



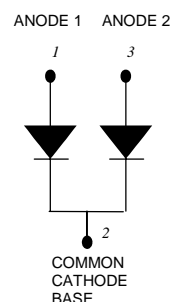
## MBR40100WT SCHOTTKY RECTIFIER

### Applications:

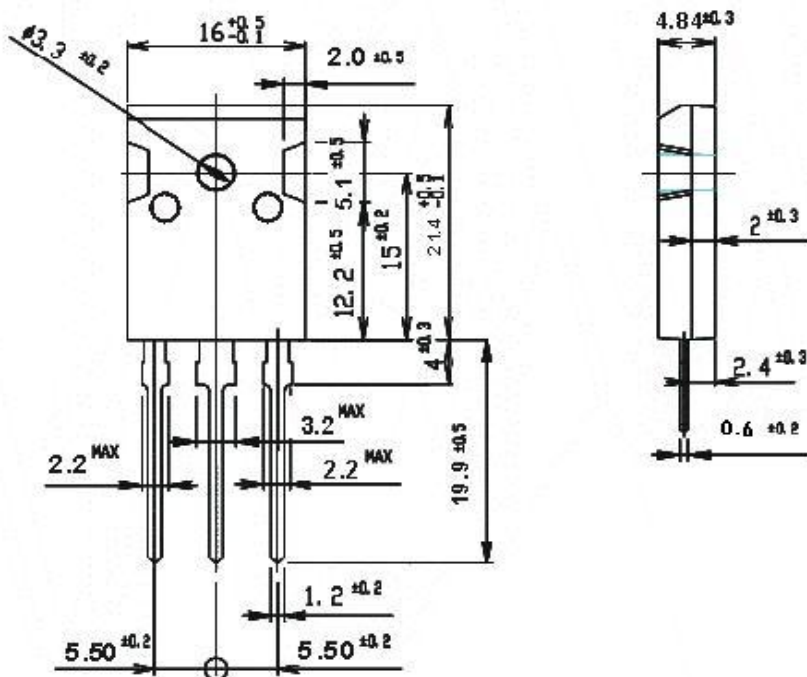
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection
- Center tap configuration

### Features:

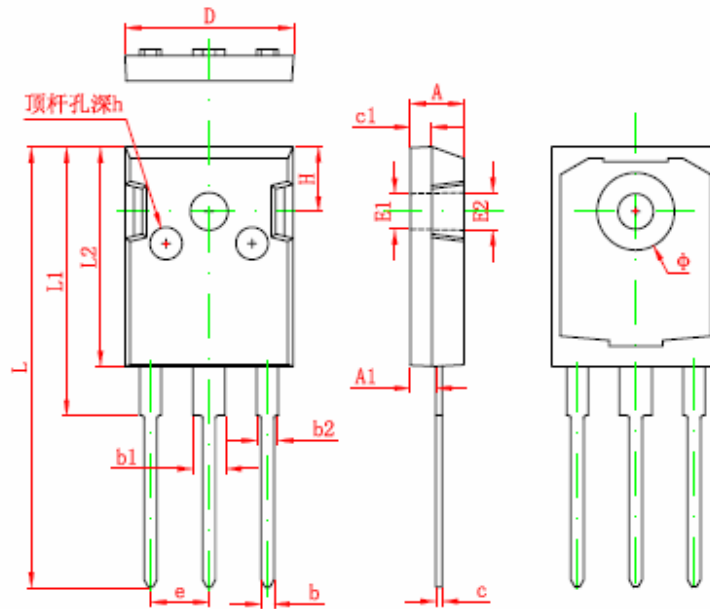
- 150 °C T<sub>J</sub> operation
- Center tap TO-247AD package
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request



### Mechanical Dimensions: In mm/Inches



### OPTION 1(SR)

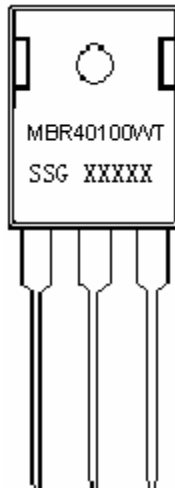


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.850	5.150	0.191	0.200
A1	2.200	2.600	0.087	0.102
b	1.000	1.400	0.039	0.055
b1	2.800	3.200	0.110	0.126
b2	1.800	2.200	0.071	0.087
c	0.500	0.700	0.020	0.028
c1	1.900	2.100	0.075	0.083
D	15.450	15.750	0.608	0.620
E1	3.500 REF		0.138 REF	
E2	3.600 REF		0.142 REF	
L	40.900	41.300	1.610	1.626
L1	24.800	25.100	0.976	0.988
L2	20.300	20.600	0.799	0.811
Φ	7.100	7.300	0.280	0.287
e	5.450 TYP		0.215 TYP	
H	5.980 REF		0.235 REF	
h	0.000	0.300	0.000	0.012

**OPTION 2(CJ)**

**TO-247AD**

**Marking Diagram:**



Where XXXXX is YYWWL

MBR = Device Type  
40 = Forward Current (40A)  
100 = Reverse Voltage (100V)  
WT = Configuration  
SSG = SSG  
YY = Year  
WW = Week  
L = Lot Number

