

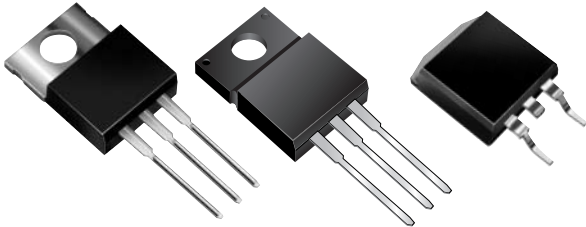


# MBR15xxCT, MBRF15xxCT & MBRB15xxCT

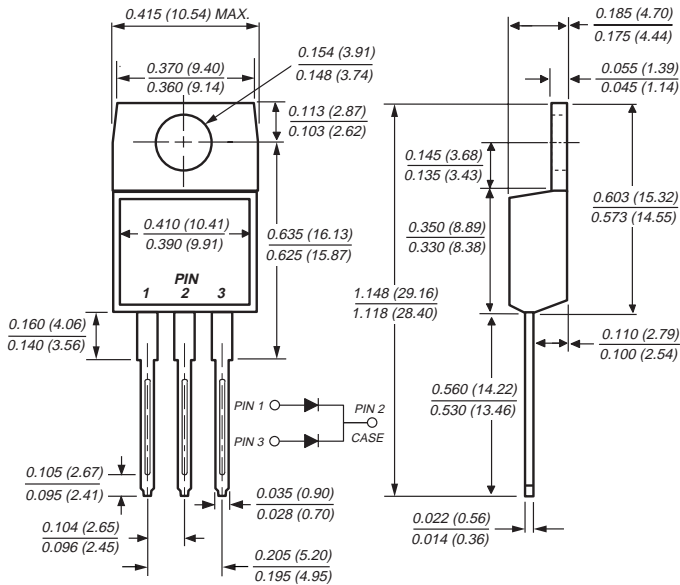
Vishay Semiconductors  
formerly General Semiconductor

## Dual Schottky Barrier Rectifier

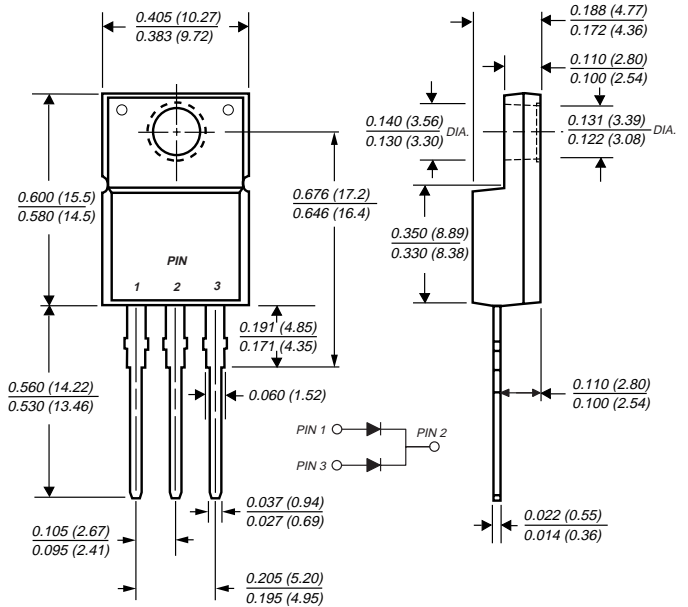
Reverse Voltage 35 to 60V  
Forward Current 15A



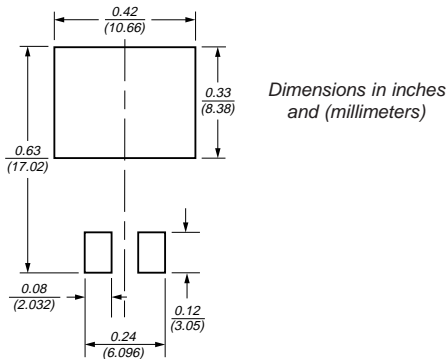
### TO-220AB (MBR15xxCT)



