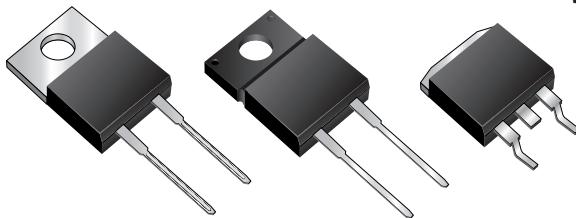
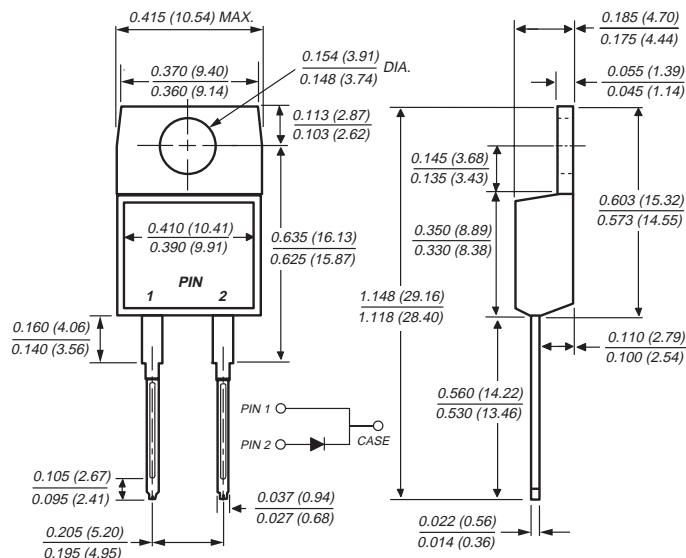
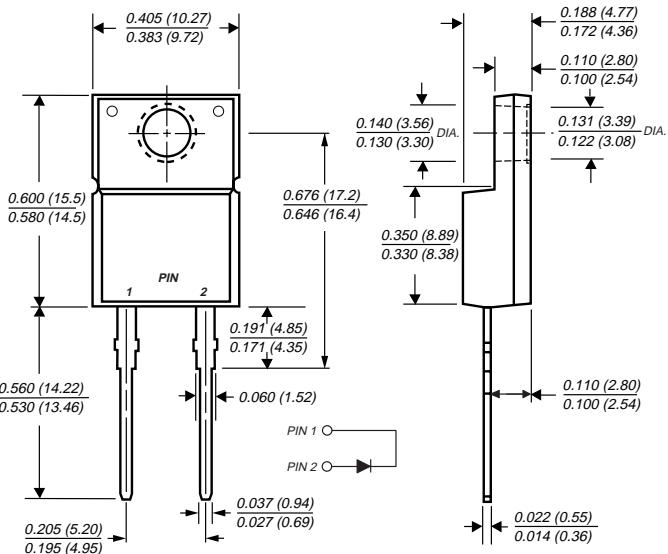
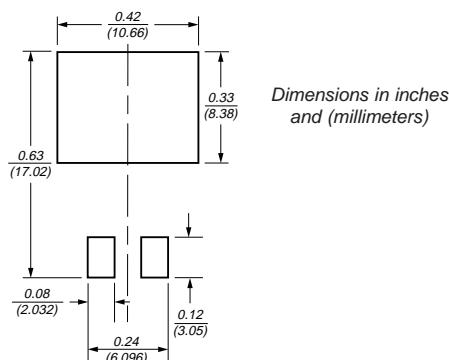
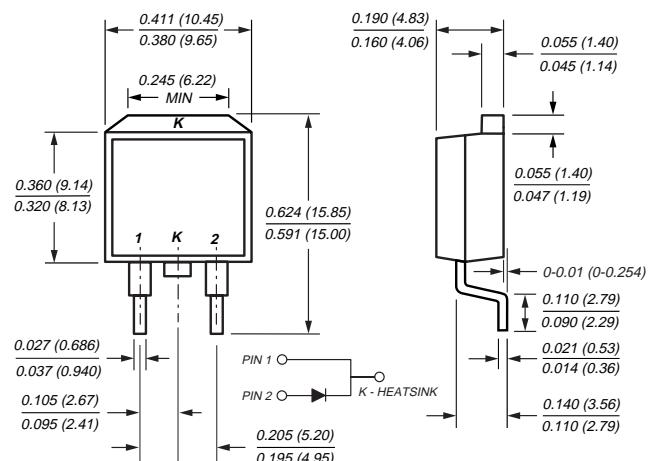


