

# Schottky Barrier Rectifier

# MBR1645

### FEATURES

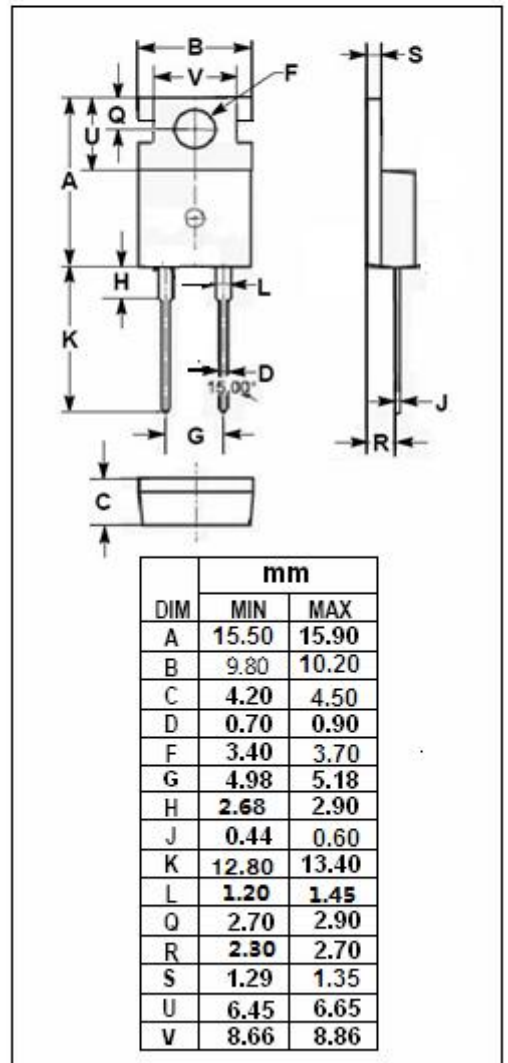
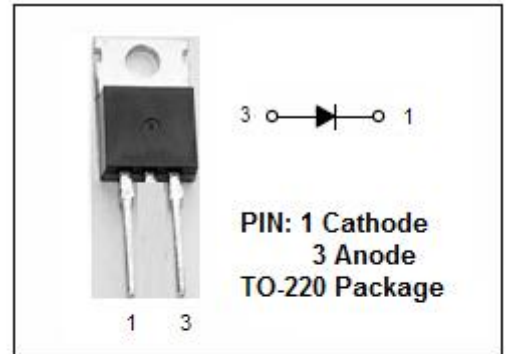
- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss/High Efficiency
- High Surge Capability
- High Current Capability, Low Forward Voltage Drop
- Plastic Material: UL Flammability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### MECHANICAL CHARACTERISTICS

- Designed for low-voltage, high frequency inverters, free wheeling and polarity protection applications

### ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	45	V
I <sub>F(AV)</sub>	Average Rectified Forward Current (Rated V <sub>R</sub> ) T <sub>C</sub> = 125°C	16	A
I <sub>FRM</sub>	Peak Repetitive Forward Current (Rated V <sub>R</sub> , Square Wave, 20kHz) T <sub>C</sub> = 125°C	32	A
I <sub>FSM</sub>	Nonrepetitive Peak Surge Current (Surge applied at rated load conditions half-wave, single phase, 60Hz)	150	A
T <sub>J</sub>	Junction Temperature	-65~150	°C
T <sub>stg</sub>	Storage Temperature Range	-65~175	°C
dv/dt	Voltage Rate of Change (Rated V <sub>R</sub> )	10000	V/μs



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**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal Resistance, Junction to Case	1.5	°C/W

**ELECTRICAL CHARACTERISTICS** (Pulse Test: Pulse Width=300 μ s, Duty Cycle ≤2%)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V <sub>F</sub>	Maximum Instantaneous Forward Voltage	I <sub>F</sub> = 16A ; T <sub>C</sub> = 25°C I <sub>F</sub> = 16A ; T <sub>C</sub> = 125°C	0.63 0.57	V
I <sub>R</sub>	Maximum Instantaneous Reverse Current	Rated DC Voltage, T <sub>C</sub> = 25°C Rated DC Voltage, T <sub>C</sub> = 125°C	0.2 4.0	mA

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