Technical Data
Data Sheet N1372, Rev. F

US1M SURFACE MOUNT ULTRA FAST RECTIFIER

SMA

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°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°C	Io	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 =1.0A	V_F	1.7	V
Peak Reverse Current* @T_A = 25°C At Rated DC Blocking Voltage @T_A = 125°C	I_R	5.0 100	μA
Maximum Reverse Recovery Time (Note 1)	Trr	75	ns
Typical Junction Capacitance (Note 2)	C_J	6	pF
Typical Thermal Resistance Junction to Ambient (Note 3)	$R_{\theta JA}$	112	°C/W
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	16	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

* Pulse width < 300 μs, duty cycle < 2%
Note: 1.Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A.
2. Measured at 1.0 MHz and Applied reverse Voltage of 4.0V D.C
3. Mounted on an FR4 PCB, single-sided copper, mini pad.

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Ratings and Characteristics Curves

FIG.1MAXIMUM AVERAGE FORWARD CURRENT DERATING

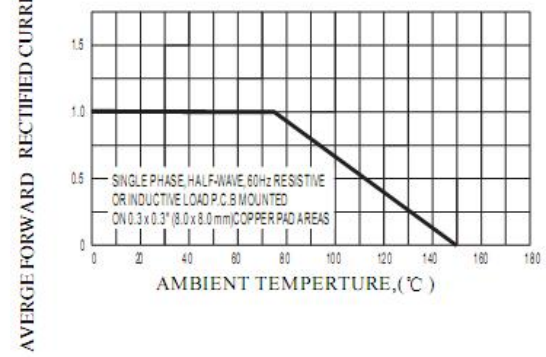


FIG.2TYPICAL FORWARD CHARACTERISTICS

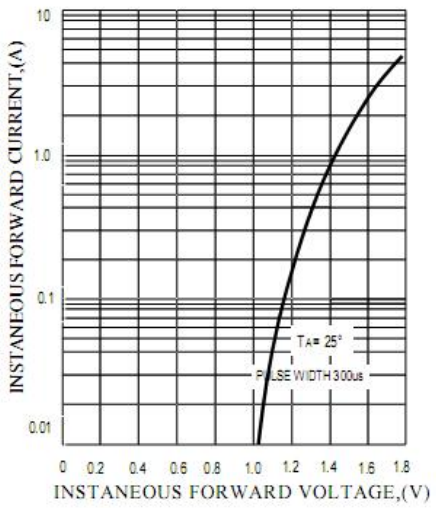


FIG.3 FORWARD CURRENT DERATING CURE

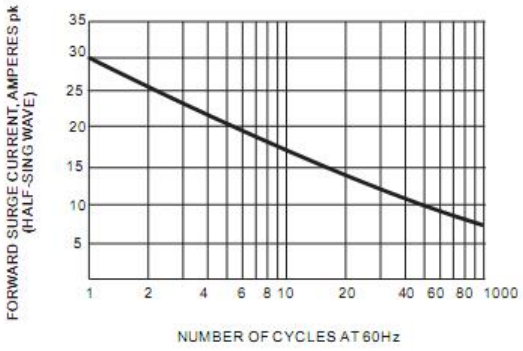


FIG.4TYPICAL JUNCTION CAPACITANCE

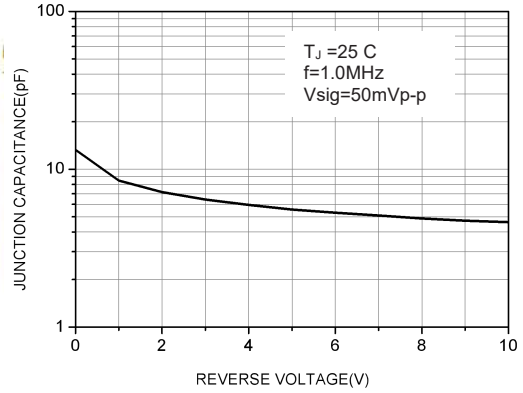
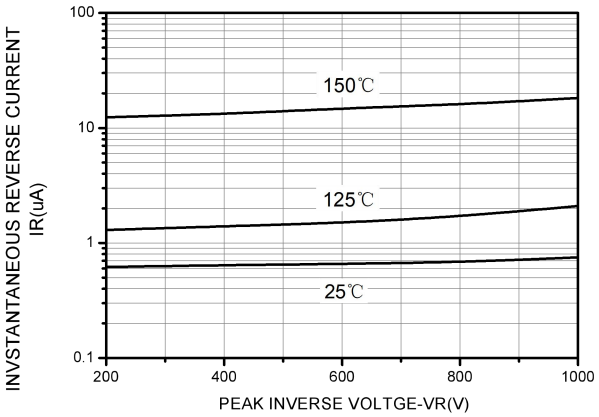
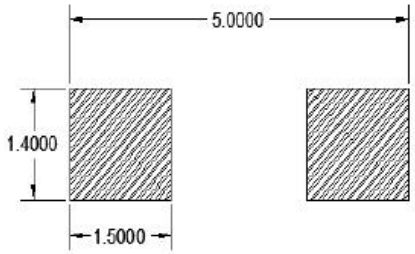


FIG.5TYPICAL REVERSE CHRACTERISTICS



SMA PAD LAYOUT



US1M

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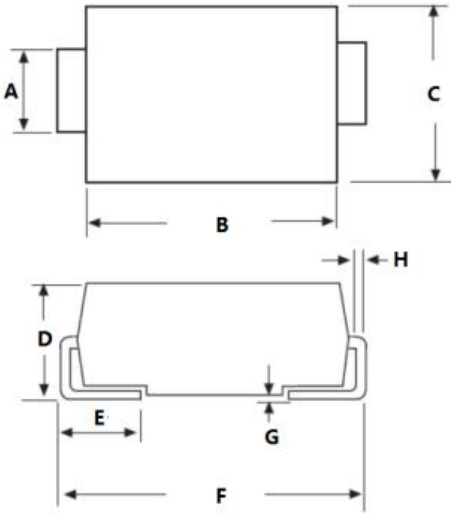
Mechanical Dimensions SMA (Inches/Millimeters)



Item	mechanical size			
	MIN	MAX	MIN	MAX
A	1.25	1.65	0.049	0.065
B	3.95	4.6	0.156	0.181
C	2.25	2.95	0.089	0.116
D	1.95	2.9	0.077	0.114
E	0.75	1.6	0.03	0.063
F	4.8	5.6	0.189	0.22
G	0.05	0.2	0.002	0.008
H	0.15	0.41	0.006	0.016

Ordering Information

Device	Package	Shipping
US1M	SMA (Pb-Free)	5000pcs / reel
US1MTR	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.

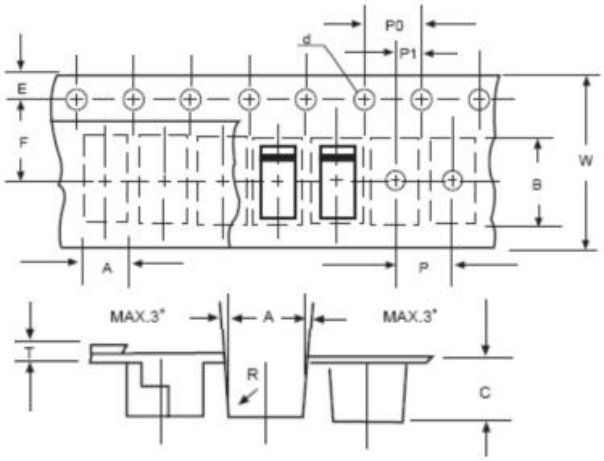
Marking Diagram

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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