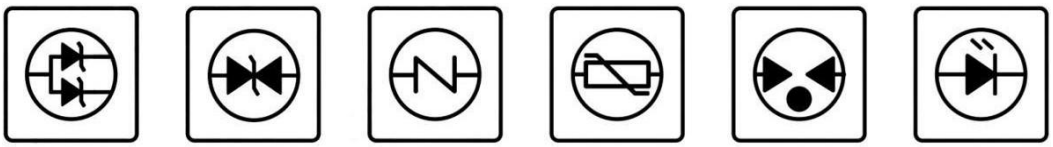
MSKSEMI 美森科
SEMICONDUCTOR



MBRA120ET3G(MS)

Product specification

MBRA120ET3G(MS)

FEATURES

- Highly Stable Oxidation Passivated Junction
- Guardring for Over - Voltage Protection
- Optimized for Low Leakage Current
- Pb / RoHS Free

MECHANICALDATA

- Case : SMA Molded plastic
- Epoxy : UL94V-O rate flame retardant
- Polarity : Color band denotes cathode end
- Mounting position : Any
- Weight : 0.060 gram (Approximately)

Reference News

Outline	Marking
	
SMA	

Maximum Ratings@ TA= 25C unless otherwise specif

RATING	SYMBOL	VALUE	UNIT
Maximum Peak Repetitive Reverse Voltage	V_{RRM}	20	V
Maximum Working Peak Reversr Voltage	V_{RWM}	20	V
Maximum DC Blocking Voltage	V_{DC}	20	V
Maximum Average Forward Current at T_C = 125 °C	$I_{F(AV)}$	1.0	A
Maximum Non-Repetitive Peak Surge Current (Surge Applied at Rate Load Conditions Halfwave, Single Phase, 60 Hz)	I_{FSM}	40	A
Maximum Instantaneous Forward Voltage (Note 1) (I_F = 1.0 A , T_J = 25°C)	V_F	0.530	V
(I_F = 2.0 A , T_J = 25°C)		0.595	
Maximum Instantaneous Reverse Current (Note 1) (V_R = rated V_R , T_J = 25 °C)	I_R	10	μA
(V_R = rated V_R , T_J = 100 °C)	I_{RH}	1600	
Thermal Resistance Junction to Lead (Note 2)	$R_{\theta JL}$	34	°C/W
Thermal ResistanceJunction to Ambient (Note 2)	$R_{\theta JA}$	138	°C/W
Storage/Operating Junction Temperature Range	T_{STG} ,T_J	- 55 to + 150	°C

Notes :

(1) Pulse Test: Pulse Width ≤ 250 μs, Duty Cycle≤ 2 %.

(2) Mounted on a Pad Size of5 mm × 5 mm, PC Board FR4 (2 pads).

