

# Schottky Diode

## **MBR1045**

45V / 10A

# DATASHEET

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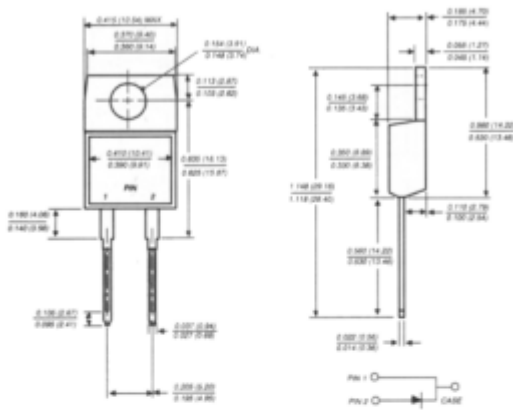
Source: General Semiconductor Databook 1998

# MBR1035 THRU MBR1060

## SCHOTTKY RECTIFIER

Reverse Voltage - 35 to 60 Volts Forward Current - 10.0 Amperes

### TO-220AC



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- ◆ Metal silicon junction, 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:** Leads solderable per MIL-STD-750, Method 2026  
**Polarity:** As marked  
**Mounting Position:** Any  
**Mounting Torque:** 5 in. - lbs. max.  
**Weight:** 0.08 ounces, 1.81 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	MBR1035	MBR1045	MBR1050	MBR1060	UNITS
Maximum repetitive peak reverse voltage	VRRM	35	45	50	60	Volts
Maximum working peak reverse voltage	VRWM	35	45	50	60	Volts
Maximum DC blocking voltage	VDC	35	45	50	60	Volts
Maximum average forward rectified current (SEE FIG. 1)	I(AV)	10.0				Amps
Peak repetitive forward current at TC=135°C (square wave 20 KHz)	IFRM	20.0				Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	IFSM	150.0				Amps
Peak repetitive reverse surge current (NOTE 1)	IRRM	1.0		0.5		Amps
Voltage rate of change (rated VR)	dv/dt	10,000				V/μs
Maximum instantaneous forward voltage at (NOTE 2)	VF	-		0.80		Volts
IF=10A, TC=25°C		0.57		0.70		
IF=10A, TC=125°C		0.84		0.95		
IF=20A, TC=25°C		0.72		0.85		
Maximum instantaneous reverse current at rated DC blocking voltage TC= 25°C (NOTE 2) TC=125°C	IR	0.10 15.0				mA
Maximum thermal resistance, junction to case	RθJC	2.0				°C/W
Operating junction temperature range	TJ	-65 to +150				°C
Storage temperature range	TSTG	-65 to +175				°C

**NOTES:**

- (1) 2.0μs pulse width, f=1.0 KHz
- (2) Pulse test: 300μs pulse width, 1% duty cycle

**RATINGS AND CHARACTERISTIC CURVES MBR1035 THRU MBR1060**

