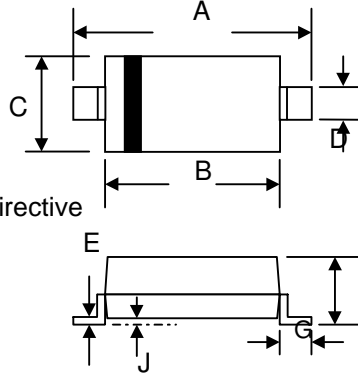


Data Sheet 3344, Rev. —
Features

- Low Turn-on Voltage
- Fast Switching
- PN Junction Guard Ring for 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



SOD-123				
Dim	Min	Max	Min	Max
A	3.6	3.9	0.14	0.154
B	2.5	2.8	0.098	0.110
C	1.4	1.8	0.055	0.070
D	0.5	0.7	0.020	0.028
E	—	0.2	—	0.008
G	0.4	—	0.016	—
H	0.95	1.35	0.037	0.053
J	—	0.12	—	0.005
	In mm		In inch	

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.)
- Marking: MBR120HW-G G3
MBR140HW-G G5

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

Characteristic	Symbol	MBR120HW-G	MBR140HW -G	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	20	40	V
Forward Continuous Current (Note 1)	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 (Note 1)	P_d	450		mW
Typical Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	222		$^\circ\text{C/W}$
Operating 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-G	MBR140HW-G	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}	400	500	μA
Typical Junction Capacitance ($V_R = 4\text{V DC}, f = 1\text{MHz}$)	C_j	50		pF

