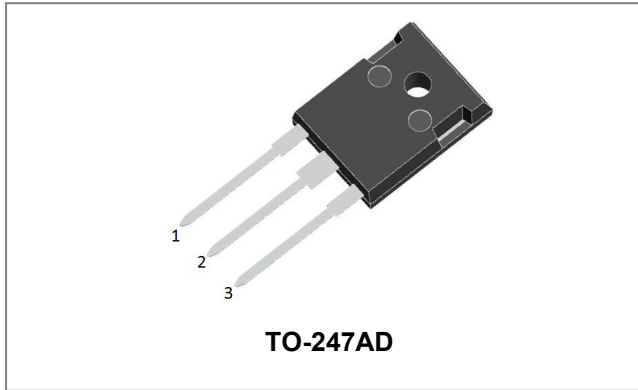


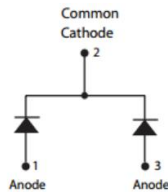
MBR90200WT SCHOTTKY RECTIFIER



Features

- 175 °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
- Terminals finish: 100% Pure Tin
- 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(limiting values, at 25 °C unless otherwise specified):

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	V _{RRM}	-	200	V
Working Peak Reverse Voltage	V _{RWM}			
DC Blocking Voltage	V _R			
Average Rectified Forward Current	I _{F(AV)}	50% duty cycle @T _c =155°C, rectangular wave form	45(Per Leg) 90(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I _{FSM}	8.3ms, Half Sine pulse	860	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (Per Leg)*	V _{F1}	@ 45A, Pulse, T _J = 25 °C	0.89	0.96	V
	V _{F2}	@ 45A, Pulse, T _J = 125 °C	0.78	0.86	V
Reverse Current (Per Leg)*	I _{R1}	@V _R = rated V _R T _J = 25 °C	0.0004	1	mA
	I _{R2}	@V _R = rated V _R T _J = 125 °C	0.10	25.0	mA
Junction Capacitance(Per Leg)	C _T	@V _R = 5V, T _C = 25 °C f _{SIG} = 1MHz	740	900	pF
Voltage Rate of Change	dv/dt	-	-	10,000	V/μs

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

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +175	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-	-55 to +150	$^{\circ}\text{C}$
Typical Thermal Resistance Case to Heat Sink	$R_{\theta\text{JCH}}$	DC operation	0.25	$^{\circ}\text{C/W}$
Typical Thermal Resistance Junction to Case	$R_{\theta\text{JC}}$	DC operation	0.47	$^{\circ}\text{C/W}$
Approximate Weight	wt	-	6.28	g
Case Style	TO-247AD			

