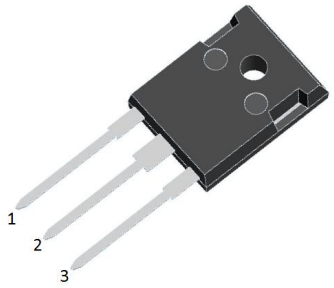
Technical Data
Data Sheet N0760, Rev. B

MBR20100WT SCHOTTKY RECTIFIER

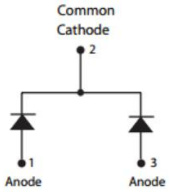


TO-247AD

Features

- 150 °C T_J operation
- 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

Circuit Diagram



Applications

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

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	100	V
Average Rectified Forward Current	$I_{F\ (AV)}$	50% duty cycle @Tc=133°C, rectangular wave form	10(Per Leg) 20(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I_{FSM}	8.3ms, Half Sine pulse	150	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (Per Leg)*	V_{F1}	@ 10A, Pulse, T_J = 25 °C	0.83	0.85	V
	V_{F2}	@ 10A, Pulse, T_J = 125 °C	0.72	0.75	V
Reverse Current (Per Leg)*	I_{R1}	@V_R = rated VR Pulse T_J = 25 °C	0.0007	1.0	mA
	I_{R2}	@V_R = rated VR , Pulse T_J = 125 °C	0.1	6.0	mA
Junction Capacitance(Per Leg)	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	300	500	pF
Voltage Rate of Change	dv/dt	-	-	10,000	V/µs

* Pulse width < 300 µs, duty cycle < 2%

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Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	°C
Storage Temperature	T_{stg}	-	-55 to +150	°C
Typical Thermal Resistance Case to heatsink	$R_{\theta JCH}$	DC operation	2	°C/W
Approximate Weight	wt	-	6.28	g
Case Style	TO-247AD			

