Technical Data
Data Sheet N0715, Rev. B

MBR120HW/MBR140HW
SURFACE MOUNT SCHOTTKY BARRIER DIODE

SOD-123

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-O
- 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

Circuit Diagram

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)

Maximum Ratings and Electrical Characteristics @T_A=25°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
Forward Voltage Drop @I_F=1.0A	V_{FM}	0.45	0.55	V
Peak Reverse Leakage Current @DC Blocking Voltage	I_{RM}	0.4	0.5	mA
Typical Junction Capacitance(VR=4V DC, f=1MHz)	CT	50		pF
Typical Thermal Resistance, Junction to Ambient Air(Note1)	$R_{\theta JA}$	222		°C/W
Junction and Storage Temperature Range	T_J, T_{STG}	-65 to +125		°C

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

Technical Data
Data Sheet N0715, Rev. B

RoHS

Ratings and Characteristics Curves

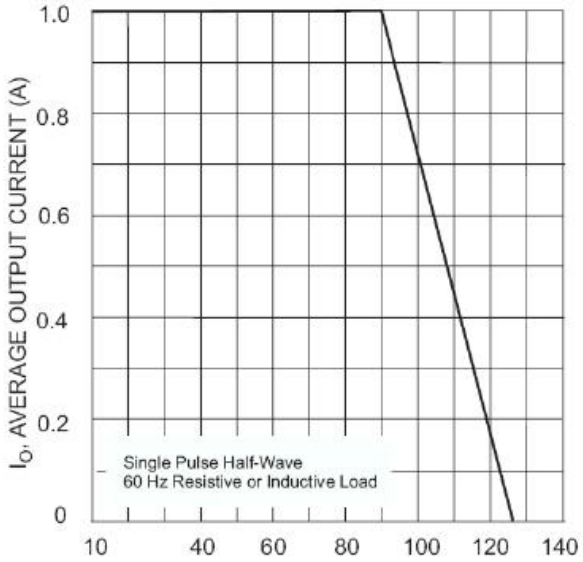


Fig. 1 Forward Current Derating Curve

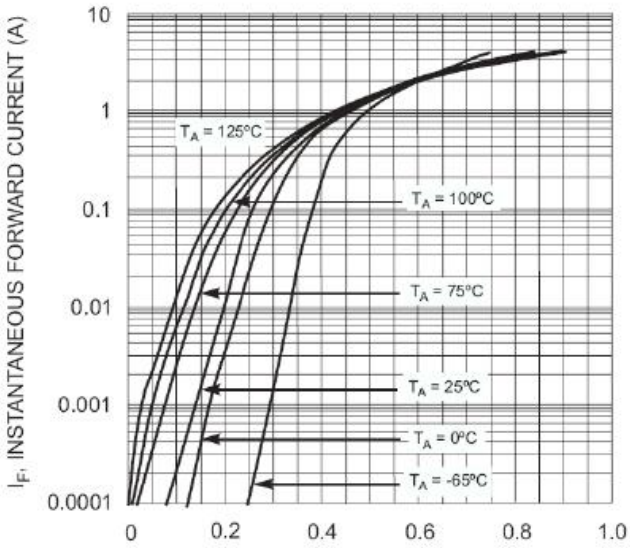


Fig. 2 Typical Forward Characteristics