Ratings and Characteristics Curves

Figure 1 Typical Forward Characteristics

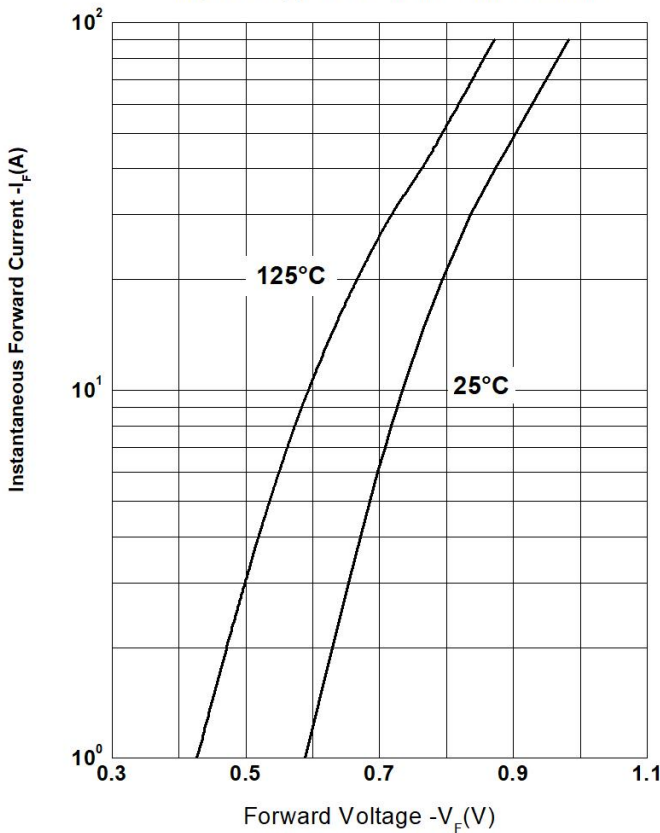


Figure 2 Typical Reverse Characteristics

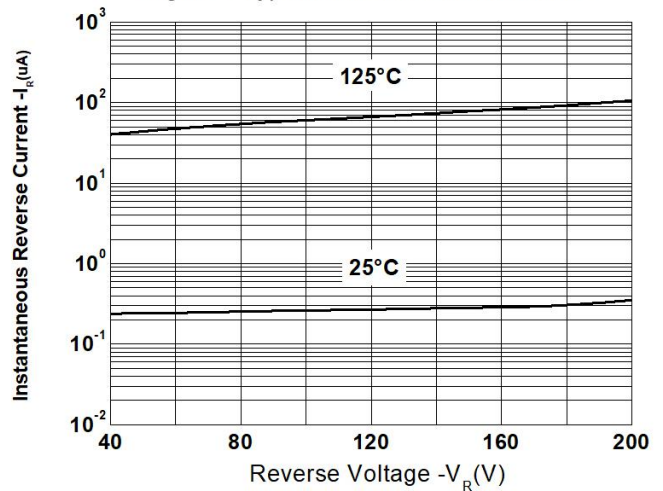
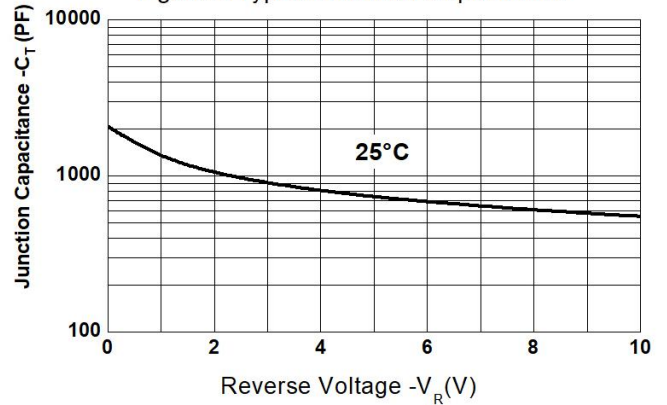
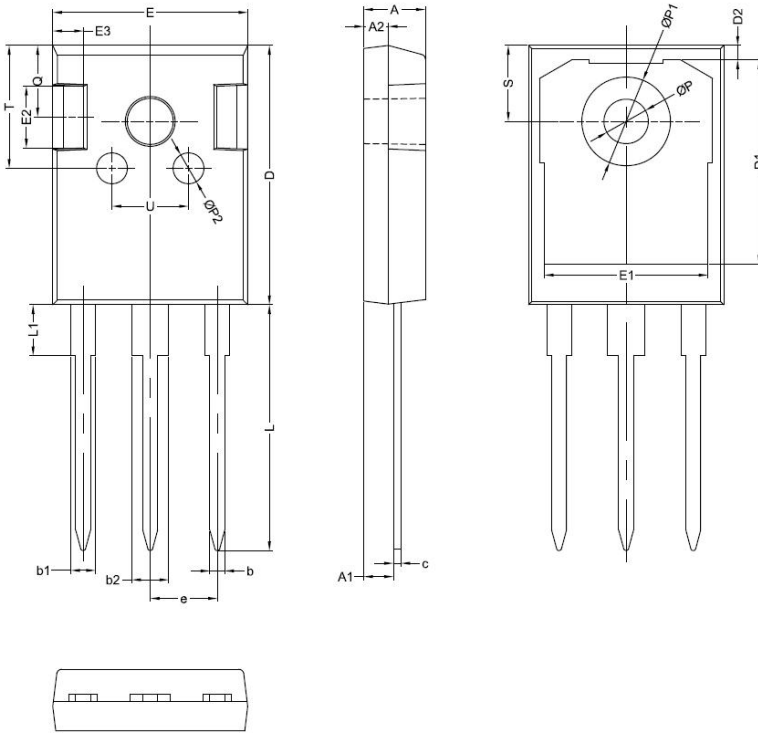


Figure 3 Typical Junction Capacitance

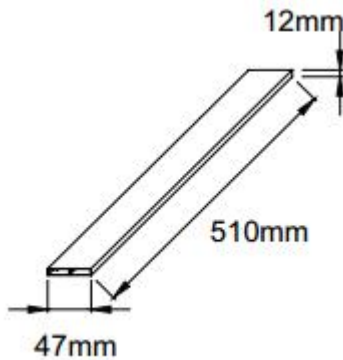
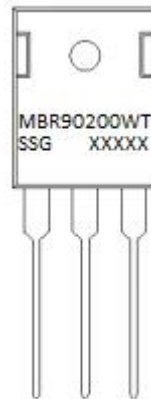


Mechanical Dimensions TO-247AD


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
MBR90200WT	TO-247AD(Pb-Free)	25pcs / tube

Tube Specification

Marking Diagram


Where XXXXX is YYWWL

MBR = Device Type
 90 = Forward Current (90A)
 200 = Reverse Voltage (200V)
 WT = Configuration
 SSG = SSG
 YY = Year
 WW = Week
 L = Lot Number

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

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