

MBR120HW/MBR140HW SURFACE MOUNT SCHOTTKY BARRIER DIODE

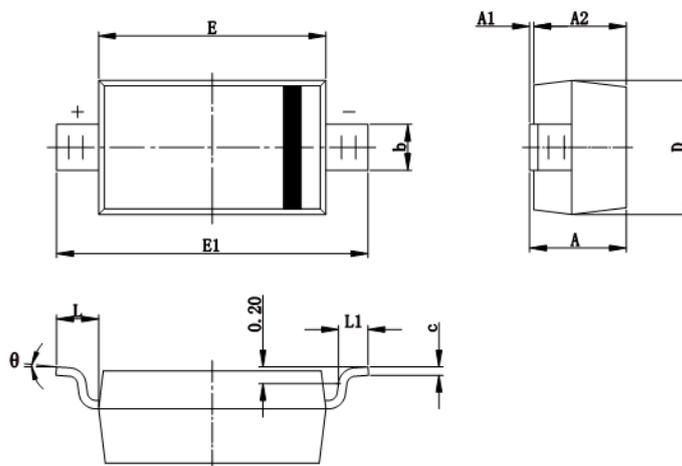
Features:

- Low Turn-on Voltage
- Fast Switching
- PN Junction Guard Ring Transient and ESD Protection
- Designed for Surface Mount Application
- Plastic Material —UL Recognition Flammability Classification 94V-0
- Green Products in Compliance with the ROHS Directive
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Mechanical Data:

- Case: SOD-123, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.01 grams(approx)

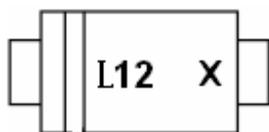
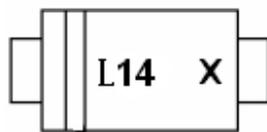
Mechanical Dimensions: In mm / Inches



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

SOD-123(CJ)

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

Marking Diagram:

MBR120HW

MBR140HW

Where X is Date Code

L12/L14 = Part Name

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

Ordering Information:

Device	Package	Shipping
MBR120HW/MBR140HW	SOD-123(Pb-Free)	3000pcs / reel

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

Maximum Ratings @ $T_A=25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	MBR120HW	MBR140HW	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	20	40	V
Forward Continuous Current(Note1)	I_F	1.0		A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load(JEDEC Method)	I_{FSM}	25		A
Power Dissipation(Note1)	P_D	450		mW
Typical Thermal Resistance, Junction to Ambient Air(Note1)	$R_{\theta JA}$	222		$^\circ\text{C}/\text{W}$
Junction and Storage Temperature Range	T_J, T_{STG}	-65 to +125		$^\circ\text{C}$

Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	MBR120HW	MBR140HW	Unit
Forward Voltage Drop @ $I_F=1.0\text{A}$	V_{FM}	0.45	0.55	V
Peak Reverse Leakage Current @DC Blocking Voltage	I_{RM}	0.4	0.5	mA
Typical Junction Capacitance($V_R=4\text{V DC}$, $f=1\text{MHz}$)	C_T	50		pF

Note: 1. Valid provided that terminals are kept at ambient temperature.

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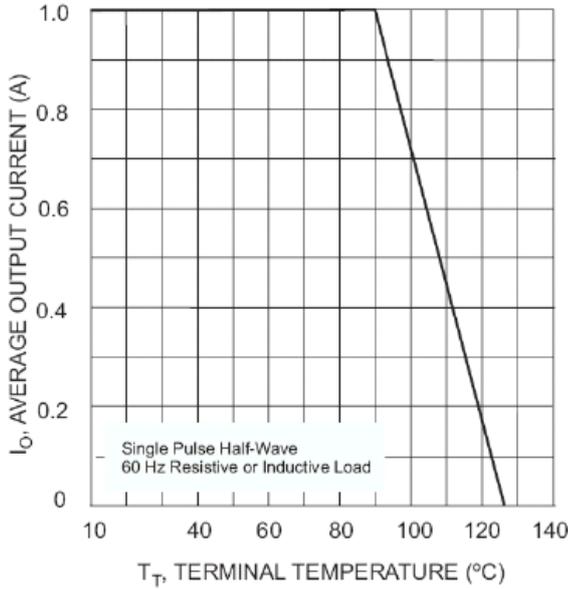


