

Technical Data  
Data Sheet N0015, Rev. -

*Green Products*

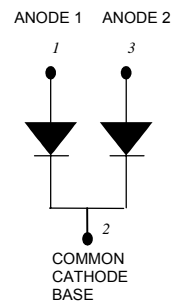
## MBR3035WT/MBR3040WT/MBR3045WT SCHOTTKY RECTIFIER

### Applications:

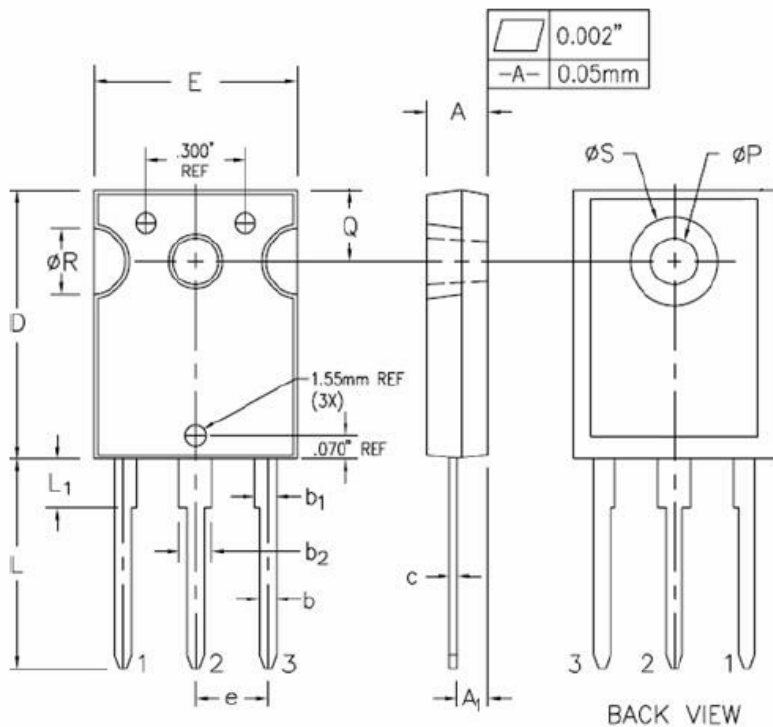
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection
- Center tap configuration

### Features:

- 150 °C T<sub>J</sub> operation
- Center tap TO-247AD package
- 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
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

