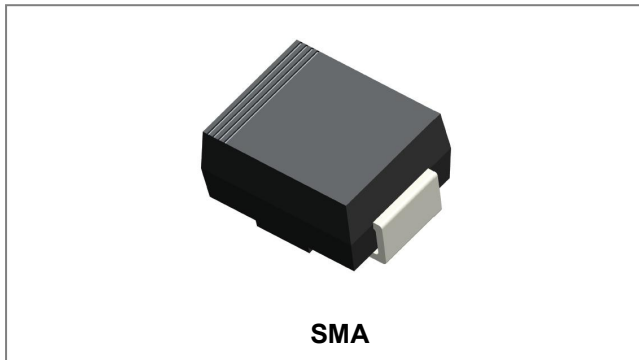


## US1M SURFACE MOUNT ULTRA FAST RECTIFIER



### Features

- Ideally Suited for Automatic Assembly
- Low Forward Overload Drop, High Efficiency
- Low Power Loss
- Super-Fast Recovery Time
- Plastic Material has UL Classification 94V-O
- 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:** Low Profile Molded Plastic
- **Terminals:** Solder Plated, Solderable per MIL-STD-750, Method 2026
- **Polarity:** Cathode Band or Cathode Notch
- **Weight:** 0.06 grams(approx)

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

Characteristic	Symbol	US1M	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	1000	V
Maximum Average Rectified Output Current @ $T_A = 75^{\circ}\text{C}$	$I_O$	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30	A
Maximum Forward Voltage @ $I_F = 1.0\text{A}$	$V_F$	1.7	V
Peak Reverse Current @ $T_A = 25^{\circ}\text{C}$ At Rated DC Blocking Voltage @ $T_A = 100^{\circ}\text{C}$	$I_R$	5.0 100	$\mu\text{A}$
Maximum Reverse Recovery Time (Note 1)	$T_{rr}$	75	ns
Typical Junction Capacitance (Note 2)	$C_J$	17	pF
Typical Thermal Resistance Junction to Ambient (Note 3)	$R_{\theta JA}$	30	$^{\circ}\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^{\circ}\text{C}$

Note: 1.Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $IRR=0.25\text{A}$ .  
 2. Measured at 1.0 MHz and Applied reverse Voltage of 4.0V D.C  
 3. 8.0mm<sup>2</sup> (.13mm Thick) Land Areas.

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**Ratings and Characteristics Curves**