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

**Ordering Information:**

Device	Package	Shipping
MBR40100WT	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 Reverse Voltage	VRWM	-	100	V
Max. Average Forward	IF(AV)	50% duty cycle @Tc =135°C rectangular wave form	40	A
Peak Repetitive Forward Current(per leg)	IFRM	Rated VR square wave, 20KHz Tc =135°C	20	A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	IFSM	8.3 ms, half Sine pulse	280	A

**Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	V <sub>F1</sub>	@ 20A, Pulse, T <sub>J</sub> = 25°C	0.88	V
	V <sub>F2</sub>	@ 20 A, Pulse, T <sub>J</sub> = 125°C	0.74	V
Max. Reverse Current (per leg) *	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>DC</sub> T <sub>J</sub> = 25°C	1.0	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>DC</sub> T <sub>J</sub> = 125°C	6.0	mA
Max. Junction Capacitance (per leg)	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25°C f <sub>SIG</sub> = 1MHz	400	pF
Typical Series Inductance (per leg)	L <sub>S</sub>	Measured lead to lead 5 mm from package body	8.0	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/μs

\* Pulse Width < 300μs, Duty Cycle <2%

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature Range	T <sub>J</sub>	-	-55 to +150	°C
Storage Temperature Range	T <sub>stg</sub>	-	-55 to +150	°C
Maximum Thermal Resistance Junction to Case	R <sub>θJC</sub>	DC operation	2.0	°C/W
Approximate Weight	wt	-	6.7	g
Case Style	TO-247AD			

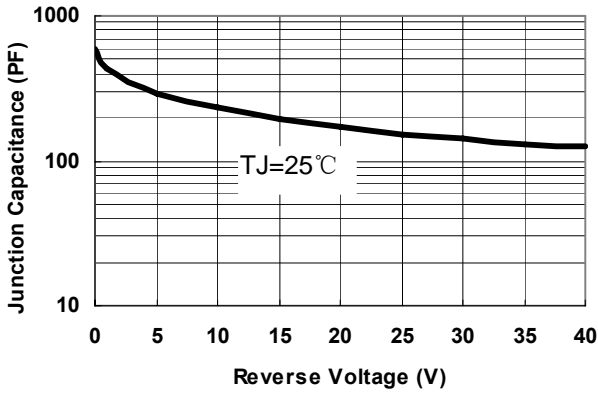


Fig.1-Typical Junction Capacitance

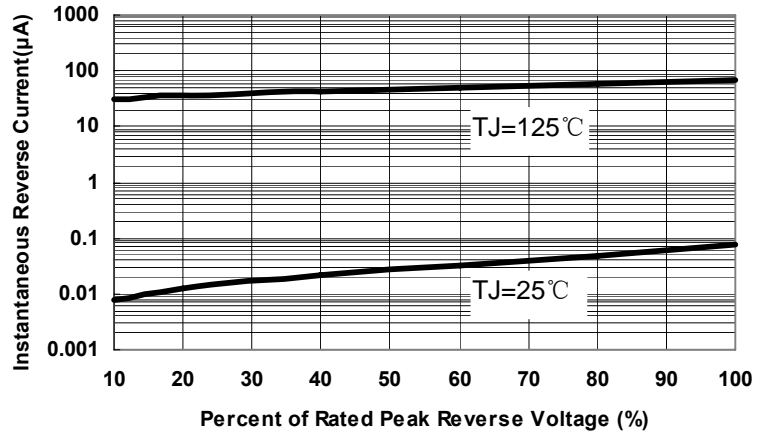


Fig.2-Typical Reverse Characteristics

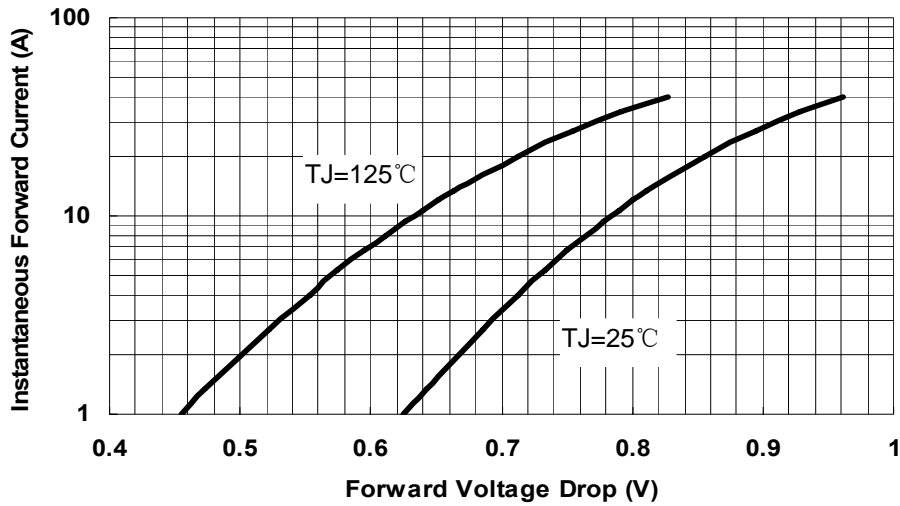


Fig.3-Typical Instantaneous Forward Voltage Characteristics

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