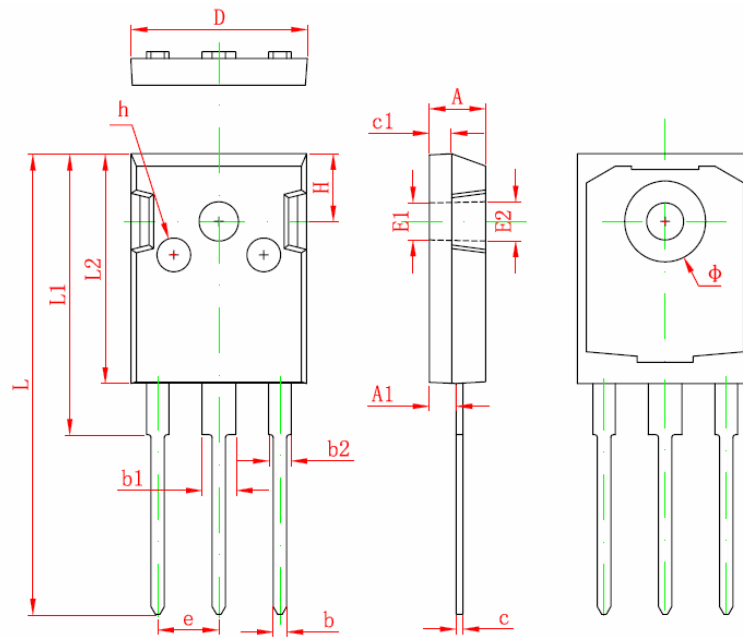


### Mechanical Dimensions (In mm) and Marking:



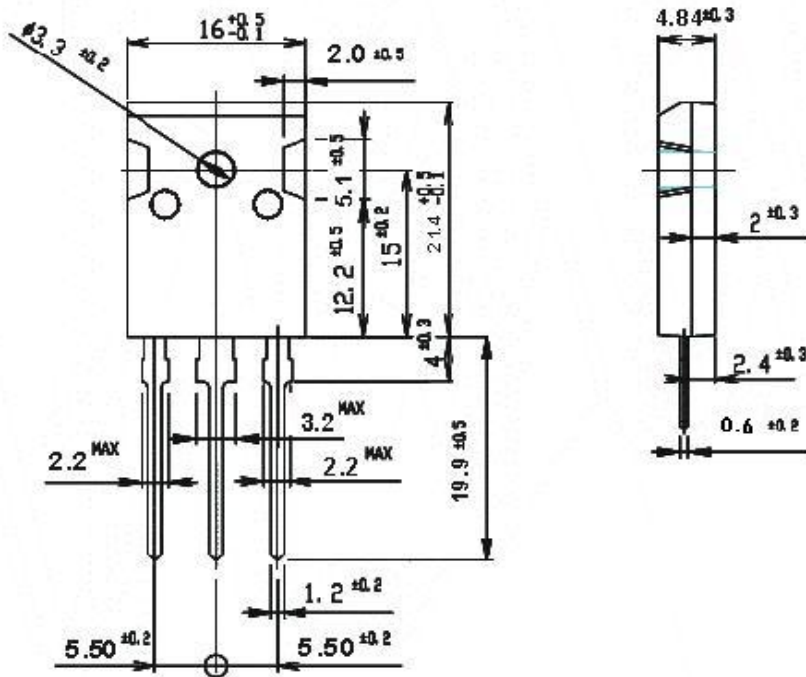
SYMBOL	MILLIMETERS	
	MIN.	MAX.
A	4.58	4.82
A <sub>1</sub>	2.29	2.66
b	1.17	1.35
b <sub>1</sub>	1.53	1.77
b <sub>2</sub>	2.42	2.66
c	0.51	0.71
D	20.32	20.82
E	15.37	15.87
e	5.56	BSC.
L	15.75	16.25
L <sub>1</sub>	3.69	3.93
øP	3.51	3.65
Q	5.34	5.58
øR	4.96	5.20
øS	6.61	6.85

### OPTION 1(MX)



Symbol	Dimensions In Millimeters	
	Min	Max
A	4.850	5.150
A1	2.200	2.600
b	1.000	1.400
b1	2.800	3.200
b2	1.800	2.200
c	0.500	0.700
c1	1.900	2.100
D	15.450	15.750
E1	3.500 REF	
E2	3.600 REF	
L	40.900	41.300
L1	24.800	25.100
L2	20.300	20.600
Φ	7.100	7.300
e	5.450 TYP	
H	5.980 REF	
h	0.000	0.300

**OPTION 2(CJ)**



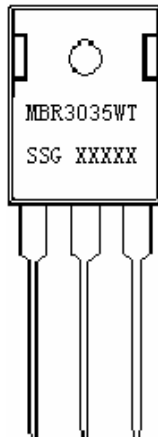
OPTION 2(SR)

TO-247AD

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**Marking Diagram:**



Where XXXXX is YYWWL

MBR = Device Type  
 30 = Forward Current (30A)  
 35 = Reverse Voltage (35V)  
 WT = Configuration  
 SSG = SSG  
 YY = Year  
 WW = Week  
 L = Lot Number

**Cautions:** Molding resin  
 Epoxy resin UL:94V-0

**Ordering Information:**

Device	Package	Shipping
MBR3035WT	TO-247AD (Pb-Free)	30pcs/ tube

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

**Maximum Ratings:**

Characteristics	Symbol	Condition	Max.		Units
Peak Inverse Voltage	$V_{RWM}$	-	35	MBR3035WT	V
			40	MBR3040WT	
			45	MBR3045WT	
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C=123$ °C, rectangular wave form	15(per leg)		A
			30(per device)		
Peak Repetitive Forward Current (per leg)	$I_{FRM}$	Rated $V_R$ , square wave, 20KHz $T_C=123$ °C	30		A
Max. Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3 ms, half Sine pulse	240		A
Peak Repetitive Reverse Current	$I_{RRM}$	2.0µsec 1.0KHz	2.0		A

