

**MBR6045WT-G SCHOTTKY RECTIFIER**

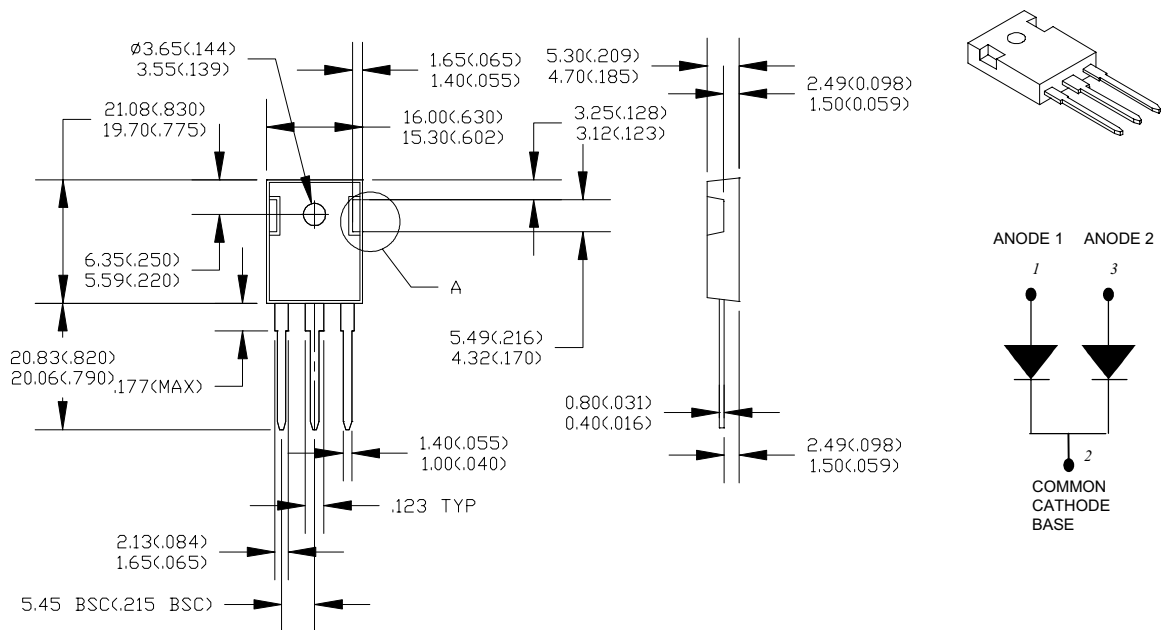
**Applications:**

- Switching power supply • Converters • Free-Wheeling diodes • Reverse battery protection

**Features:**

- 150 °C T<sub>J</sub> operation
- Center tap TO-247AD package
- Very low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- Green Products in Compliance with the RoHS Directive

**Mechanical Dimensions: In Inches / mm**



	<p>OPTION C</p> <p>5.49(.216) 4.32(.170)</p>	<p>Option C is also available. To order specifically the option C, please add suffix “-C” to the part number: To order specifically the standard option, please add suffix “-S” to the part number.  If there is no suffix to the part number, the part could come with either option.</p>
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**TO-247AD**

**Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	$V_{RWM}$	-	45	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 122^\circ\text{C}$ , rectangular wave form	30(per leg)	A
			60(per device)	
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	8.3 ms, half Sine pulse	432	A
Non-Repetitive Avalanche Energy (per leg)	$E_{AS}$	$T_J = 25^\circ\text{C}$ , $I_{AS} = 4\text{ A}$ , $L = 3.4\text{ mH}$	27	mJ
Repetitive Avalanche Current (per leg)	$I_{AR}$	Current decaying linearly to zero in 1 $\mu\text{sec}$ Frequency limited by $T_J$ max. $V_A = 1.5 \times V_R$ typical	6	A

**Electrical Characteristics:**

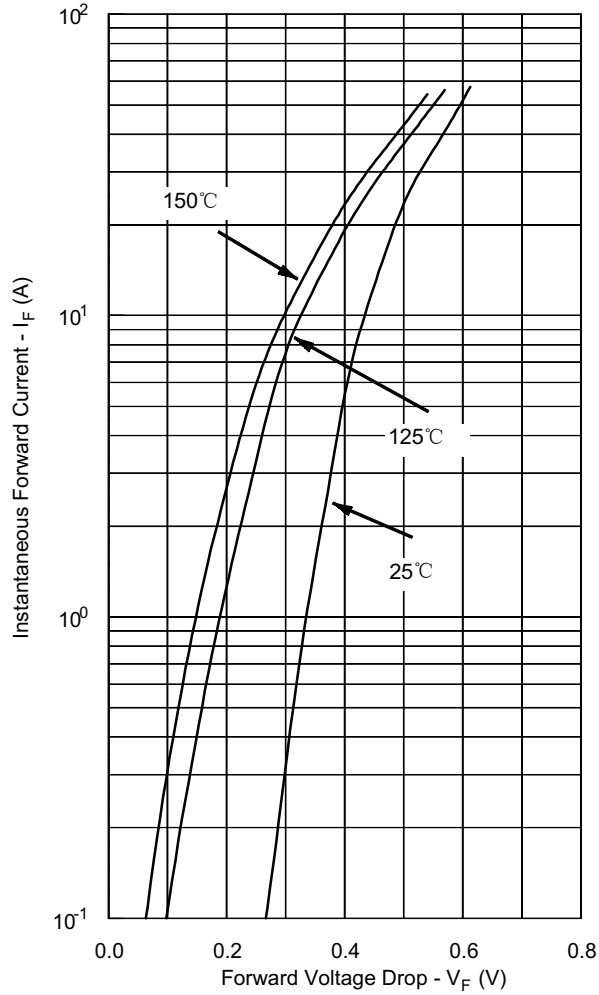
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	$V_{F1}$	@ 30 A, Pulse, $T_J = 25^\circ\text{C}$	0.62	V
		@ 60 A, Pulse, $T_J = 25^\circ\text{C}$	0.75	
	$V_{F2}$	@ 30 A, Pulse, $T_J = 125^\circ\text{C}$	0.55	V
Max. Reverse Current (per leg) *	$I_{R1}$	@ $V_R = \text{rated } V_R$	1	mA
		$T_J = 25^\circ\text{C}$		
	$I_{R2}$	@ $V_R = \text{rated } V_R$	150	mA
		$T_J = 125^\circ\text{C}$		
Max. Junction Capacitance (per leg)	$C_T$	@ $V_R = 5\text{ V}$ , $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{ MHz}$	1400	pF
Typical Series Inductance (per leg)	$L_S$	Measured lead to lead 5 mm from package body	7.5	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/ $\mu\text{s}$

\* Pulse Width < 300 $\mu\text{s}$ , Duty Cycle <2%

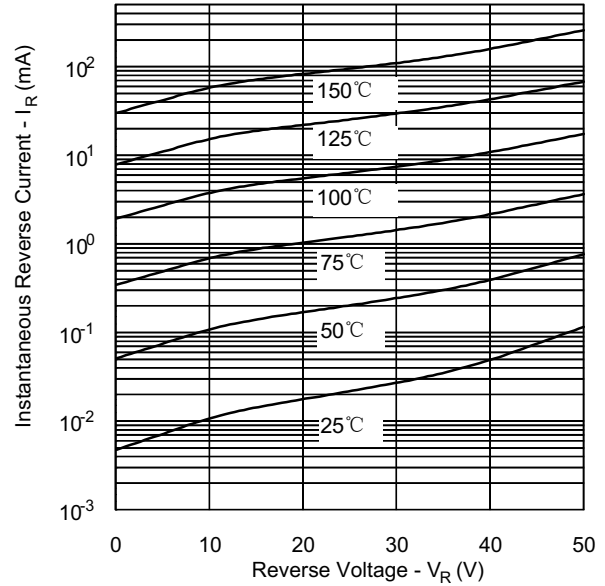
**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	$T_J$	-	-55 to +150	$^\circ\text{C}$
Max. Storage Temperature	$T_{stg}$	-	-55 to +150	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	1.0(per leg)	$^\circ\text{C/W}$
			0.5(per device)	
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased	0.24	$^\circ\text{C/W}$
Approximate Weight	wt	-	6	g
Mounting Torque	$T_M$	-	6 (min) 12 (max)	Kg-cm
Case Style	TO-247AD			

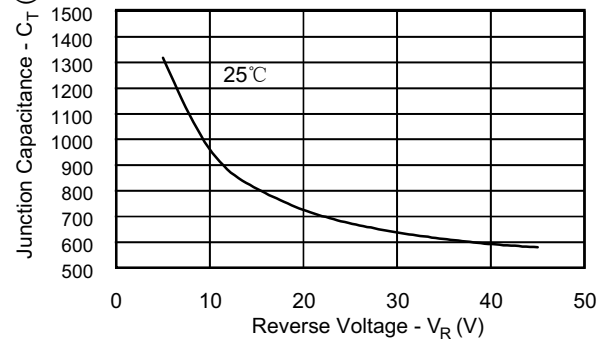
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



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