

PD 2.476

International Rectifier

MBR6045WT

SCHOTTKY RECTIFIER

60 Amp

Major Ratings and Characteristics

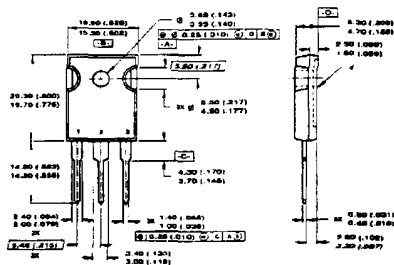
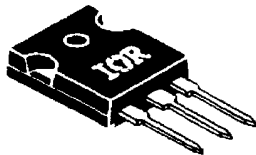
Characteristics	MBR60..WT	Units
$I_{F(AV)}$ Rectangular waveform	60	A
V_{RRM}	45	V
I_{FSM} @ $t_p = 5 \mu s$ sine	3500	A
V_F @ 30 Apk, $T_J = 125^\circ C$ (per leg)	0.50	V
T_J	-55 to 150	$^\circ C$

Description/Features

The MBR6045WT center tap Schottky rectifier has been optimized for very low forward voltage drop, with moderate leakage. The proprietary barrier technology allows for reliable operation up to $150^\circ C$ junction temperature. Typical applications are in switching power supplies, converters, free-wheeling diodes, and reverse battery protection.

- $150^\circ C$ T_J operation
- Center tap TO-247 package
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Very low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability

CASE STYLE AND DIMENSIONS



Conforms to JEDEC Outline TO-247AC (TO-3P)

Dimensions in millimeters and inches

MBR6045WT



Voltage Ratings

Part number	MBR6045WT
V_R Max. DC Reverse Voltage (V)	45
V_{RWM} Max. Working Peak Reverse Voltage (V)	

Absolute Maximum Ratings

Parameters	MBR60..	Units	Conditions
$I_{F(AV)}$ Max. Average Forward Current	60	A	50% duty cycle @ $T_C = 101^\circ\text{C}$, rectangular wave form
I_{FSM} Max. Peak One Cycle Non-Repetitive Surge Current (Per Leg)	3500	A	5 μs Sine or 3 μs Rect. pulse 10ms Sine or 6ms Rect. pulse
	430		
E_{AS} Non-Repetitive Avalanche Energy (Per Leg)	27	mJ	$T_J = 25^\circ\text{C}$, $I_{AS} = 4$ Amps, $L = 3.4$ mH
I_{AR} Repetitive Avalanche Current (Per Leg)	4	A	Current decaying linearly to zero in 1 μsec Frequency limited by T_J max. $V_A = 1.5 \times V_R$ typical

Electrical Specifications

Parameters	MBR60..	Units	Conditions
V_{FM} Max. Forward Voltage Drop (Per Leg) (1)	0.58	V	$T_J = 25^\circ\text{C}$
	0.73	V	
	0.50	V	$T_J = 125^\circ\text{C}$
	0.66	V	
I_{RM} Max. Reverse Leakage Current (Per Leg) (1)	4	mA	$T_J = 25^\circ\text{C}$
	150	mA	$T_J = 125^\circ\text{C}$
C_T Max. Junction Capacitance (Per Leg)	1850	pF	$V_R = 5V_{DC}$, (test signal range 100Khz to 1Mhz)
L_S Typical Series Inductance (Per Leg)	7.5	nH	Measured lead to lead 5mm from package body
dv/dt Max. Voltage Rate of Change (Rated V_R)	10,000	V/ μs	(1) Pulse Width < 300 μs , Duty Cycle < 2%

Thermal-Mechanical Specifications

Parameters	MBR60..	Units	Conditions
T_J Max. Junction Temperature Range	-55 to 150	$^\circ\text{C}$	
T_{stg} Max. Storage Temperature Range	-55 to 150	$^\circ\text{C}$	
R_{thJC} Max. Thermal Resistance Junction to Case (Per Leg)	1.25	$^\circ\text{C/W}$	DC operation
R_{thPC} Max. Thermal Resistance Junction to Case (Per Package)	0.63	$^\circ\text{C/W}$	DC operation
R_{thCS} Typical Thermal Resistance, Case to Heatsink	0.24	$^\circ\text{C/W}$	Mounting surface, smooth and greased
wt Approximate Weight	6 (0.21)	g (oz.)	
T Mounting Torque	Min.	6 (5)	Non-lubricated threads
	Max.	12 (10)	
Case Style	TO-247AC(TO-3P)		JEDEC

Data and specifications subject to change without notice.