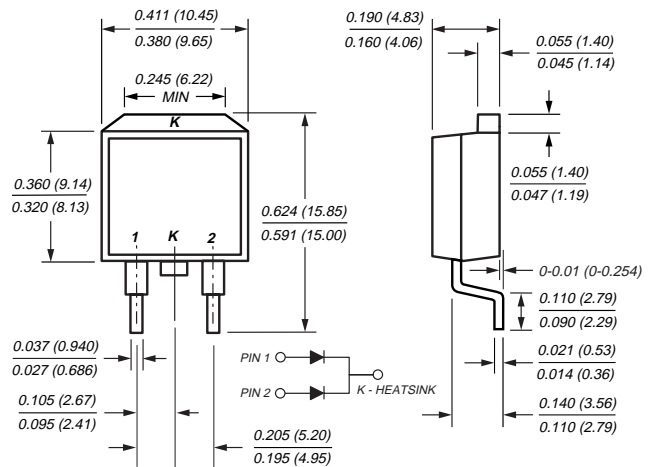
### ITO-220AB (MBRF15xxCT)



### Mounting Pad Layout TO-263AB



### TO-263AB (MBRB15xxCT)



## 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, 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 ounce, 2.24 grams

# MBR15xxCT, MBRF15xxCT & MBRB15xxCT



Vishay Semiconductors  
formerly General Semiconductor

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

Parameter	Symbol	MBR1535CT	MBR1545CT	MBR1550CT	MBR1560CT	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> = 105°C <i>Per leg</i>	I <sub>F(AV)</sub>	15 7.5				A
Peak repetitive forward current at T <sub>C</sub> = 105°C (rated V <sub>R</sub> , 20 KHz sq. wave)	I <sub>FRM</sub>	15				A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	150				A
Peak repetitive reverse surge current per leg at t <sub>p</sub> = 2.0μs, 1KHz	I <sub>RRM</sub>	1.0	0.5			A
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 (NOTE 1) 3500 (NOTE 2) 1500 (NOTE 3)				V

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

Parameter	Symbol	MBR1535CT	MBR1545CT	MBR1550CT	MBR1560CT	Unit
Maximum instantaneous forward voltage per leg (Note 4) at I <sub>F</sub> = 7.5A, T <sub>C</sub> = 25°C at I <sub>F</sub> = 7.5A, T <sub>C</sub> = 125°C at I <sub>F</sub> = 15A, T <sub>C</sub> = 25°C at I <sub>F</sub> = 15A, T <sub>C</sub> = 125°C	V <sub>F</sub>	– 0.57 0.84 0.72		0.75 0.65 – –		V
Maximum instantaneous reverse current at rated DC blocking voltage per leg (Note 4)	I <sub>R</sub>	0.1 15		1.0 50		mA

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

Parameter	Symbol	MBR	MBRF	MBRB	Unit
Maximum thermal resistance per leg	R <sub>θJA</sub> R <sub>θJC</sub>	60 3.0	– 5.0	60 3.0	°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

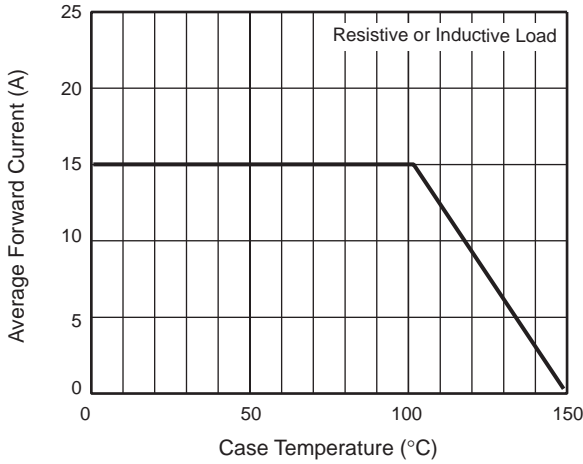
## Ordering Information

Product	Case	Package Code	Package Option
MBR1535CT - MBR1560CT	TO-220AB	45	Anti-Static tube, 50/tube, 2K/carton
MBRF1535CT - MBRF1560CT	ITO-220AB	45	Anti-Static tube, 50/tube, 2K/carton
MBRB1535CT - MBRB1560CT	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

