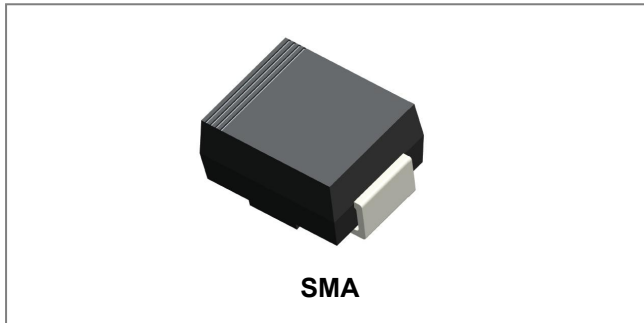


US1A THRU US1K SURFACE MOUNT ULTRA FAST RECTIFIER



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-0
- Terminals finish: 100% Pure Tin
- 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	US1A	US1B	US1D	US1G	US1J	US1K	Units
Peak Repetitive Reverse Voltage	V_{RRM}	50	100	200	400	600	800	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	
Average Rectified Output Current @ $T_L = 100^{\circ}\text{C}$	I_o	1.0						A
Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	35						A
Rating for fusing ($t < 8.3\text{ms}$)	I^2t	5.08						A^2s
Forward voltage @ $I_F = 1.0\text{A}$	V_F	1.0		1.3		1.7		V
Peak Reverse Current @ $T_A = 25^{\circ}\text{C}$ At Rated DC Blocking Voltage @ $T_A = 125^{\circ}\text{C}$	I_R	5 200						μA
Typical junction capacitance (Note 2)	C_J	45.0						pF
Reverse Recovery Time (Note 1)	T_{rr}	50				75		ns
Typical thermal resistance (Note 3)	$R_{\theta JA}$	30						$^{\circ}\text{C/W}$
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150						$^{\circ}\text{C}$

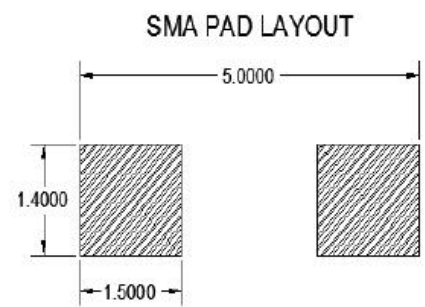
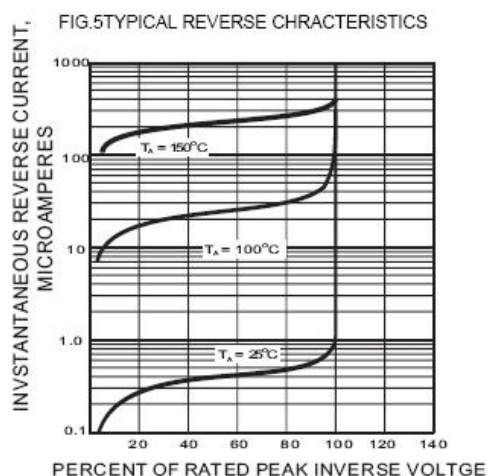
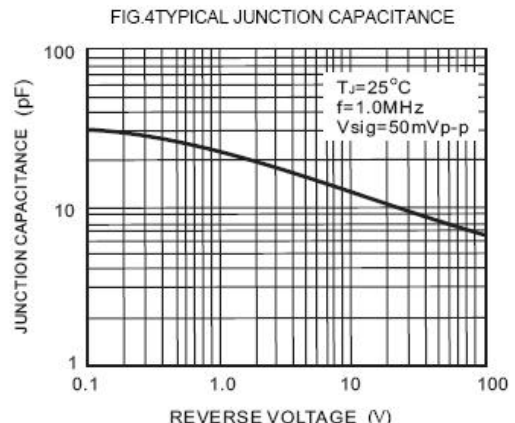
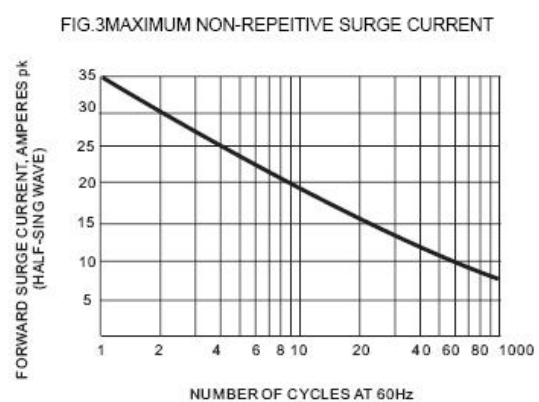
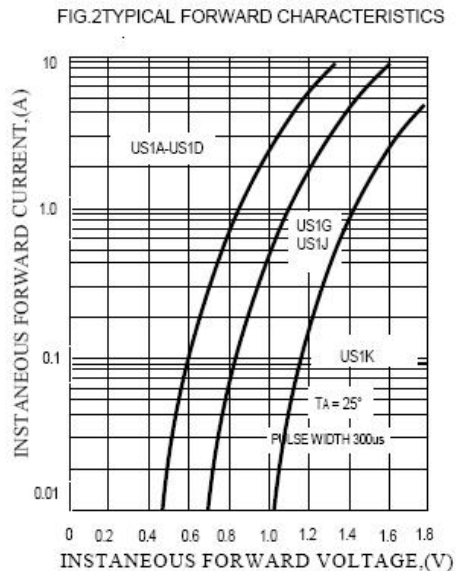
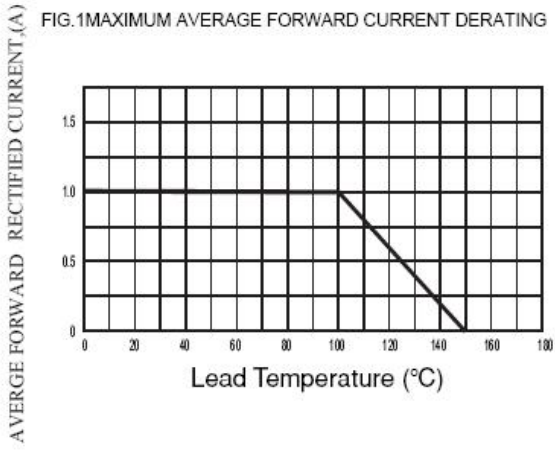
* Pulse width $< 300 \mu\text{s}$, duty cycle $< 2\%$