**Electrical Characteristics:**

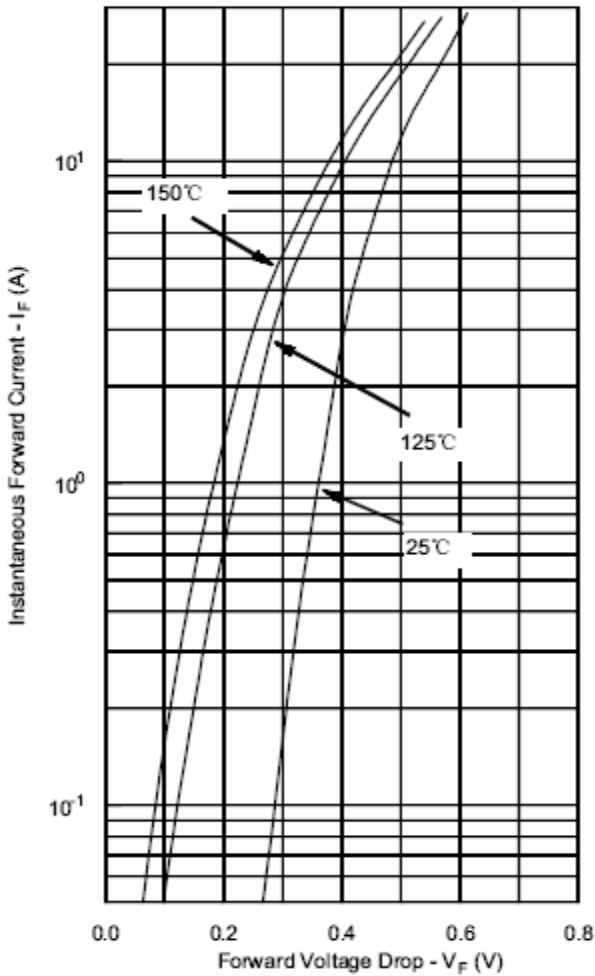
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop*	$V_{F1}$	@ 15 A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.70	V
		@ 30 A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.84	
	$V_{F2}$	@ 15 A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.57	V
		@ 30 A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.72	
Max. Reverse Current (per leg) *	$I_{R1}$	@ $V_R = \text{rated } V_R$ $T_C = 25\text{ }^\circ\text{C}$	1.0	mA
	$I_{R2}$	@ $V_R = \text{rated } V_R$ $T_C = 125\text{ }^\circ\text{C}$	100	mA
Max. Junction Capacitance (per leg)	$C_T$	@ $V_R = 5\text{V}$ , $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	800	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%

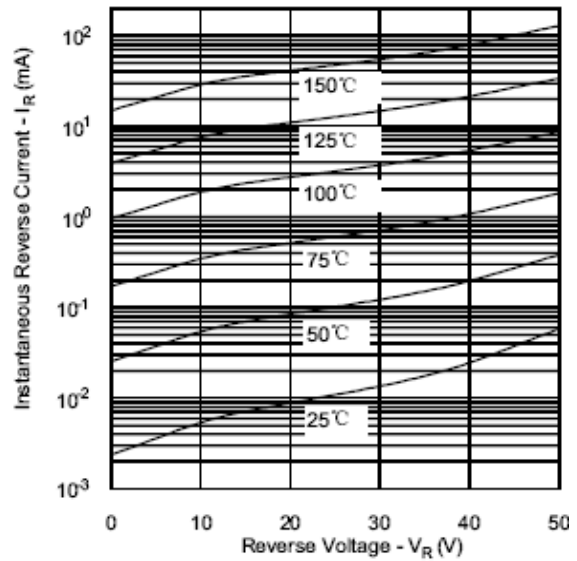
**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature Range	$T_J$	-	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-	-55 to +150	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	1.40	$^\circ\text{C/W}$
Approximate Weight	wt	-	6.7	g
Case Style	TO-247AD			

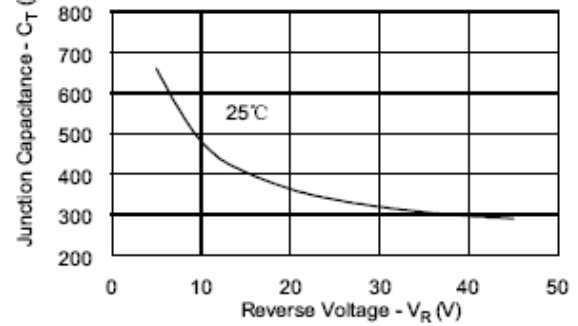
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



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