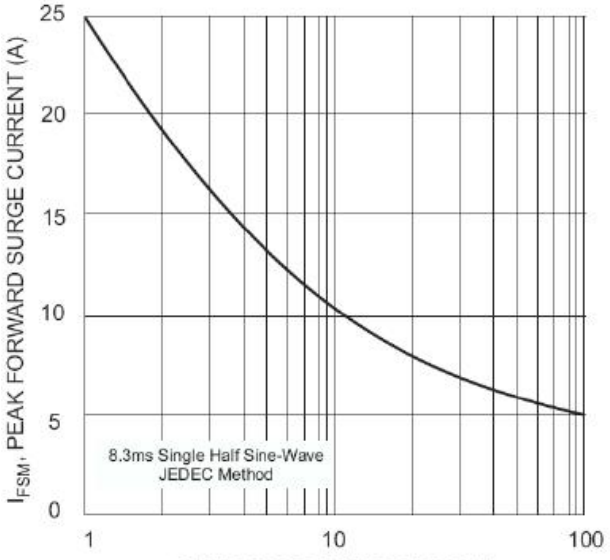


Fig. 3 Maximum Non-Repetitive Peak Fwd Surge Current

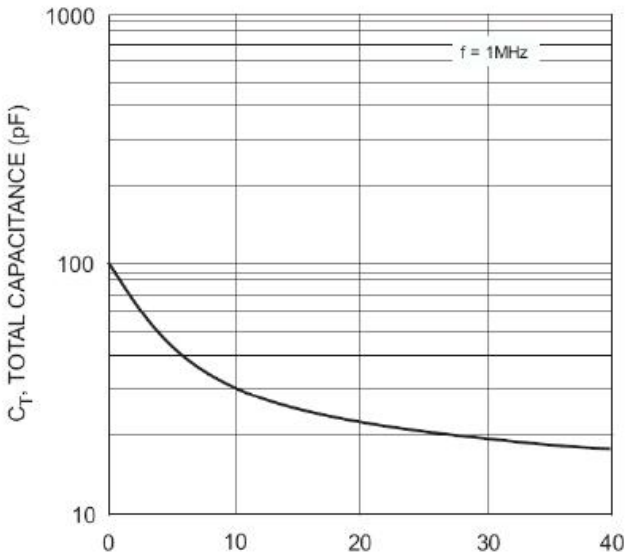
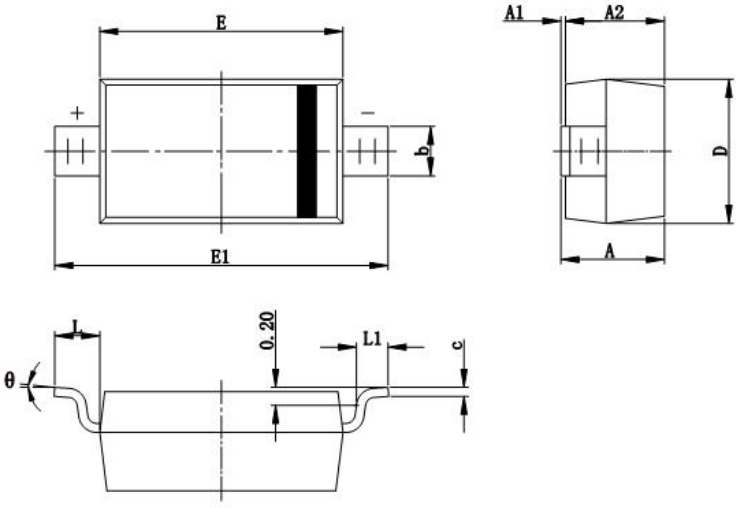


Fig. 4 Typical Total Capacitance

Technical Data
Data Sheet N0715, Rev. B

RoHS

Mechanical Dimensions SOD-123



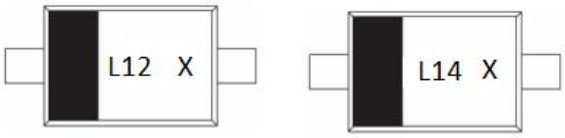
SYMBOL	Millimeters		Inches	
	MIN.	MAX.	MIN.	MAX.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF.		0.020 REF.	
L1	0.250	0.450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

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.

Marking Diagram

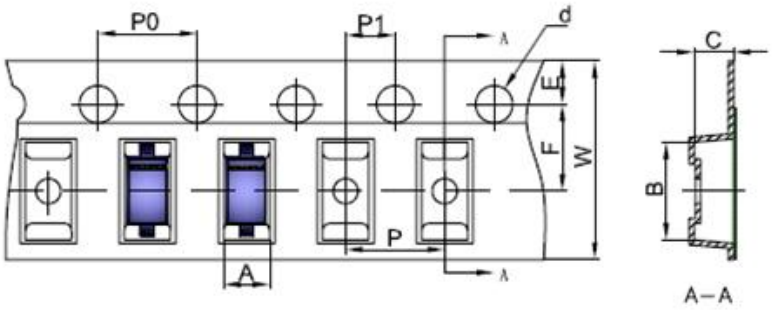


MBR120HW **MBR140HW**

Where X is Date Code

L12/L14 = Part Name

Carrier Tape Specification SOD-123



SYMBOL	Millimeters	
	Min.	Max.
A	1.80	1.90
B	3.89	3.99
C	1.52	1.62
d	1.45	1.65
E	1.65	1.85
F	3.40	3.60
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
W	7.90	8.30

Technical Data
Data Sheet N0715, Rev. B

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