FIG.1 - CURRENT DERATING, JUNCTION TO CASE

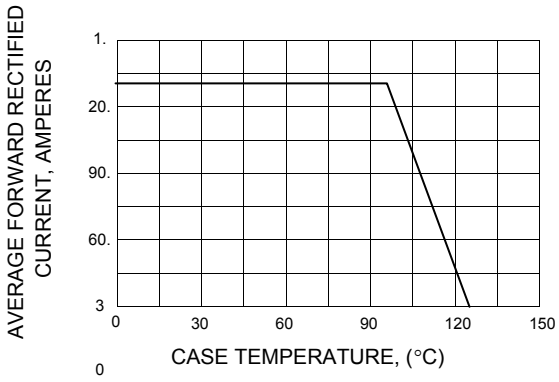


FIG.2 - TYPICAL JUNCTION CAPACITANCE

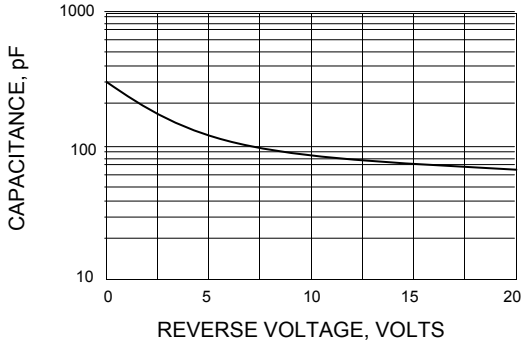


FIG.3 - MAXIMUM INSTANTANEOUS FORWARD VOLTAGE

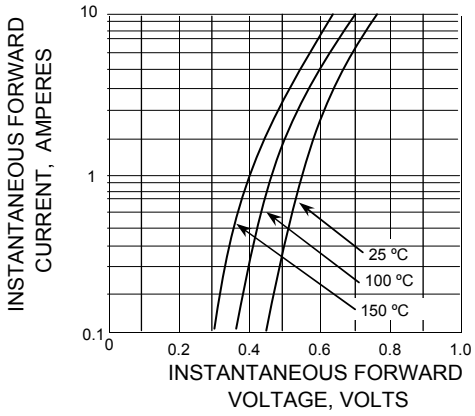


FIG. 4 - TYPICAL REVERSE CURRENT

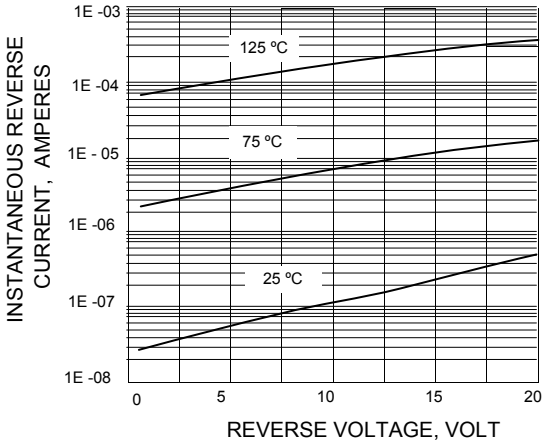
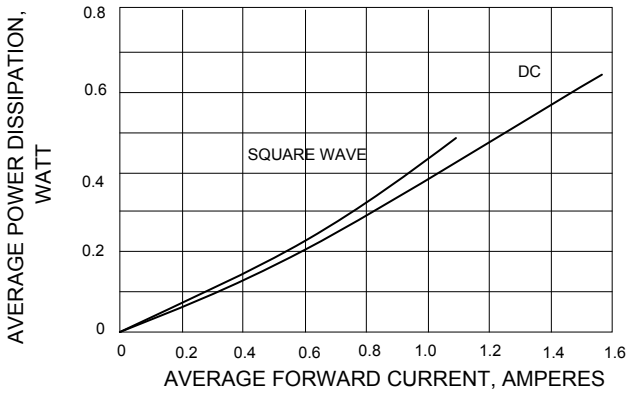
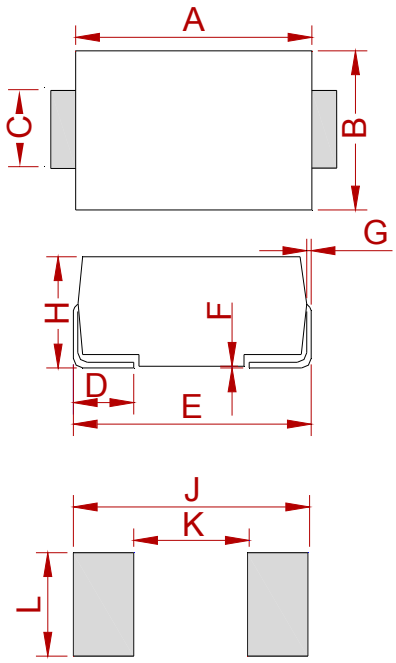


FIG. 5 – FORWARD POWER DISSIPATION



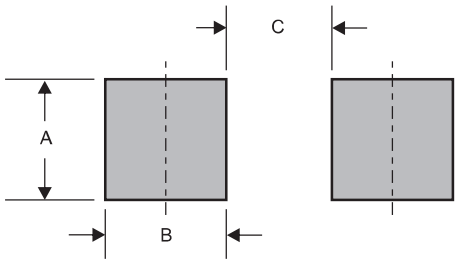
PACKAGE MECHANICAL DATA



DO-214AC (SMA)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.25	4.65	0.167	0.183
B	2.50	2.90	0.098	0.114
C	1.35	1.65	0.053	0.065
D	0.76	1.52	0.030	0.060
E	4.93	5.28	0.194	0.208
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	1.98	2.41	0.078	0.095
J	6.50		0.256	
K		2.30		0.090
L	1.70		0.067	

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMA	0.110 (2.80)	0.063 (1.60)	0.087 (2.20)

REELSPECIFICATION

P/N	PKG	QTY
MBRA120ET3G(MS)	SMA	2000

Attention

■ Any and all MSKSEMI Semiconductor products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your MSKSEMI Semiconductor representative nearest you before using any MSKSEMI Semiconductor products described or contained herein in such applications.

■ MSKSEMI Semiconductor assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specificationsof any andall MSKSEMI Semiconductor products described orcontained herein.

■ Specifications of any and all MSKSEMI Semiconductor products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer'sproducts orequipment.

■ MSKSEMI Semiconductor. strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with someprobability. It is possiblethat these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits anderror prevention circuitsfor safedesign, redundant design, and structural design.

■ In the event that any or all MSKSEMI Semiconductor products(including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from theauthorities concerned in accordance with the above law.

■ No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of MSKSEMI Semiconductor.

■ Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. MSKSEMI Semiconductor believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringementsof intellectual property rights or other rightsof third parties.

■ Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. Whendesigning equipment, referto the "Delivery Specification" for the MSKSEMI Semiconductor productthat you intend to use.