

## Schottky Barrier Rectifier

## MBR4045CT

### FEATURES

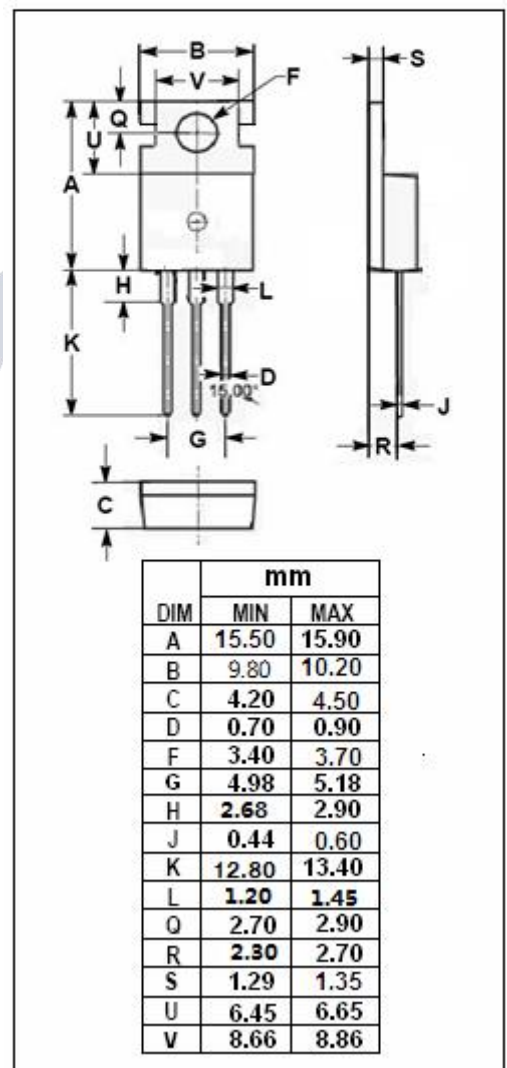
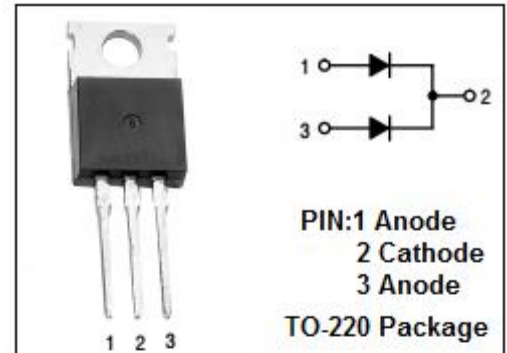
- With TO-220 packaging
- High junction temperature capability
- Low forward voltage drop
- High current capability
- Low power loss, high efficiency
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

- Switching power supply
- Free-Wheeling diodes
- Reverse battery protection
- Center tap configuration

### ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>R</sub> RM V <sub>R</sub> WM V <sub>R</sub>	Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	45	V
I <sub>F</sub> (AV)	Average Rectified Forward Current@Tc=150°C	40	A
I <sub>FSM</sub>	Nonrepetitive Peak Surge Current (8.3ms single half sine-wave superimposed on rated load conditions) tp=5 μs sine	900	A
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature Range	-65~150	°C



**Schottky Barrier Rectifier****MBR4045CT****THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	2.0	°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	$I_F= 20A ; T_c= 25^\circ C$	0.60	V
		$I_F= 20A ; T_c= 125^\circ C$	0.58	
		$I_F= 40A ; T_c= 25^\circ C$	0.78	
		$I_F= 40A ; T_c= 125^\circ C$	0.75	
$I_R$	Maximum Instantaneous Reverse Current	$V_R= V_{RWM}; T_c= 25^\circ C$	1	mA
		$V_R= V_{RWM}; T_c= 125^\circ C$	95	

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