

# MBRA120ET3G

**PRV : 20 Volts**  
**Io : 1.0 Ampere**

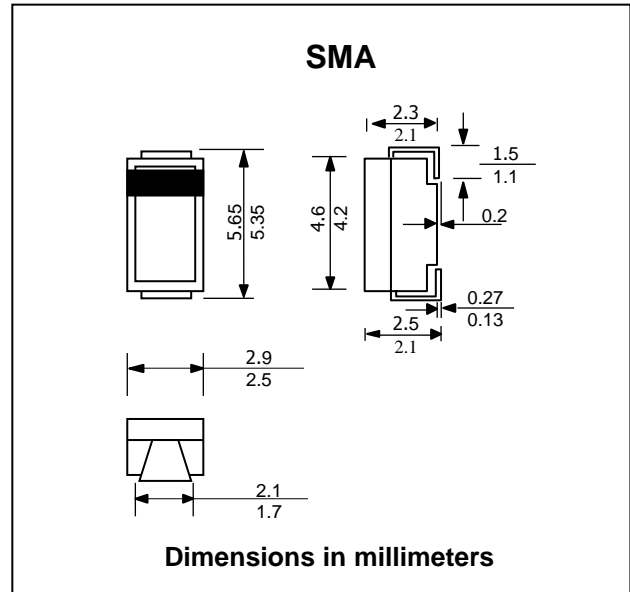
## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

**FEATURES :**

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

**MECHANICAL DATA :**

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



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (Ta=25°C)**

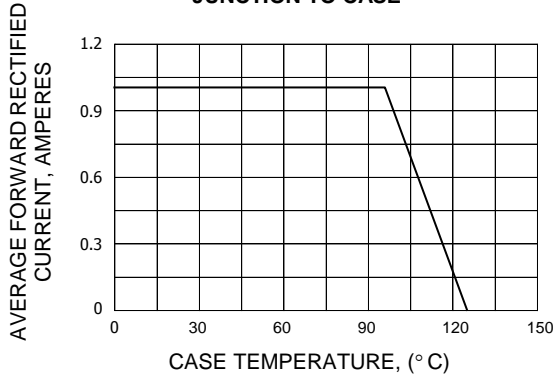
RATING	SYMBOL	VALUE	UNIT
Maximum Peak Repetitive Reverse Voltage	$V_{RRM}$	20	V
Maximum Working Peak Reversr Voltage	$V_{RWM}$	20	V
Maximum DC Blocking Voltage	$V_{DC}$	20	V
Maximum Average Forward Current at $T_c = 125\text{ }^\circ\text{C}$	$I_{F(AV)}$	1.0	V
Maximum Non-Repetitive Peak Surge Current (Surge Applied at Rate Load Conditions Halfwave, Single Phase, 60 Hz)	$I_{FSM}$	40	A
Maximum Instantaneous Forward Voltage (Note 1) ( $I_F = 1.0\text{ A}$ , $T_J = 25\text{ }^\circ\text{C}$ ) ( $I_F = 2.0\text{ A}$ , $T_J = 25\text{ }^\circ\text{C}$ )	$V_F$	0.530 0.595	V
Maximum Instantaneous Reverse Current (Note 1) ( $V_R = \text{rated } V_R$ , $T_J = 25\text{ }^\circ\text{C}$ ) ( $V_R = \text{rated } V_R$ , $T_J = 100\text{ }^\circ\text{C}$ )	$I_R$ $I_{RH}$	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 :**

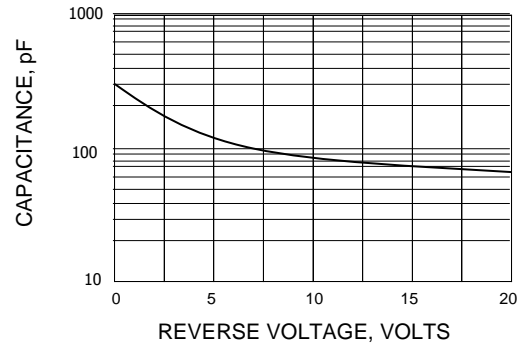
- ( 1 ) Pulse Test : Pulse Width  $\leq 250\text{ }\mu\text{s}$ , Duty Cycle  $\leq 2\%$ .
- ( 2 ) Mounted on a Pad Size of 5 mm x 5 mm, PC Board FR4 ( 2 pads ).

**RATING AND CHARACTERISTIC CURVES ( MBRA120ET3G )**

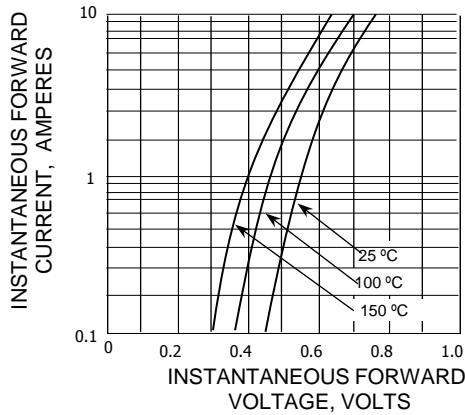
**FIG.1 - CURRENT DERATING, JUNCTION TO CASE**



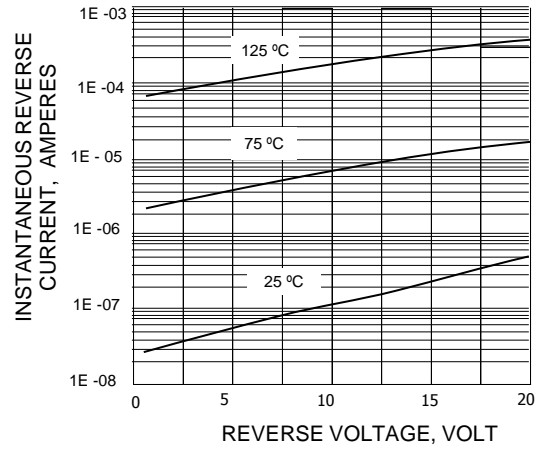
**FIG.2 - TYPICAL JUNCTION CAPACITANCE**



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



**FIG. 4 - TYPICAL REVERSE CURRENT**



**FIG. 5 - FORWARD POWER DISSIPATION**