Note: 1. Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $IRR = 0.25\text{A}$.

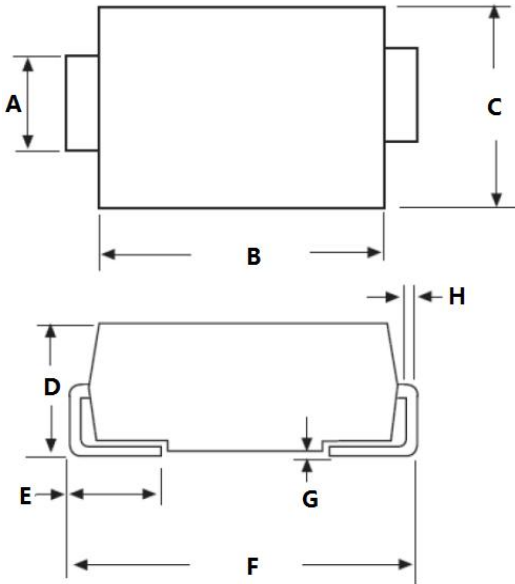
2. Measured at 1.0 MHz and Applied reverse Voltage of 4.0V D.C

3. 8.0mm^2 (.13mm Thick) Land Areas.

Ratings and Characteristics Curves



Mechanical Dimensions SMA (Inches/Millimeters)



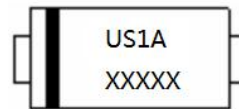
Item	mechanical size (mm)			
	MIN	MAX	MIN	MAX
A	1.25	1.65	0.049	0.065
B	3.95	4.6	0.156	0.181
C	2.25	2.95	0.089	0.116
D	1.95	2.9	0.077	0.114
E	0.75	1.6	0.03	0.063
F	4.8	5.6	0.189	0.22
G	0.05	0.2	0.002	0.008
H	0.15	0.41	0.006	0.016

Ordering Information

Device	Package	Shipping
US1A THRU US1K	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

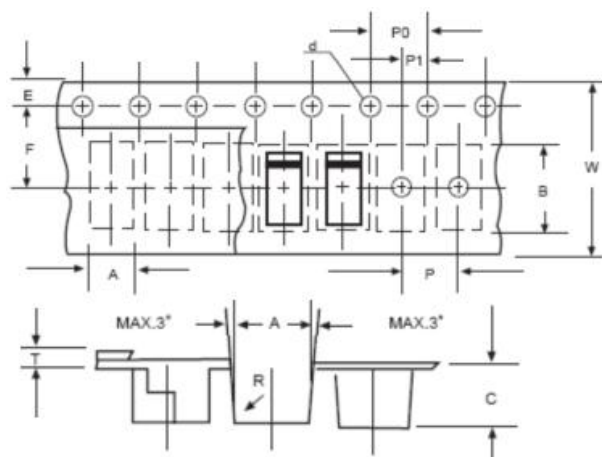


Where XXXXX is YYWWL

- US = Device Type
- 1 = Forward Current (1A)
- A = Reverse Voltage (50V)
- 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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