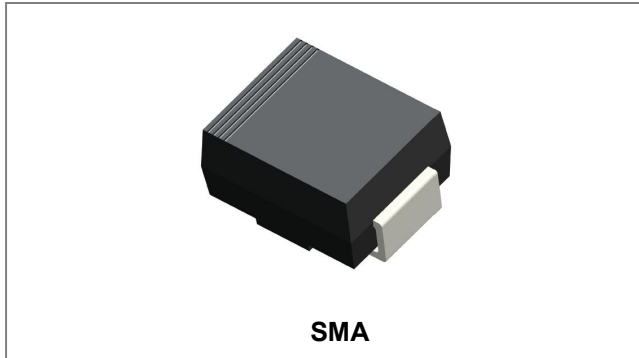


## UA1A-UA1M

### Ultrafast Avalanche Diodes



#### 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<sub>A</sub>=25°C unless otherwise specified

Characteristic	Symbol	UA1A	UA1B	UA1D	UA1G	UA1J	UA1K	UA1M	Units
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Surge Peak Reverse Voltage	V <sub>RSM</sub>	50	100	200	400	600	800	1000	
Max. Average Forward Current @T <sub>L</sub> =100°C	I <sub>F</sub>	1.0							A
Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	30							A
Maximum Forward voltage* @IF =1.0A	V <sub>F</sub>	1		1.25		1.7		V	
Maximum Leakage Current * @T <sub>A</sub> = 25°C	I <sub>R</sub>	3							µA
Reverse Recovery Time (Note 1)	T <sub>rr</sub>	50				75			ns
Max. thermal resistance junction to ambient (Note 2)	R <sub>θJA</sub>	70							K/W
Non-Repetitive Avalanche Energy(Note 3)	E <sub>AS</sub>	20							mJ
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C

\* Pulse width < 300 µs, duty cycle < 2%

- Note:**
1. Measured with I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>rr</sub>=0.25A
  2. Mounted on P.C. Board with 8.0mm<sup>2</sup> lead area
  3. T<sub>J</sub> = 25°C, I<sub>AS</sub>=1.0mA, L=285mH

**Ratings and Characteristics Curves**

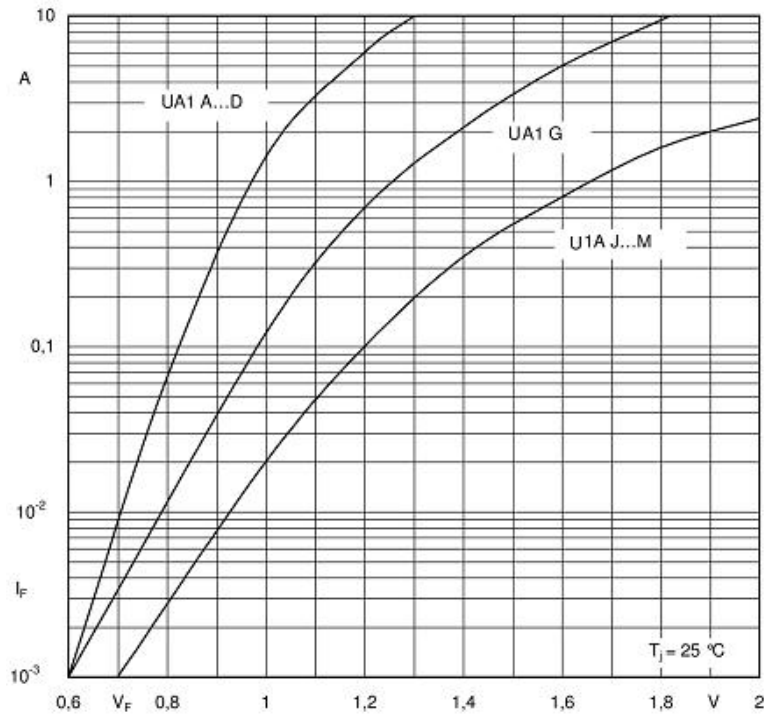


Fig. 1 Forward characteristics (typical values)

