

Schottky Diode

MBR1650

50V / 16A

DATASHEET

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OEM – General Semiconductor

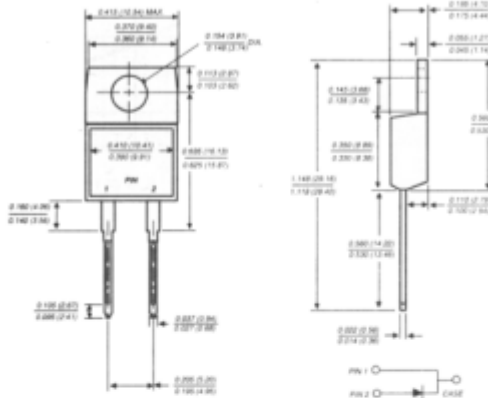
Source: General Semiconductor Databook 1998

MBR1635 THRU MBR1660

SCHOTTKY RECTIFIER

Reverse Voltage - 35 to 60 Volts Forward Current - 16.0 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
- ◆ 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 molded plastic body
Terminals: Lead solderable per MIL-STD-750, Method 2026
Polarity: As marked
Mounting Position: Any
Mounting Torque: 0.5 in. - lbs. max.
Weight: 0.08 ounce, 2.24 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

	SYMBOLS	MBR1635	MBR1645	MBR1650	MBR1660	UNITS
Maximum repetitive peak reverse voltage	V _{RRM}	35	45	50	60	Volts
Maximum working peak reverse voltage	V _{RWM}	35	45	50	60	Volts
Maximum DC blocking voltage	V _{DC}	35	45	50	60	Volts
Maximum average forward rectified current at T _C =125°C	I _{F(AV)}	16.0				Amps
Peak repetitive forward current at T _C =125°C (rated V _R , sq. wave, 20 KHz)	I _{FRM}	32.0				Amps
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	150.0				Amps
Peak repetitive reverse surge current (NOTE 1)	I _{RRM}	1.0		0.5		Amps
Maximum instantaneous forward voltage at: (NOTE 2) I _F =16A, T _C =25°C I _F =16A, T _C =125°C	V _F	0.63 0.57		0.75 0.65		Volts
Maximum instantaneous reverse current at rated DC blocking voltage (NOTE 2) T _C = 25°C T _C =125°C	I _R	0.2 40.0		1.0 50.0		mA
Voltage rate of change (rated V _R)	dv/dt	10,000		1000		V/μs
Maximum typical thermal resistance (NOTE 3)	R _{θJC}	1.5				°C/W
Operating junction temperature range	T _J	-65 to +150				°C
Storage temperature range	T _{STG}	-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 per leg

RATINGS AND CHARACTERISTIC CURVES MBR1635 THRU MBR1660

