

# Schottky Diode

## **MBR745**

45V / 7,5A

# DATASHEET

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OEM – General Semiconductor

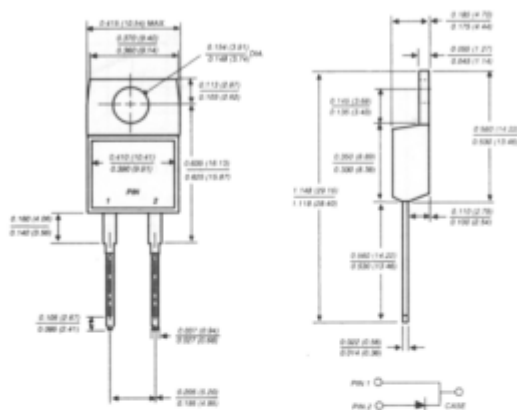
Source: General Semiconductor Databook 1998

# MBR735 THRU MBR760

## SCHOTTKY RECTIFIER

Reverse Voltage - 35 to 60 Volts Forward Current - 7.5 Amperes

### TO-220AC



Dimensions in inches and (millimeters)

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Guardring for overvoltage protection
- High temperature soldering guaranteed: 250°C/10 seconds, 0.25" (6.35mm) from case



### MECHANICAL DATA

**Case:** JEDEC TO-220AC molded plastic body  
**Terminals:** Lead solderable per MIL-STD-750, Method 2026  
**Polarity:** As marked  
**Mounting Position:** Any  
**Mounting Torque:** 5 in. - lbs. max.  
**Weight:** 0.08 ounces, 2.24 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	MBR735	MBR745	MBR750	MBR760	UNITS
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	35	45	50	60	Volts
Maximum working peak reverse voltage	V <sub>RWM</sub>	35	45	50	60	Volts
Maximum DC blocking voltage	V <sub>DC</sub>	35	45	50	60	Volts
Maximum average forward rectified current (SEE FIG 1)	I <sub>(AV)</sub>	7.5				Amps
Peak repetitive forward current (square wave, 20 KHz) at T <sub>C</sub> =105°C	I <sub>FRM</sub>	15.0				Amps
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	150.0				Amps
Peak repetitive reverse surge current (NOTE 1)	I <sub>RRM</sub>	1.0		0.5		Amps
Maximum instantaneous forward voltage at (NOTE 2)	V <sub>F</sub>	I <sub>F</sub> =7.5A, T <sub>C</sub> =25°C I <sub>F</sub> =7.5A, T <sub>C</sub> =125°C I <sub>F</sub> =15A, T <sub>C</sub> =25°C I <sub>F</sub> =15A, T <sub>C</sub> =125°C	- 0.57 0.84 0.72		0.75 0.65 - -	Volts
Maximum instantaneous reverse current at rated DC blocking voltage (NOTE 1)	I <sub>R</sub>	T <sub>C</sub> =25°C T <sub>C</sub> =125°C	0.1 15.0		0.5 50	mA
Voltage rate of change (rated V <sub>R</sub> )	dv/dt	10,000				V/μs
Maximum thermal resistance, (NOTE 3)	R <sub>θJC</sub> R <sub>θJA</sub>	3.0 60.0				°C/W
Operating junction temperature range	T <sub>J</sub>	-65 to +150				°C
Storage temperature range	T <sub>STG</sub>	-65 to +175				°C

**NOTES:**

- (1) 2.0μs, pulse width, f=1.0 KHz
- (2) Pulse test: 300μs pulse width, 1% duty cycle
- (3) Thermal resistance from junction to case and/or thermal resistance from junction to ambient

**RATINGS AND CHARACTERISTIC CURVES MBR735 THRU MBR760**

