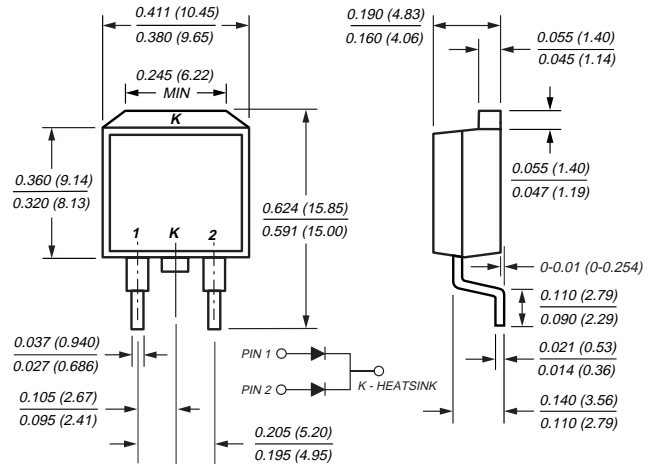
Mounting Pad Layout TO-263AB



ITO-220AB (MBRF25xxCT)



TO-263AB (MBRB25xxCT)



## 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 & 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 oz., 2.24 g

# MBR25xxCT, MBRF25xxCT & MBRB25xxCT Series



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## Maximum Ratings (T<sub>C</sub> = 25°C unless otherwise noted)

Parameter	Symbol	MBR2535CT	MBR2545CT	MBR2550CT	MBR2560CT	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	35	45	50	60	V
Working peak reverse voltage	V <sub>RWM</sub>	35	45	50	60	V
Maximum DC blocking voltage	V <sub>DC</sub>	35	45	50	60	V
Maximum average forward rectified current <i>Total device</i> at T <sub>C</sub> = 130°C <i>Per leg</i>	I <sub>F(AV)</sub>	30 15				A
Peak repetitive forward current per leg at T <sub>C</sub> = 130°C (rated V <sub>R</sub> , square wave, 20 KHz)	I <sub>FRM</sub>	30				A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I <sub>FSM</sub>	150				A
Peak repetitive reverse current per leg at t <sub>p</sub> = 2μs, 1KHz	I <sub>RRM</sub>	1.0		0.5		A
Peak non-repetitive reverse energy (8/20μs waveform)	E <sub>RSM</sub>	25				mJ
Electrostatic discharge capacitor voltage Human body model: c = 100pF, R = 1.5kΩ	V <sub>C</sub>	25				kV
Voltage rate of change (rated V <sub>R</sub> )	dv/dt	10,000				V/μs
Operating junction temperature range	T <sub>J</sub>	-65 to +150				°C
Storage temperature range	T <sub>STG</sub>	-65 to +175				°C
RMS Isolation voltage (MBRF type only) from terminals to heatsink with t = 1.0 second, RH ≤ 30%	V <sub>ISOL</sub>	4500 <sup>(1)</sup> 3500 <sup>(2)</sup> 1500 <sup>(3)</sup>				V

## Electrical Characteristics (T<sub>C</sub> = 25°C unless otherwise noted)

Parameter	Symbol	MBR2535CT	MBR2545CT	MBR2550CT	MBR2560CT	Unit
Maximum instantaneous forward voltage per leg <sup>(4)</sup> at I <sub>F</sub> = 15A, T <sub>C</sub> = 25°C 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>	-	-	0.75 0.65	-	V
Maximum instantaneous reverse current at rated DC blocking voltage per leg (Note 4) T <sub>C</sub> = 25°C T <sub>C</sub> = 125°C	I <sub>R</sub>	0.2 40		1.0 50		mA

## Thermal Characteristics (T<sub>C</sub> = 25°C unless otherwise noted)

Parameter	Symbol	MBR	MBRF	MBRB	Unit
Typical thermal resistance from junction to case per leg	R <sub>θJC</sub>	1.5	4.5	1.5	°C/W

### 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: 300μs pulse width, 1% duty cycle

## Ordering Information

Product	Case	Package Code	Package Option
MBR2535CT - MBR2560CT	TO-220AB	45	Anti-Static tube, 50/tube, 2K/carton
MBRF2535CT - MBRF2560CT	ITO-220AB	45	Anti-Static tube, 50/tube, 2K/carton
MBRB2535CT - MBRB2560CT	TO-263AB	31	13" reel, 800/reel, 4.8K/carton
		45	Anti-Static tube, 50/tube, 2K/carton
		81	Anti-Static 13" reel, 800/reel, 4.8K/carton



## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