Ratings and Characteristics Curves

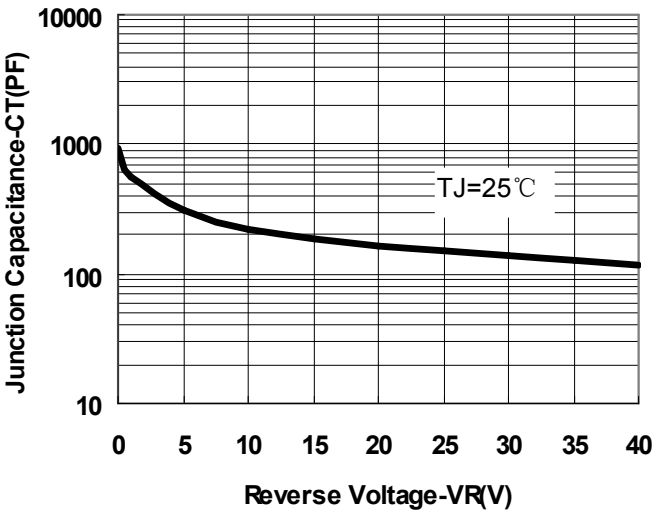

Fig.1-Typical Junction Capacitance

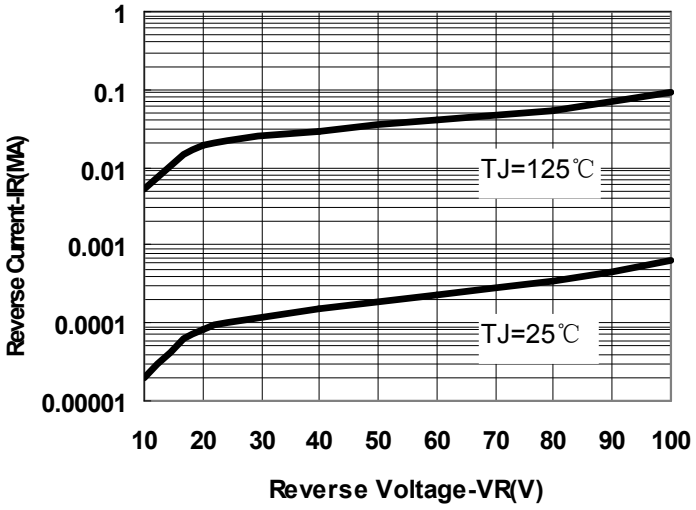

Fig.2-Typical Reverse Characteristics

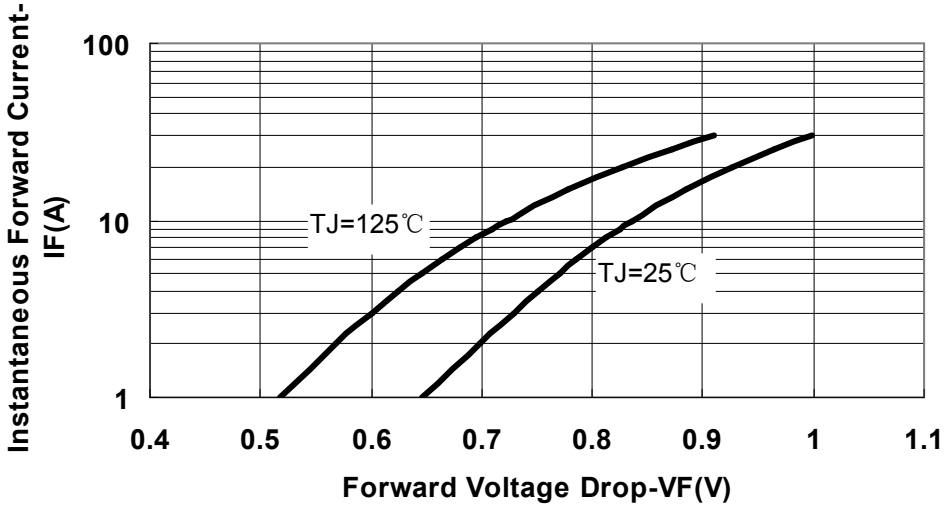

Fig.3-Typical Instantaneous Forward Voltage Characteristics

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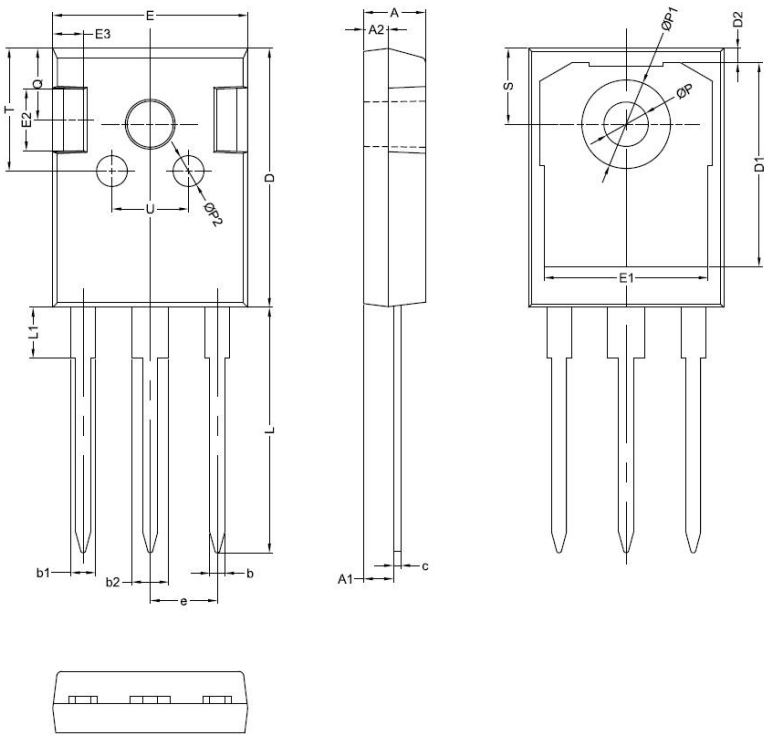
Mechanical Dimensions TO-247AD



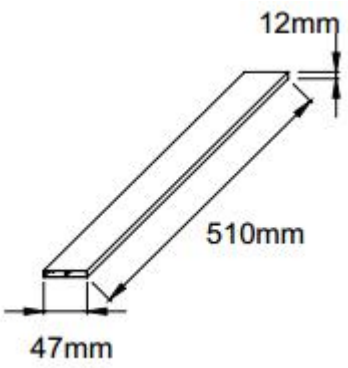
SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	4.80	5.00	5.20
A1	2.20	2.41	2.61
A2	1.90	2.00	2.10
b	1.10	1.20	1.40
b1	1.80	2.00	2.20
b2	2.80	3.00	3.20
c	0.50	0.60	0.75
D	20.30	21.00	21.20
D1		16.55	
D2		1.20	
E	15.45	15.80	16.00
E1		13.30	
E2		5.00	
E3		2.50	
e		5.44	
L	19.42	19.92	20.70
L1		4.13	
P	3.50	3.60	3.70
P1	7.1		7.40
P2		2.50	
Q		5.80	
S	6.05	6.15	6.25
T		10.00	
U		6.20	

Ordering Information:

Device	Package	Shipping
MBR20100WT	TO-247AD(Pb-Free)	25pcs / tube

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Tube Specification



Marking Diagram

Where XXXXX is YYWWL

MBR	= Device Type
20	= Forward Current (20A)
100	= Reverse Voltage (100V)
WT	= Configuration
SSG	= SSG
YY	= Year
WW	= Week
L	= Lot Number

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

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