

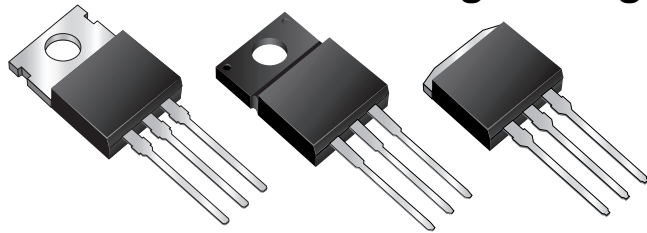


# MBR20H150CT, MBRF20H150CT & MBRB20H150CT-1 Series

New Product

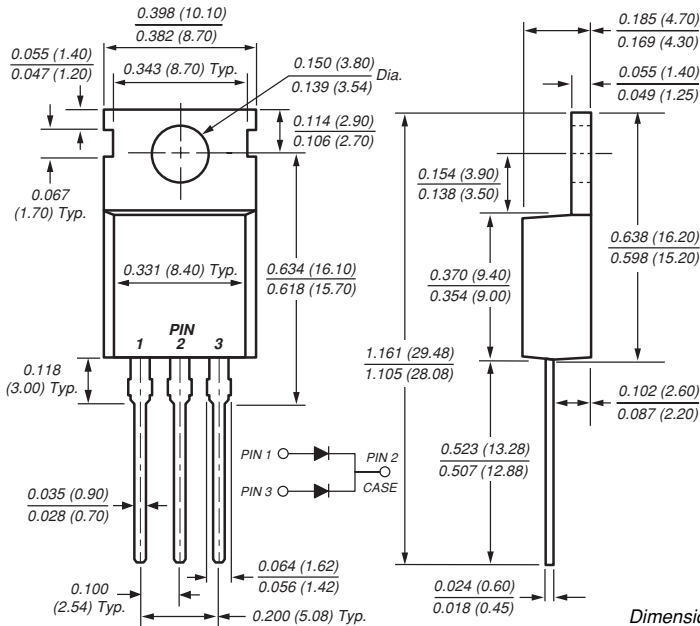
Vishay Semiconductors  
formerly General Semiconductor

## Dual High-Voltage Schottky Rectifiers

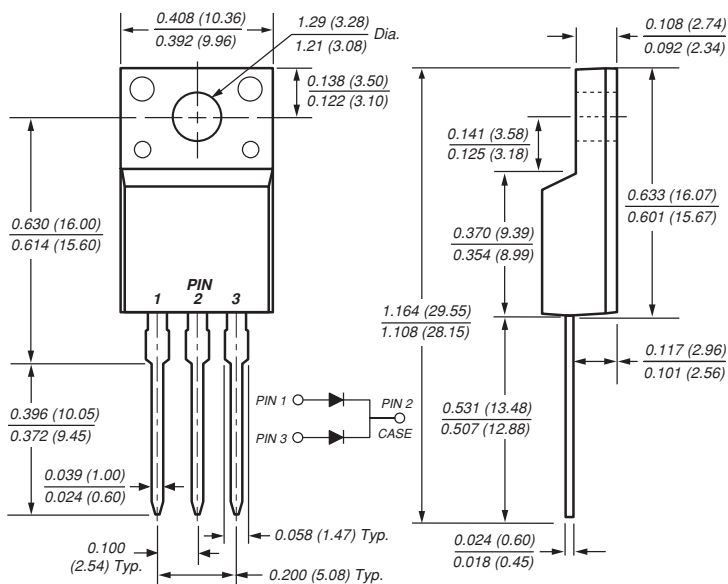


Reverse Voltage 150V  
Forward Current 20A  
Max. Junction Temperature 175°C

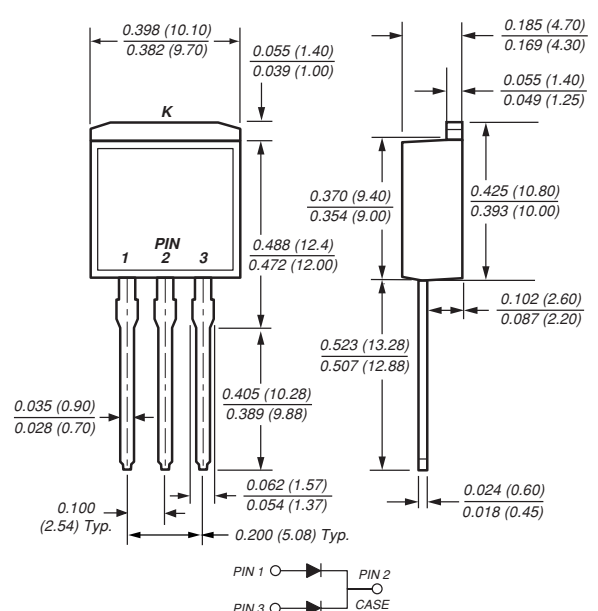
### TO-220AB (MBR20H150CT)