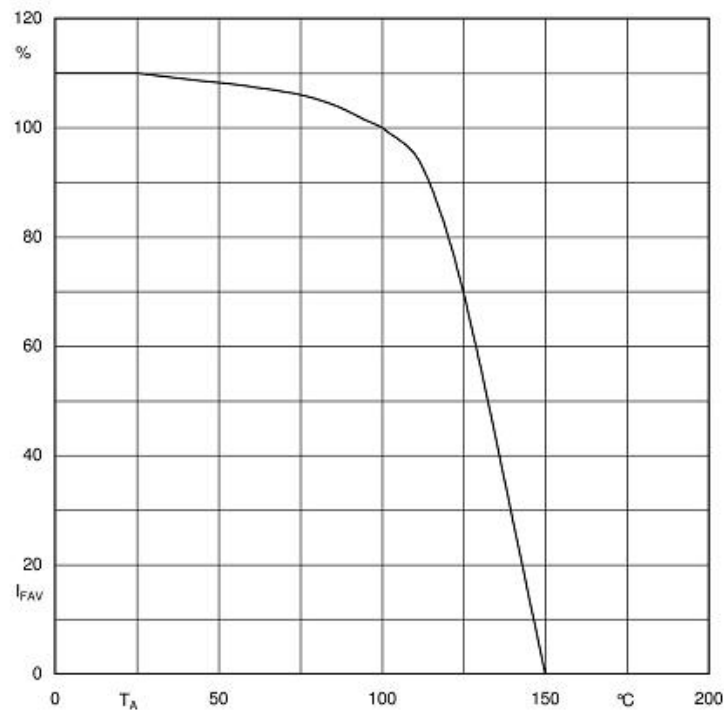
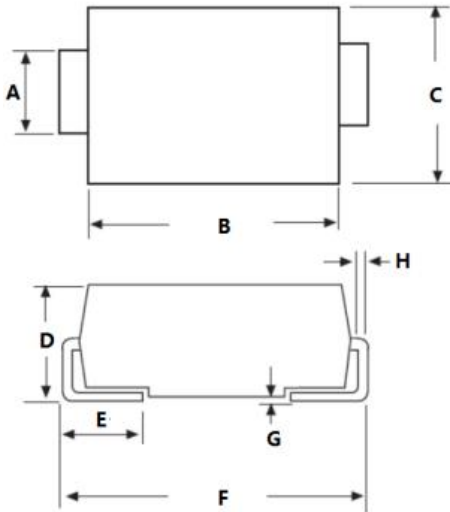


Fig. 2 Rated forward current vs. temp. of the terminals<sup>4)</sup>

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



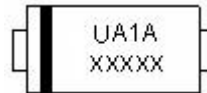
Item	mechanical size			
	MIN	MAX	MIN	MAX
A	1.25	1.65	0.049	0.065
B	3.95	4.6	0.156	0.181
C	2.25	2.95	0.089	0.116
D	1.95	2.9	0.077	0.114
E	0.75	1.6	0.03	0.063
F	4.8	5.6	0.189	0.22
G	0.05	0.2	0.002	0.008
H	0.15	0.41	0.006	0.016

**Ordering Information**

Device	Package	Shipping
UA1A-UA1M	SMA (Pb-Free)	5000pcs / reel
UA1ATR-UA1MTR	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**

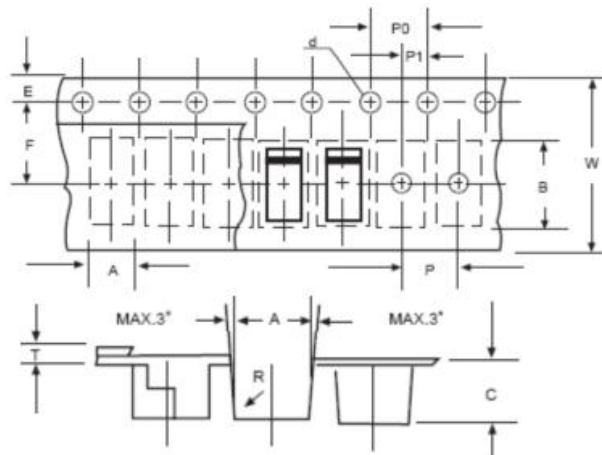


Where XXXXX is YYWWL

- UA = 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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