

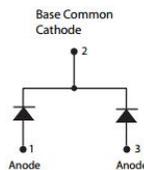
MBR6040WT/MBR6045WT SCHOTTKY RECTIFIER



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
- 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:

Characteristics	Symbol	Condition	Max.		Units
Peak Repetitive Reverse Voltage	V _{RRM}	-	40	MBR6040WT	V
Working Peak Reverse Voltage	V _{RWM}		45	MBR6045WT	
DC Blocking Voltage	V _R				
Average Rectified Forward Current	I _{F(AV)}	50% duty cycle @T _c =135°C, rectangular wave form	30(Per Leg) 60(Per Device)		A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I _{FSM}	8.3ms, Half Sine pulse	432		A
Repetitive Avalanche Current(Per Leg)	I _{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T _J max.V _A =1.5 × V _R typical	6		A
Non-Repetitive Avalanche Energy(Per Leg)	E _{AS}	T _J =25°C, I _{AS} =4A, L=3.4mH	27		mJ

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (Per Leg)*	V _{F1}	@ 30A, Pulse, T _J = 25°C	0.54	0.65	V
	V _{F2}	@ 30A, Pulse, T _J = 125°C	0.50	0.55	V
Reverse Current (Per Leg)*	I _{R1}	@V _R = rated V _R , T _J = 25°C	0.2	1.0	mA
	I _{R2}	@V _R = rated V _R , T _J = 125°C	70	150	mA
Junction Capacitance(Per Leg)	C _T	@V _R = 5V, T _C = 25°C, f _{SIG} = 1MHz	1595	1650	pF

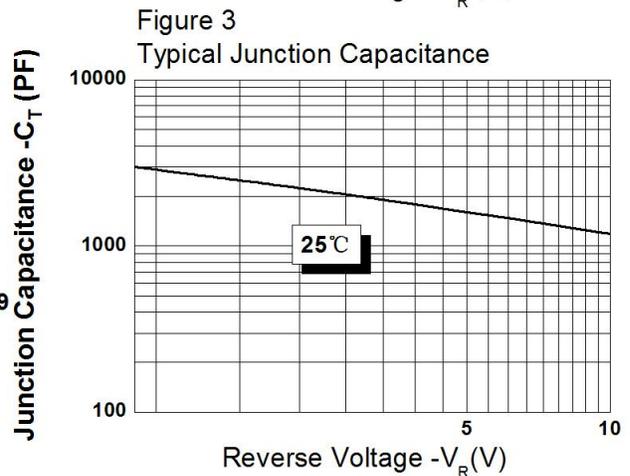
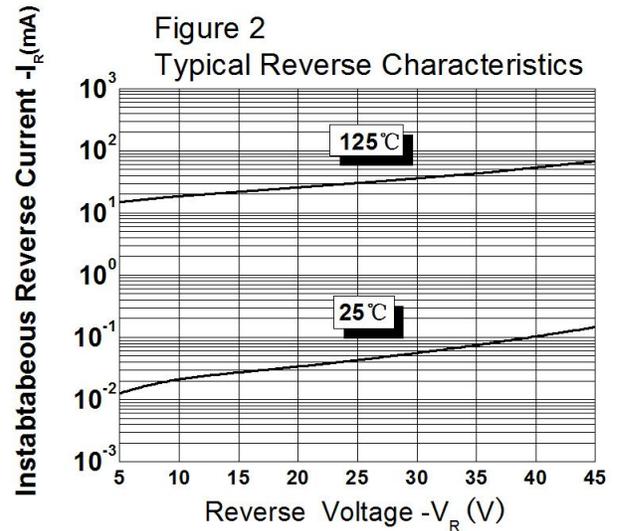
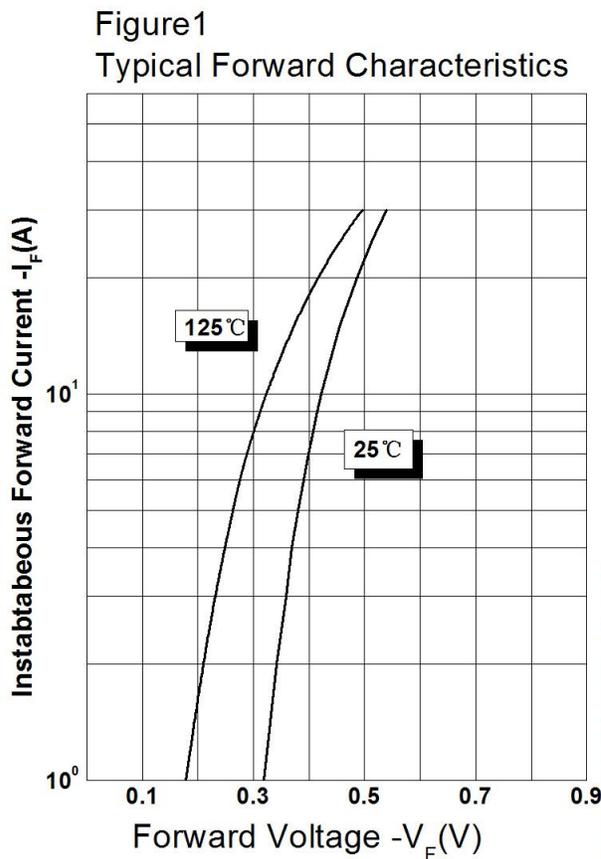
* Pulse width < 300 μs, duty cycle < 2%

- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - sales@smc-diodes.com •

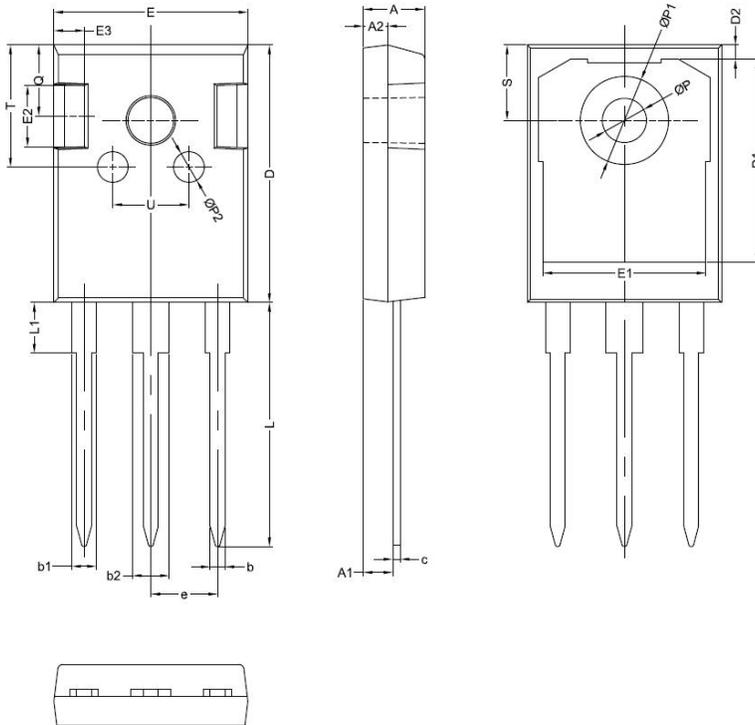
Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	°C
Storage Temperature	T_{stg}	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	1.0(per leg)	°C/W
			0.5(per package)	
Typical Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased	0.24	°C/W
Approximate Weight	wt	-	6.28	g
Case Style	TO-247AD			

Ratings and Characteristics Curves



Mechanical Dimensions TO-247AD



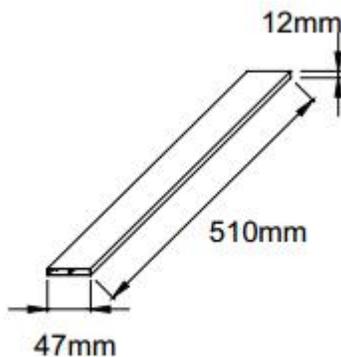
SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	4.80	5.00	5.20
A1	2.20	2.41	2.61
A2	1.90	2.00	2.10
b	1.10	1.20	1.40
b1	1.80	2.00	2.20
b2	2.80	3.00	3.20
c	0.50	0.60	0.75
D	20.30	21.00	21.20
D1		16.55	
D2		1.20	
E	15.45	15.80	16.00
E1		13.30	
E2		5.00	
E3		2.50	
e		5.44	
L	19.42	19.92	20.70
L1		4.13	
P	3.50	3.60	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:

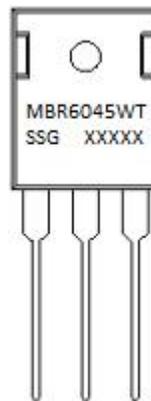
Device	Package	Shipping
MBR6040WT MBR6045WT	TO-247AD(Pb-Free)	25pcs / tube

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
 60 = Forward Current (60A)
 40/45 = Reverse Voltage (40V/45V)
 WT = Configuration
 SSG = SSG
 YY = Year
 WW = Week
 L = Lot Number

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

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