

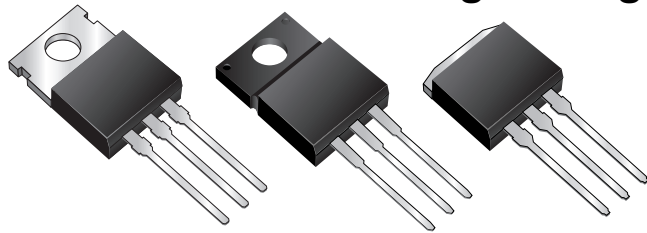


MBR20H200CT, MBRF20H200CT & MBRB20H200CT-1 Series

New Product

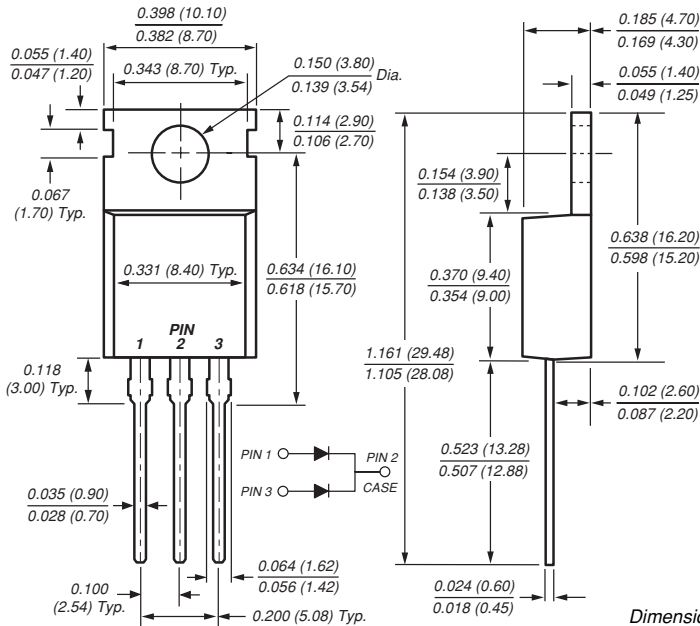
Vishay Semiconductors
formerly General Semiconductor

Dual High-Voltage Schottky Rectifiers

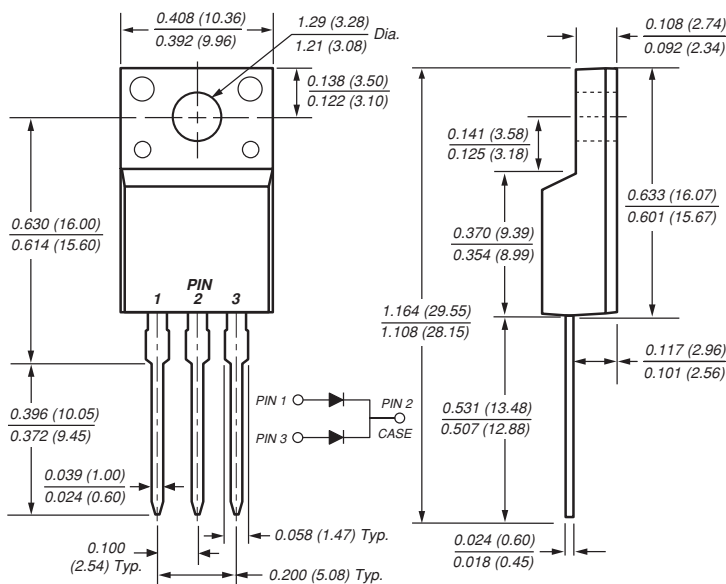


Reverse Voltage 200V
Forward Current 20A
Max. Junction Temperature 175°C

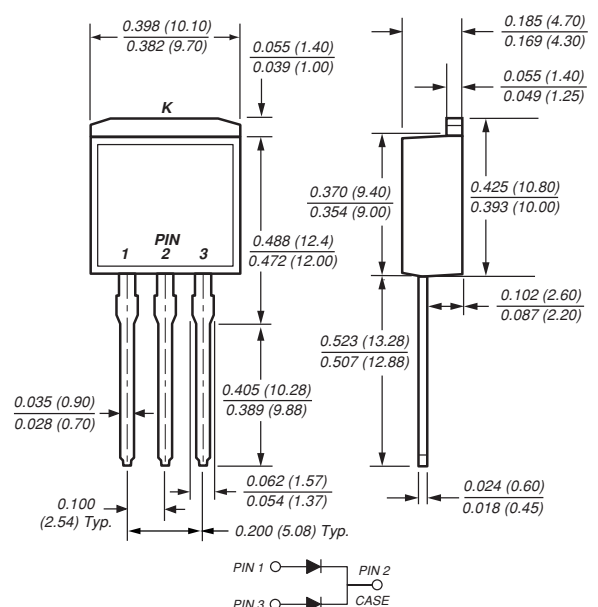
TO-220AB (MBR20H200CT)