FIG.1 MAXIMUM AVERAGE FORWARD CURRENT DERATING

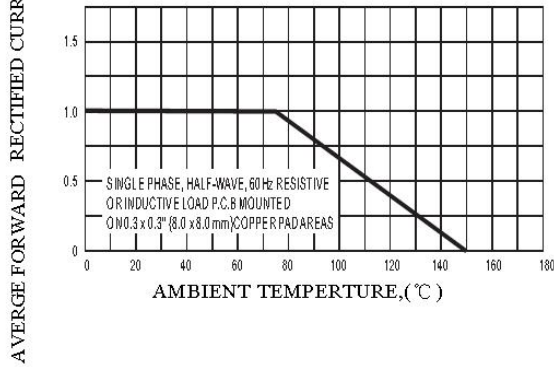


FIG.2 TYPICAL FORWARD CHARACTERISTICS

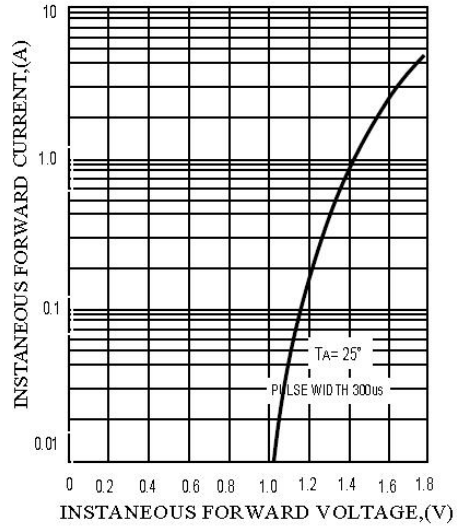


FIG.3 MAXIMUM NON-REPEITIVE SURGE CURRENT

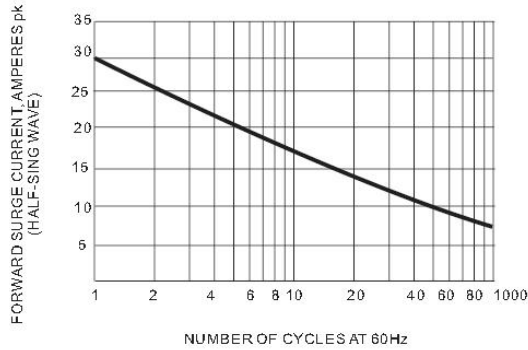


FIG.4 TYPICAL JUNCTION CAPACITANCE

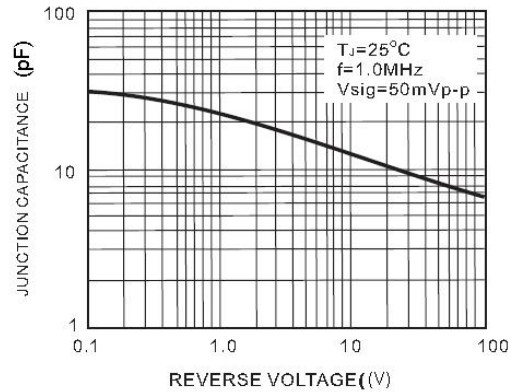
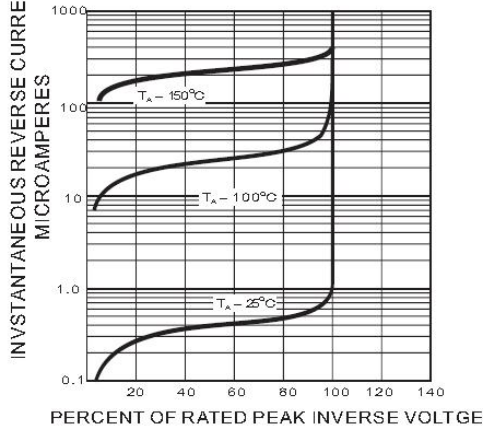
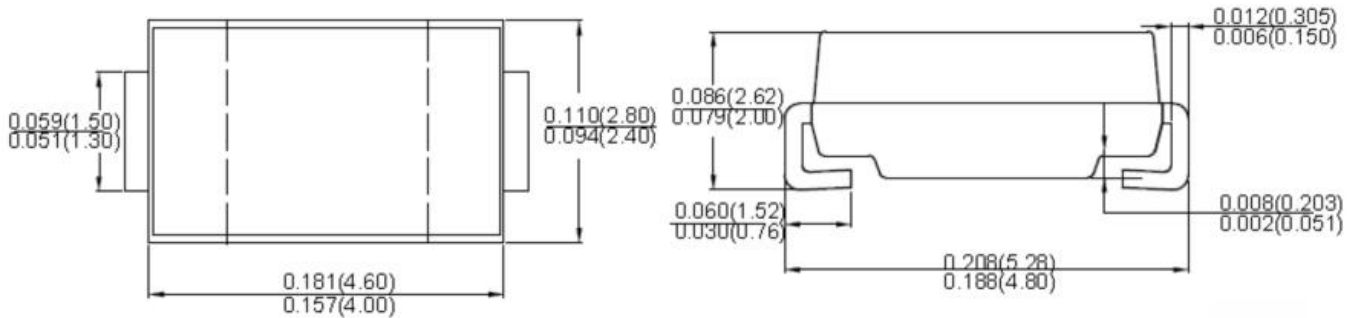


FIG.5 TYPICAL REVERSE CHARACTERISTICS



**Mechanical Dimensions SMA (Inches/Millimeters)**

**Ordering Information**

Device	Package	Shipping
US1M	SMA (Pb-Free)	5000pcs / reel

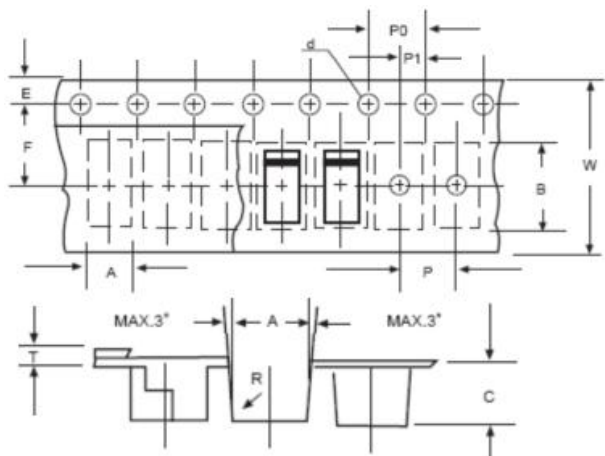
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Marking Diagram**


Where XXXXX is YYWWL

- US = Device Type
- 1 = Forward Current (1A)
- M = Reverse Voltage (1000V)
- YY = Year
- WW = Week
- L = Lot Number

**Cautions:** Molding resin  
Epoxy resin UL:94V-0

**Carrier Tape Specification SMA**


SYMBOL	Millimeters	
	Min.	Max.
A	2.97	3.17
B	5.70	5.90
C	2.32	2.52
d	1.40	1.60
E	1.40	1.60
F	5.60	5.70
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
T	0.25	0.35
W	11.80	12.20

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