

# Schottky Barrier Rectifier

# MBRB745

## FEATURES

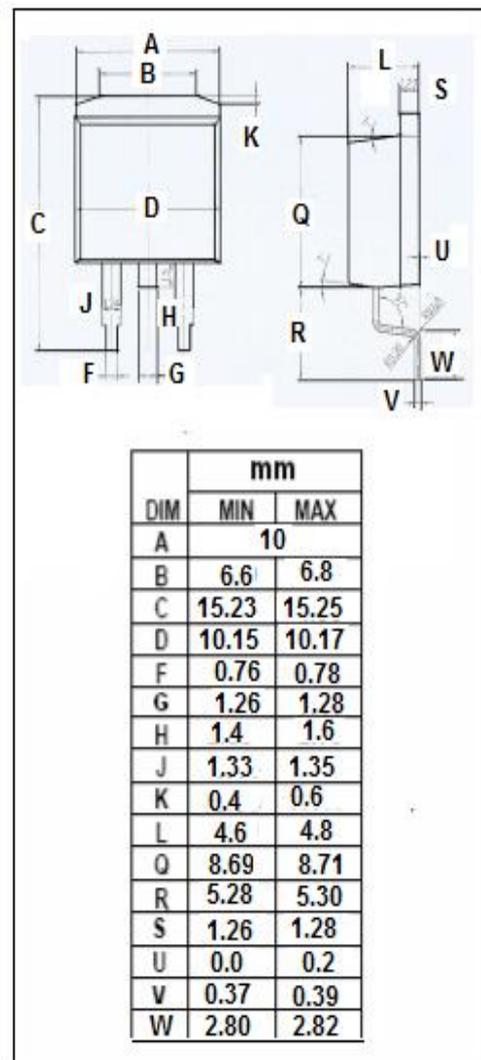
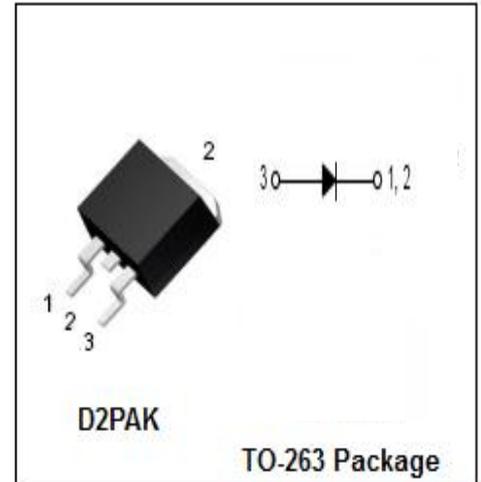
- With TO-263(D2PAK) packaging
- Low leakage current, low power loss, high efficiency
- High frequency operation
- High surge capability
- Low stored charge majority carrier conduction
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- Switching power supply
- High frequency inverters
- Freewheeling diodes
- Reverse battery protection
- Polarity protection applications

## ABSOLUTE MAXIMUM RATINGS( $T_a=25^{\circ}\text{C}$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{RRM}$ $V_{RMS}$ $V_R$	Peak Repetitive Reverse Voltage RMS Voltage DC Blocking Voltage	45	V
$I_{F(AV)}$	Average Rectified Forward Current	7.5	A
$I_{F(RMS)}$	Forward rms current@ $T_c=125^{\circ}\text{C}$	15	A
$I_{FSM}$	Nonrepetitive Peak Surge Current (10ms single half sine-wave superimposed on rated load conditions)	150	A
$T_J$	Junction Temperature	-65~150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature Range	-65~175	$^{\circ}\text{C}$



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**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	3.0	$^{\circ}C/W$

**ELECTRICAL CHARACTERISTICS** (Pulse Test: Pulse Width=300  $\mu$  s, Duty Cycle $\leq$ 1%)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
$V_F$	Maximum Instantaneous Forward Voltage	$I_F=7.5A; T_c=25^{\circ}C$ $I_F=7.5A; T_c=125^{\circ}C$ $I_F=15A; T_c=25^{\circ}C$ $I_F=15A; T_c=125^{\circ}C$	0.65 0.57 0.84 0.72	V
$I_R$	Maximum Instantaneous Reverse Current	$V_R=$ rated $V_{RRM}; T_c=25^{\circ}C$ $V_R=$ rated $V_{RRM}; T_c=125^{\circ}C$	0.1 15	mA

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