

# Schottky Barrier Rectifier

## MBRF1645

### FEATURES

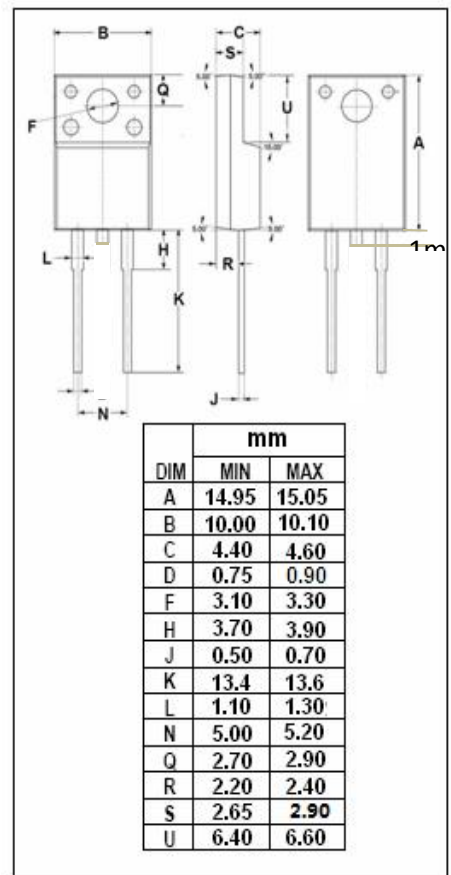
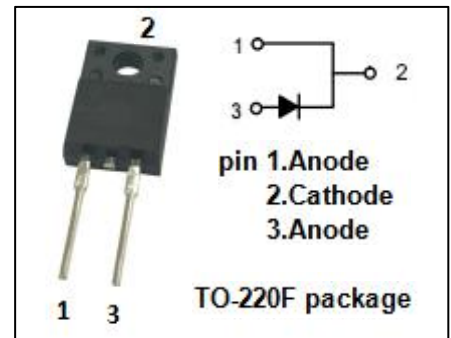
- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss/High Efficiency
- High Surge Capability
- High Current Capability, Low Forward Voltage Drop
- Plastic Material: UL Flammability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### 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
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.5	°C/W

ELECTRICAL CHARACTERISTICS (Pulse Test: Pulse Width=300  $\mu$  s, Duty Cycle  $\leq$  2%)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
$V_F$	Maximum Instantaneous Forward Voltage	$I_F = 16A$ ; $T_C = 25^\circ C$ $I_F = 16A$ ; $T_C = 125^\circ C$	0.63 0.57	V
$I_R$	Maximum Instantaneous Reverse Current	Rated DC Voltage, $T_C = 25^\circ C$ Rated DC Voltage, $T_C = 125^\circ C$	0.2 4.0	mA

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