### ITO-220AB (MBRF20H150CT)



### TO-262AA (MBRB20H150CT-1)



### Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Dual rectifier construction, positive center tap
- Metal silicon junction, majority carrier conduction
- Low leakage current, Low power loss, High efficiency
- Guardring for overvoltage protection
- For use in high frequency inverters, free wheeling, and polarity protection applications

### Mechanical Data

**Case:** JEDEC TO-220AB, ITO-220AB, TO-262AA molded plastic body

**Terminals:** Plated leads, solderable 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 oz., 2.24 g

# MBR20H150CT, MBRF20H150CT & MBRB20H150CT-1 Series



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

Parameter	Symbol	MBR20H150CT	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	150	V
Working peak reverse voltage	V <sub>RWM</sub>	150	V
Maximum DC blocking voltage	V <sub>DC</sub>	150	V
Maximum average forward rectified current <i>Total device</i> <i>Per leg</i>	I <sub>F(AV)</sub>	20 10	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I <sub>FSM</sub>	200	A
Peak repetitive reverse current per leg at t <sub>p</sub> = 2μs, 1KHz	I <sub>RRM</sub>	1.0	A
Peak non-repetitive reverse surge energy per leg (8/20μs waveform)	E <sub>RSM</sub>	10	mJ
Non-repetitive avalanche energy per leg at 25°C, I <sub>AS</sub> = 1.5A, L=10mH	E <sub>AS</sub>	11.25	mJ
Voltage rate of change (rated V <sub>R</sub> )	dv/dt	10,000	V/μs
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175	°C
RMS Isolation voltage (MBRF type only) from terminals to heatsink with t = 1 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	Value	Unit
Maximum instantaneous forward voltage per leg at <sup>(4)</sup> : I <sub>F</sub> = 10A, T <sub>C</sub> = 25°C I <sub>F</sub> = 10A, T <sub>C</sub> = 125°C I <sub>F</sub> = 20A, T <sub>C</sub> = 25°C I <sub>F</sub> = 20A, T <sub>C</sub> = 125°C	V <sub>F</sub>	0.90 0.75 0.99 0.86	V
Maximum reverse current per leg at working peak reverse voltage	I <sub>R</sub>	5.0 1.0	μA mA

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

Parameter	Symbol	MBR	MBRF	MBRB	Unit
Typical thermal resistance per leg	R <sub>θJC</sub>	2.2	4.2	2.2	°C/W

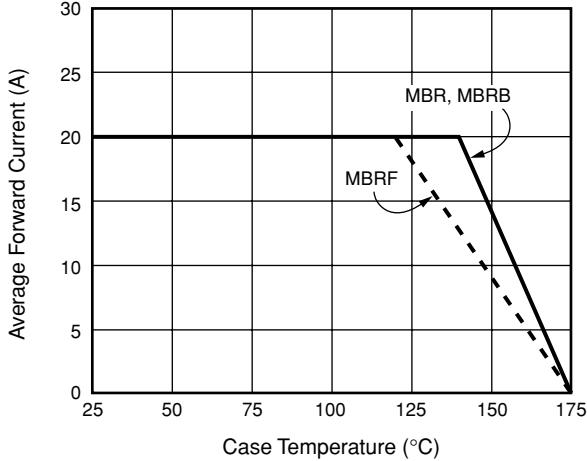
### Notes:

- (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

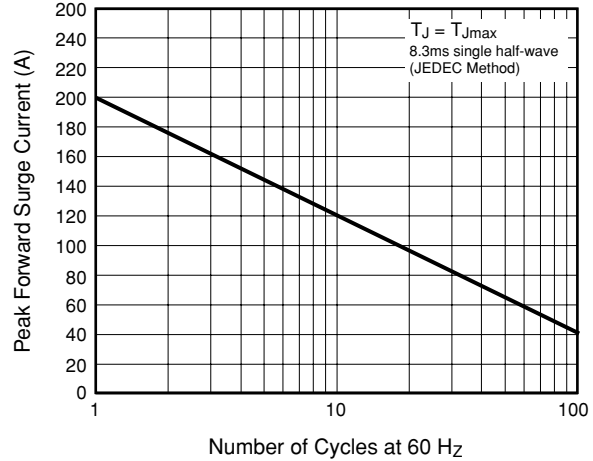


**Ratings and Characteristic Curves** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

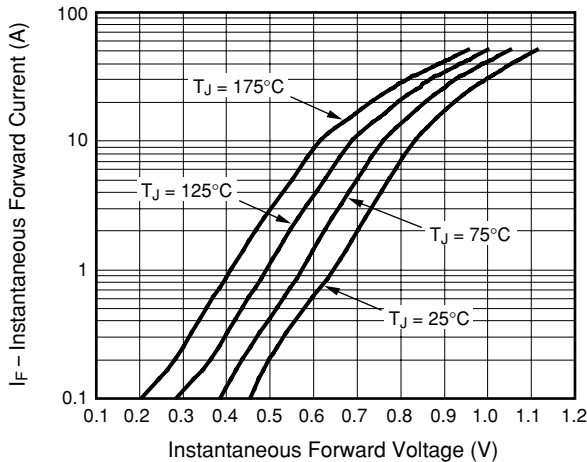
**Fig. 1 – Forward Derating Curve (Total)**



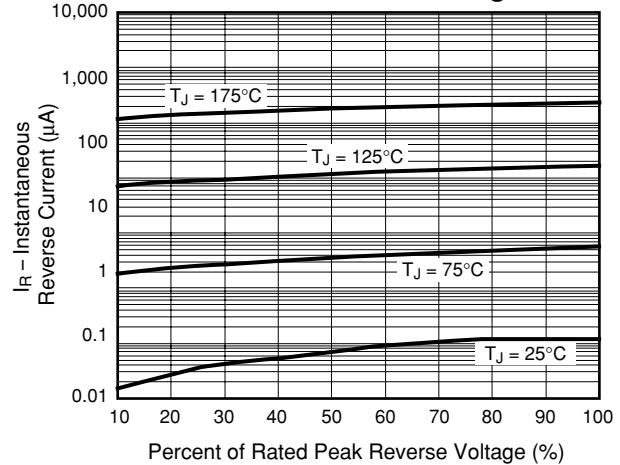
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg**



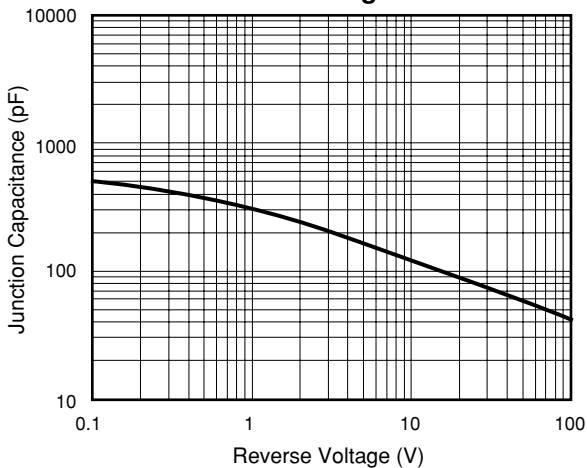
**Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg**



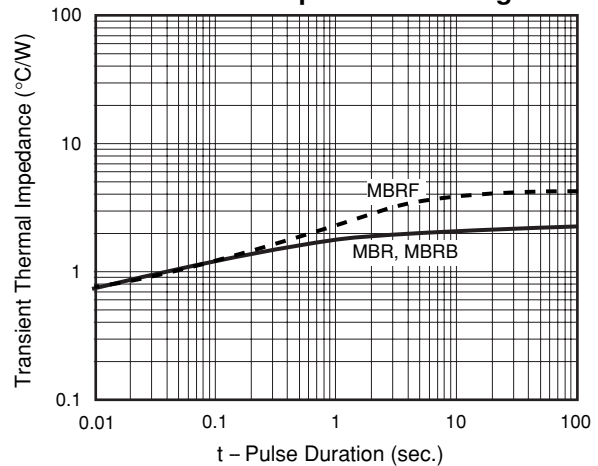
**Fig. 4 – Typical Reverse Characteristics Per Leg**



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



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



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