ITO-220AB (MBRF20H200CT)



TO-262AA (MBRB20H200CT-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 switching power supplies and converters with up to 48V output, free wheeling, and polarity protection applications
- Rated for reverse surge and ESD

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

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Maximum Ratings (T_C = 25°C unless otherwise noted)

Parameter	Symbol	MBR20H200CT	MBRF20H200CT	MBRB20H200CT-1	Unit
Maximum repetitive peak reverse voltage	V _{RRM}		200		V
Working peak reverse voltage	V _{RWM}		200		V
Maximum DC blocking voltage	V _{DC}		200		V
Maximum average forward rectified current <i>Total device</i> (Fig. 1) <i>Per leg</i>	I _{F(AV)}		20 10		A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I _{FSM}		290		A
Peak repetitive reverse current per leg at t _p = 2μs, 1KHZ	I _{RRM}		1.0		A
Peak non-repetitive reverse surge energy (8/20μs waveform)	E _{RSM}		20		mJ
Non-repetitive avalanche energy per leg at 25°C, E _{AS} = 2.0A, L=10mH	E _{AS}		20		mJ
Electrostatic discharge capacitor voltage Human body model: C = 100pF, R = 1.5KΩ	V _C		25		KV
Voltage rate of change (rated V _R)	dv/dt		10,000		V/μs
Operating junction and storage temperature range	T _J , T _{STG}		-65 to +175		°C
RMS Isolation voltage (MBRF type only) from terminals to heatsink with t = 1 second, RH ≤ 30%	V _{ISOL}		4500 ⁽¹⁾ 3500 ⁽²⁾ 1500 ⁽³⁾		V

Electrical Characteristics (T_C = 25°C unless otherwise noted)

Parameter	Symbol	Typical	Maximum	Unit
Maximum instantaneous forward voltage per leg at: I _F = 10A, T _J = 25°C I _F = 10A, T _J = 125°C I _F = 20A, T _J = 25°C I _F = 20A, T _J = 125°C	V _F	0.81 0.65 0.87 0.74	0.88 0.75 0.97 0.85	V
Maximum reverse current per leg at working peak reverse voltage ⁽⁴⁾ T _J = 25°C T _J = 125°C	I _R		5.0 1.0	μA mA
Typical junction capacitance at 4.0V, 1MHZ	C _J		250	pF

Thermal Characteristics (T_C = 25°C unless otherwise noted)

Parameter	Symbol	MBR	MBRF	MBRB	Unit
Typical thermal resistance per leg	R _{θJC}	2.0	4.0	2.0	°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 does overlap heatsink
- (3) Screw mounting with 4-40 screw, where washer diameter is ≤ 4.9 mm (0.97")
- (4) Pulse test: 300μs pulse width, 1% duty cycle

Ordering Information

Product	Case	Package Code	Package Option
MBR20H200CT	TO-220AB	45	Anti-Static tube, 50/tube, 1K/carton
MBRF20H200CT	TO-200AB	45	Anti-Static tube, 50/tube, 1K/carton
MBRB20H200CT-1	TO-262AA	45	Anti-Static tube, 50/tube, 1K/carton



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

Fig. 1 – Forward Derating Curve

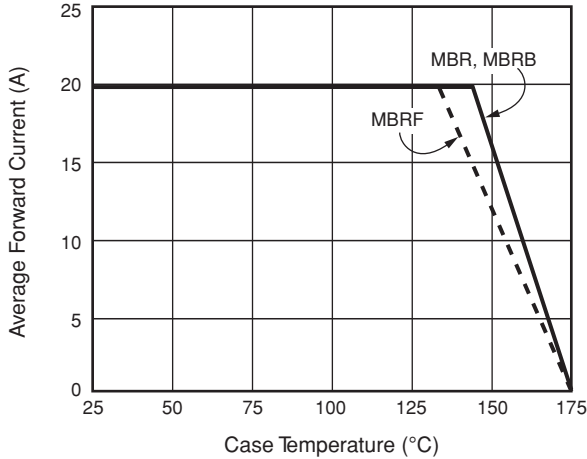


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

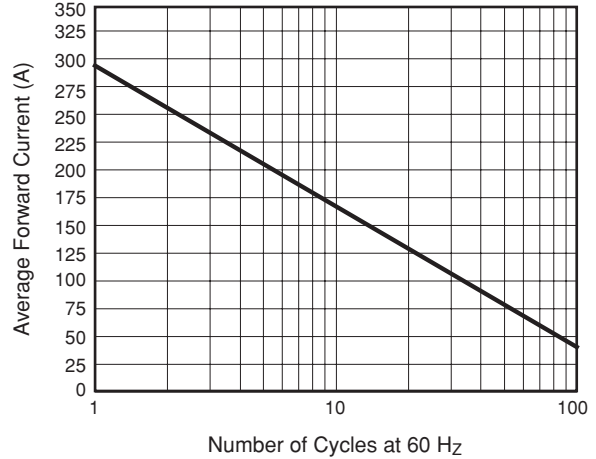


Fig. 3 – Typical Instantaneous Forward Characteristics

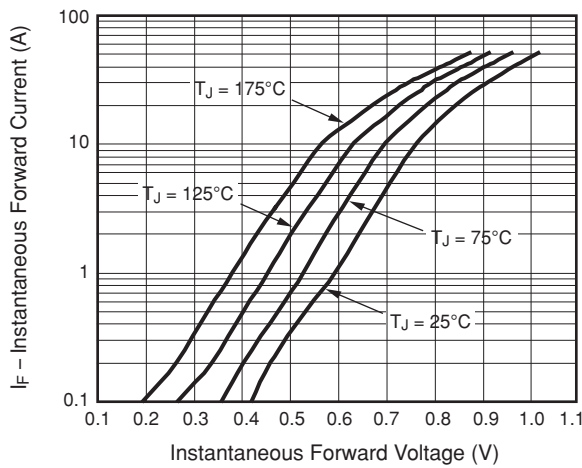


Fig. 4 – Typical Reverse Characteristics

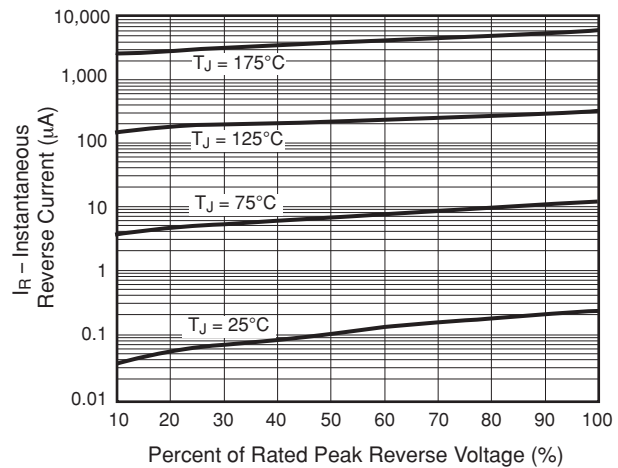


Fig. 5 – Typical Junction Capacitance

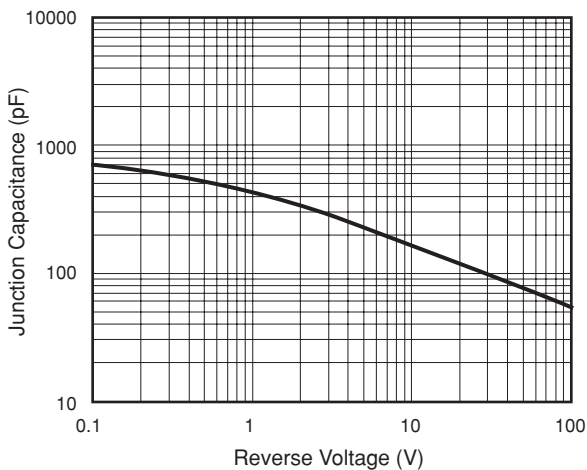


Fig. 6 – Typical Transient Thermal Impedance Per Leg