Fig. 1 Forward Current Derating Curve

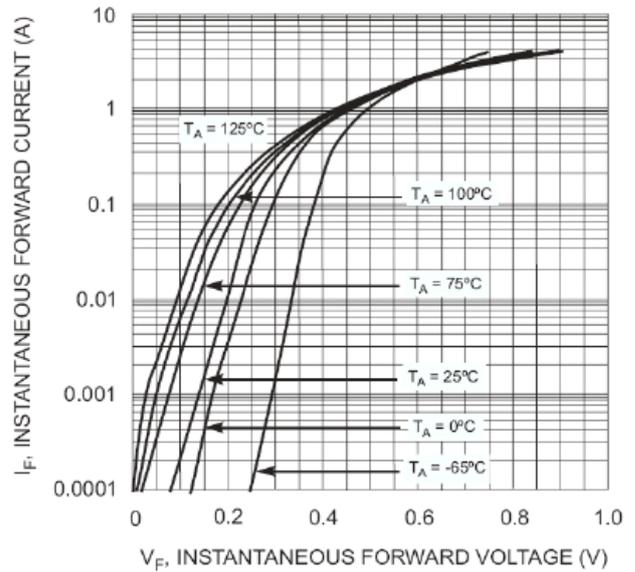


Fig. 2 Typical Forward Characteristics

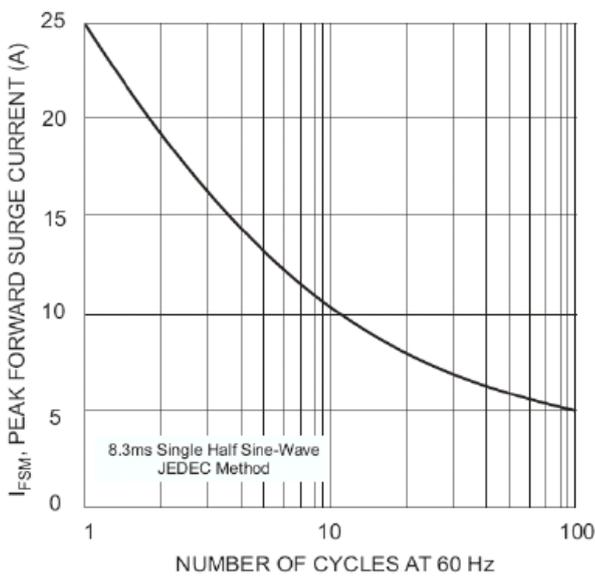


Fig. 3 Maximum Non-Repetitive Peak Fwd Surge Current

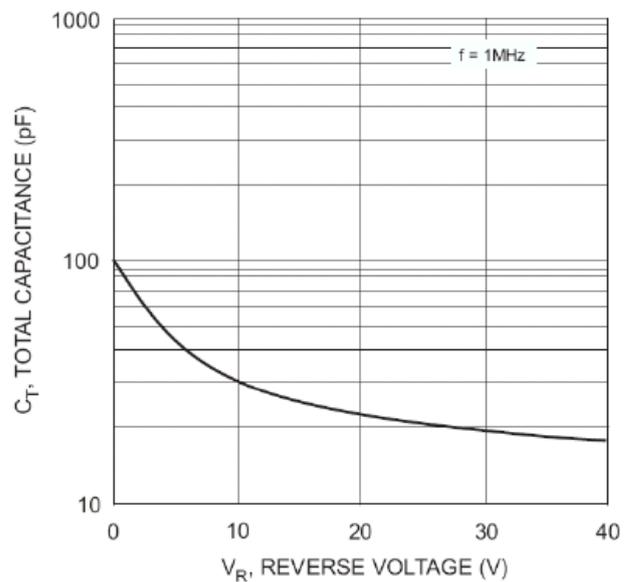


Fig. 4 Typical Total Capacitance



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