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

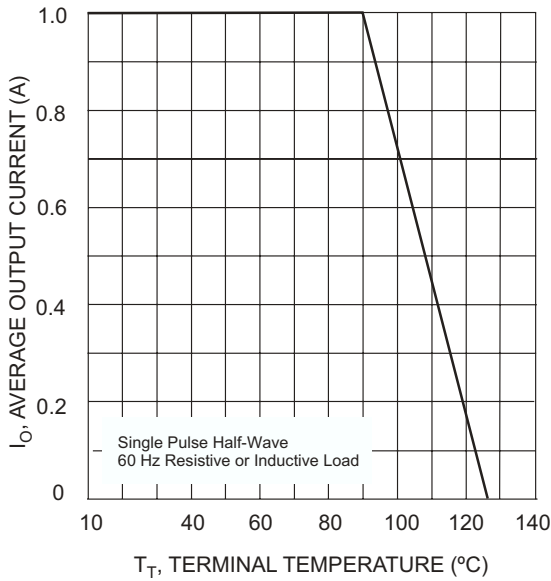


Fig. 1 Forward Current Derating Curve

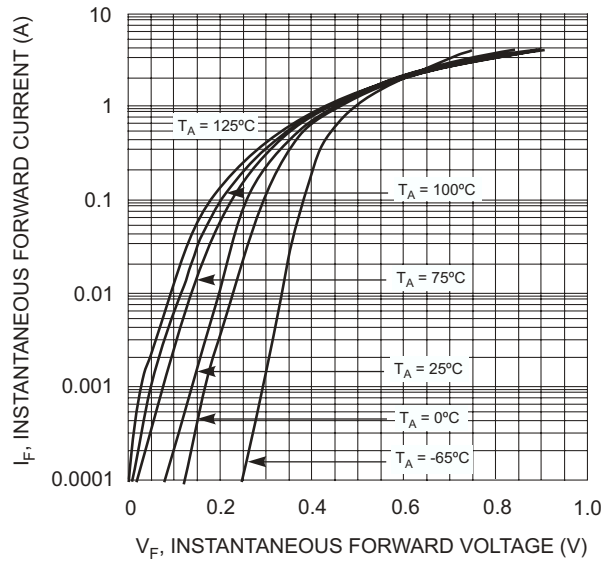


Fig. 2 Typical Forward Characteristics

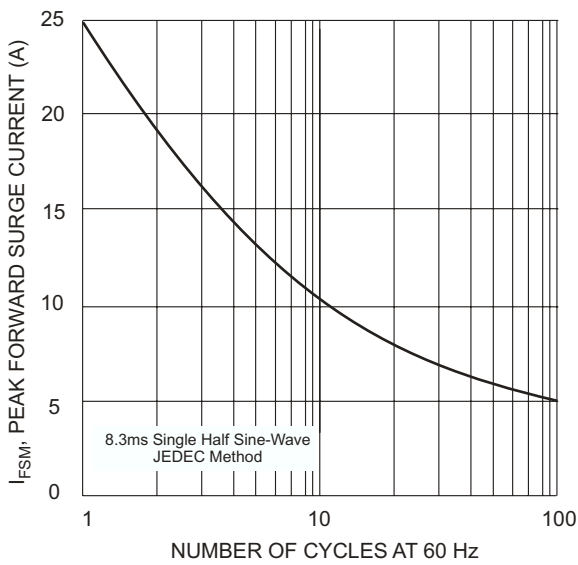


Fig. 3 Maximum Non-Repetitive Peak Fwd Surge Current

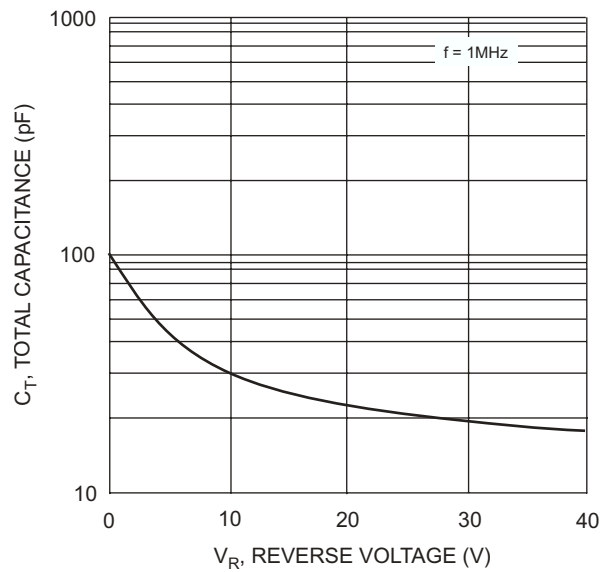


Fig. 4 Typical Total Capacitance

Data Sheet 3344, Rev. —

ORDERING INFORMATION

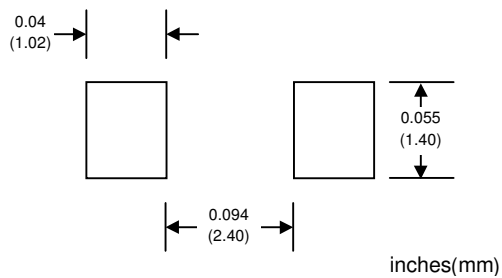
Product No.♦	Package Type	Shipping Quantity
MBR120HW-G-T1	SOD-123	3000/Tape & Reel
MBR120HW-G-T3	SOD-123	10000/Tape & Reel
MBR140HW-G-T1	SOD-123	3000/Tape & Reel
MBR140HW-G-T3	SOD-123	10000/Tape & Reel

Products listed in bold are Sensitron Preferred devices.

♦T1 suffix refers to a 7" reel. T3 suffix refers to a 13" reel.

Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.

RECOMMENDED FOOTPRINT



DISCLAIMER:

- 1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the Sensitron Semiconductor sales department for the latest version of the datasheet(s).
- 2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.
- 3- In no event shall Sensitron Semiconductor be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). Sensitron Semiconductor assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.
- 4- In no event shall Sensitron Semiconductor be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.
- 5- No license is granted by the datasheet(s) under any patents or other rights of any third party or Sensitron Semiconductor.
- 6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of Sensitron Semiconductor.
- 7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations.