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SEMICONDUCTOR



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## MBRA120ET3G(MS)

Product specification



## 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

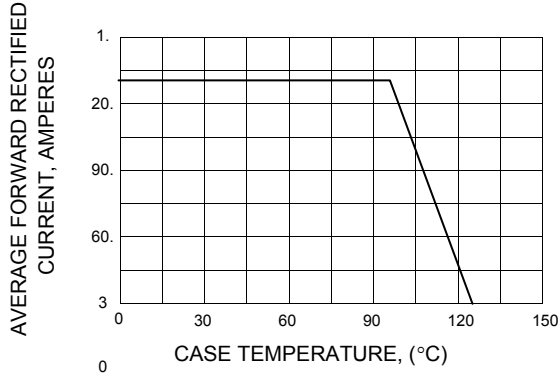
RATING	SYMBOL	VALUE	UNIT
Maximum Peak Repetitive Reverse Voltage	$V_{RRM}$	20	V
Maximum Working Peak Reversr Voltage	$V_{RWM}$	20	V
Maximum DC Blocking Voltage	$V_{DC}$	20	V
Maximum Average Forward Current at $T_C = 125^\circ\text{C}$	$I_{F(AV)}$	1.0	V
Maximum Non-Repetitive Peak Surge Current (Surge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

Notes :

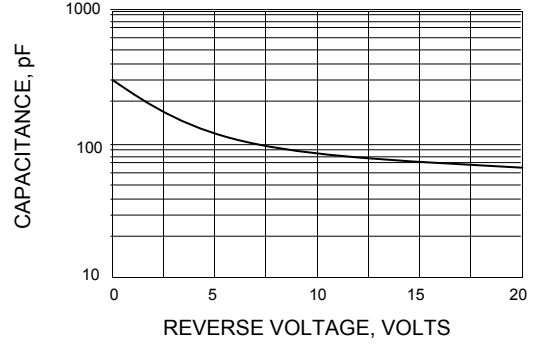
( 1 ) Pulse Test: Pulse Width  $\leq 250\ \mu\text{s}$ , Duty Cycle  $\leq 2\%$ .

( 2 ) Mounted on a Pad Size of  $5\text{ mm} \times 5\text{ mm}$ , PC Board FR4 ( 2 pads ).

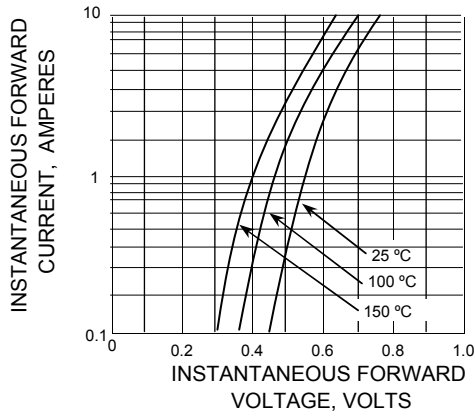
**FIG.1 - CURRENT DERATING,  
JUNCTION TO CASE**



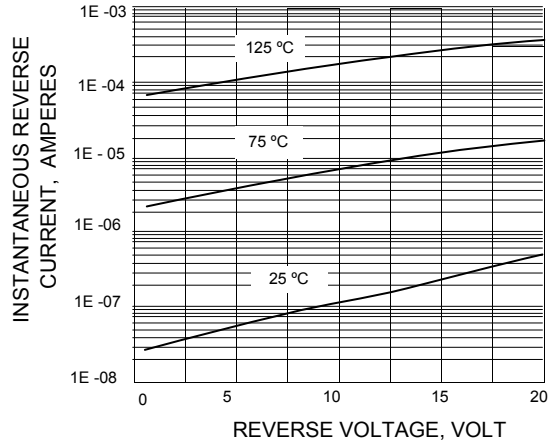
**FIG.2 - TYPICAL JUNCTION CAPACITANCE**



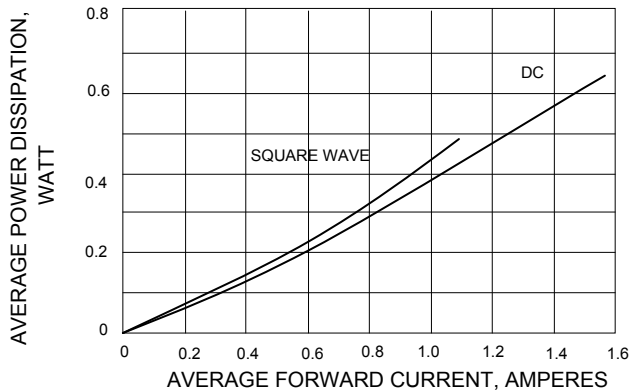
**FIG.3 - MAXIMUM INSTANTANEOUS  
FORWARD VOLTAGE**



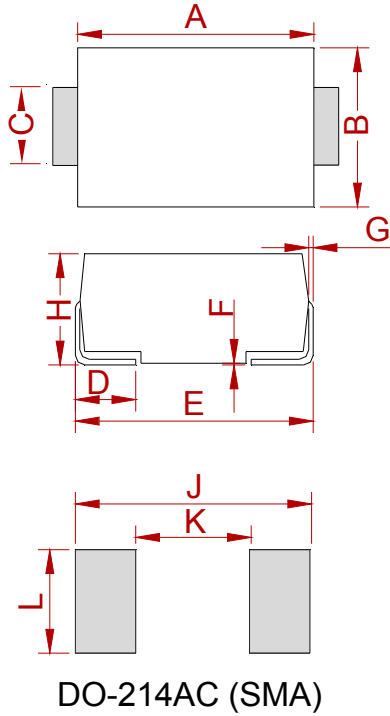
**FIG. 4 - TYPICAL REVERSE CURRENT**



**FIG. 5 - FORWARD POWER DISSIPATION**

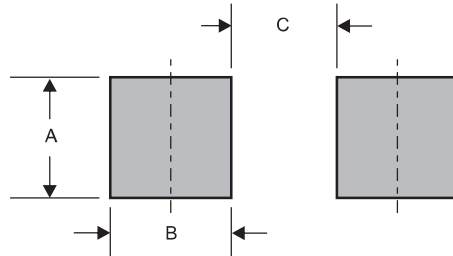


**PACKAGE MECHANICAL DATA**



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)

**REEL SPECIFICATION**

P/N	PKG	QTY
MBRA120ET3G(MS)	SMA	2000

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