Schottky Barrier Rectifier


TO-220AC (MBR7xx)

 Reverse Voltage 35 to 60V
 Forward Current 7.5A

ITO-220AC (MBRF7xx)

Mounting Pad Layout TO-263AB

TO-263AB (MBRB7xx)


Features

- Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- 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-220AC, ITO-220AC & 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

MBR7xx, MBRF7xx & MBRB7xx Series

Vishay Semiconductors
formerly General Semiconductor



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

Parameter	Symbol	MBR735	MBR745	MBR750	MBR760	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	35	45	50	60	V
Working peak reverse voltage	V _{RWM}	35	45	50	60	V
Maximum DC blocking voltage	V _{DC}	35	45	50	60	V
Maximum average forward rectified current (SEE FIG. 1)	I _{F(AV)}			7.5		A
Peak repetitive forward current (sq. wave, 20 KHz) at T _C = 105°C	I _{FRM}			15		A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}			150		A
Peak repetitive reverse current at t _p = 2.0μs, 1KHz	I _{RRM}		1.0		0.5	A
Voltage rate of change (rated V _R)	dV/dt			10,000		V/μs
Operating junction temperature range	T _J			-65 to +150		°C
Storage temperature range	T _{STG}			-65 to +175		°C
RMS Isolation voltage (MBRF type only) from terminals to heatsink with t = 1.0 second, RH ≤ 30%	V _{ISOL}			4500 (NOTE 1) 3500 (NOTE 2) 1500 (NOTE 3)		V

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

Parameter	Symbol	MBR735	MBR745	MBR750	MBR760	Unit
Maximum instantaneous forward voltage (Note 4)						
at I _F = 7.5A, T _C = 25°C		–		0.75		
at I _F = 7.5A, T _C = 125°C	V _F	0.57		0.65		V
at I _F = 15A, T _C = 25°C		0.84		–		
at I _F = 15A, T _C = 125°C		0.72		–		
Maximum reverse current at DC blocking voltage	I _R	0.1		0.5		mA
		15		50		

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

Parameter	Symbol	MBR	MBRF	MBRB	Unit
Thermal resistance from junction to case	R _{θJC}	3.0	5.0	3.0	°C/W

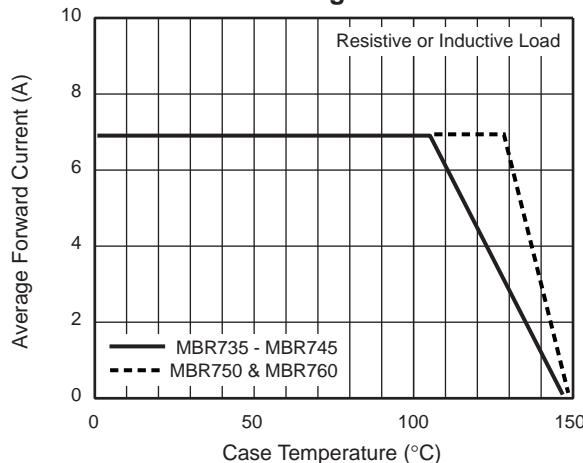
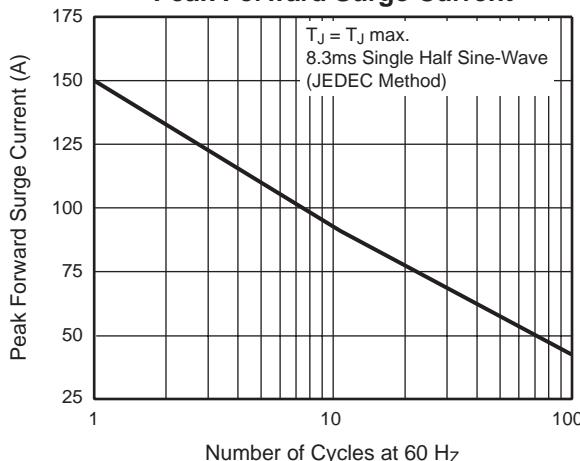
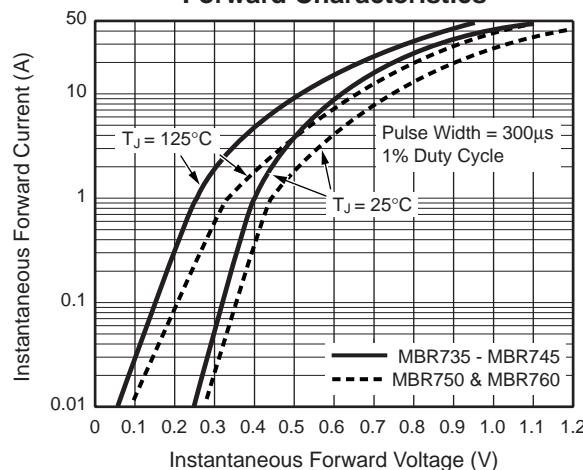
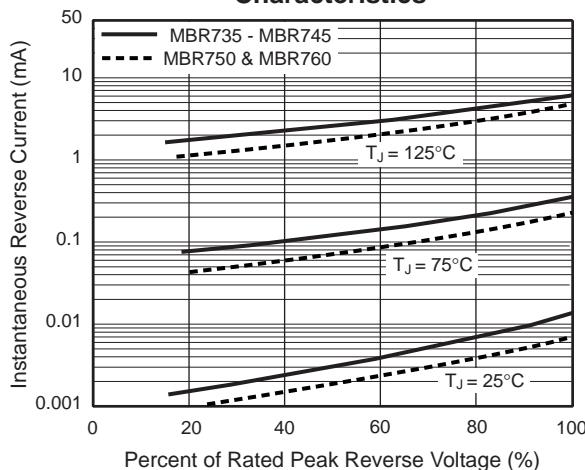
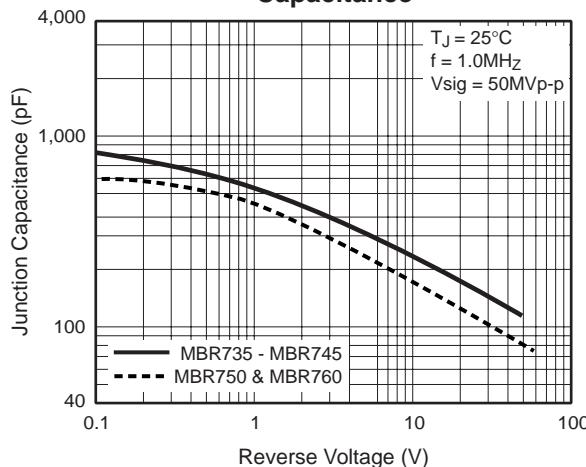
Notes:

- (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
MBR735 - MBR760	TO-220AC	45	Anti-Static tube, 50/tube, 2K/carton
MBRF735 - MBRF760	ITO-220AC	45	Anti-Static tube, 50/tube, 2K/carton
MBRB735 - MBRB760	TO-263AB	31 45 81	13" reel, 800/reel, 4.8K/carton Anti-Static tube, 50/tube, 2K/carton 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

Fig. 3 – Typical Instantaneous Forward Characteristics

Fig. 4 – Typical Reverse Characteristics

Fig. 5 – Typical Junction Capacitance

Fig. 6 – Typical Transient Thermal Impedance