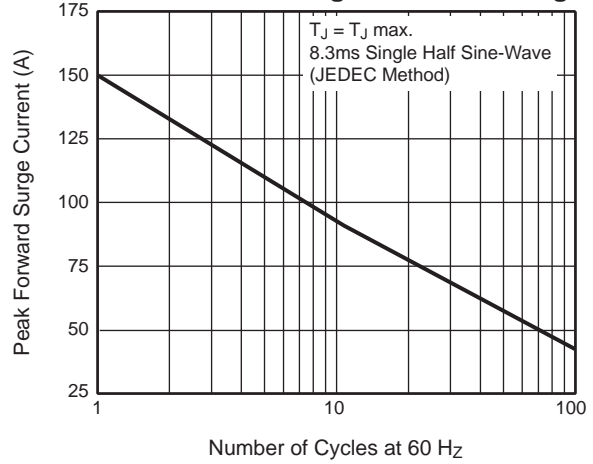


## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

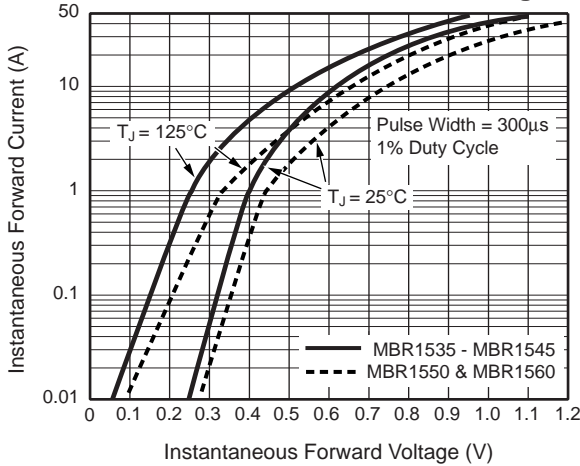
**Fig. 1 – Forward Current Derating Curve**



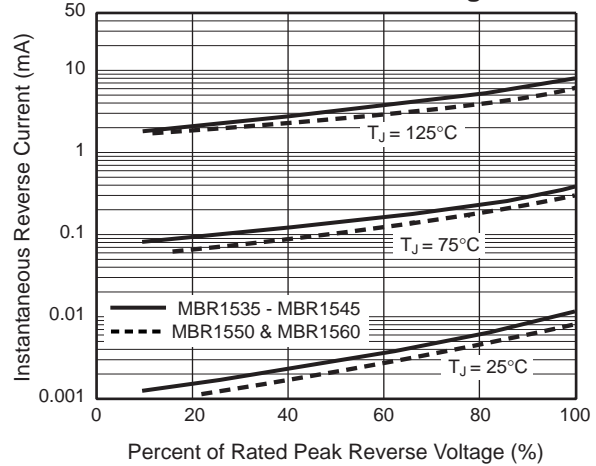
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg**



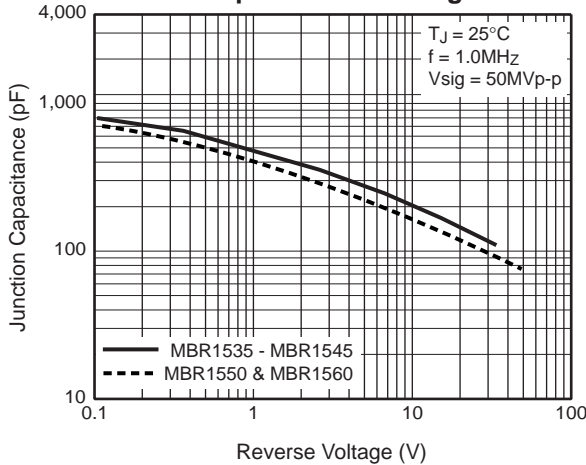
**Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg**



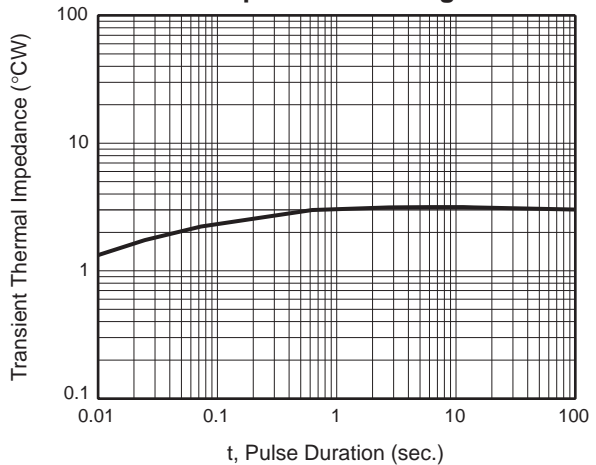
**Fig. 4 – Typical Reverse Characteristics Per Leg**



**Fig. 5 – Typical Junction Capacitance Per Leg**



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





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