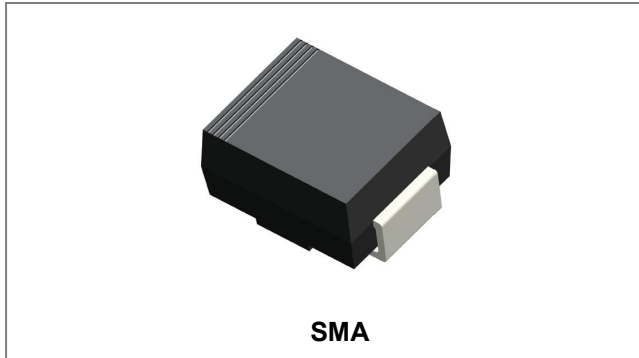


UA1A-UA1M

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_A=25°C unless otherwise specified

| Characteristic | Symbol | UA1A | UA1B | UA1D | UA1G | UA1J | UA1K | UA1M | Units |
|--|-----------------------------------|-------------|------|------|------|------|------|------|-------|
| Peak Repetitive Reverse Voltage | V _{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Surge Peak Reverse Voltage | V _{RSM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | |
| Max. Average Forward Current @T _L =100°C | I _F | 1.0 | | | | | | | A |
| 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 | | 1.25 | | 1.7 | | V | |
| Maximum Leakage Current * @T _A = 25°C | I _R | 3 | | | | | | | µA |
| Reverse Recovery Time (Note 1) | T _{rr} | 50 | | | | 75 | | | ns |
| Max. thermal resistance junction to ambient (Note 2) | R _{θJA} | 70 | | | | | | | K/W |
| Non-Repetitive Avalanche Energy(Note 3) | E _{AS} | 20 | | | | | | | mJ |
| Operating Junction and Storage Temperature Range | T _J , T _{STG} | -55 to +150 | | | | | | | °C |

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

- Note:**
1. Measured with I_F=0.5A, I_R=1.0A, I_{rr}=0.25A
 2. Mounted on P.C. Board with 8.0mm² lead area
 3. T_J = 25°C, I_{AS}=1.0mA, L=285mH

Ratings and Characteristics Curves

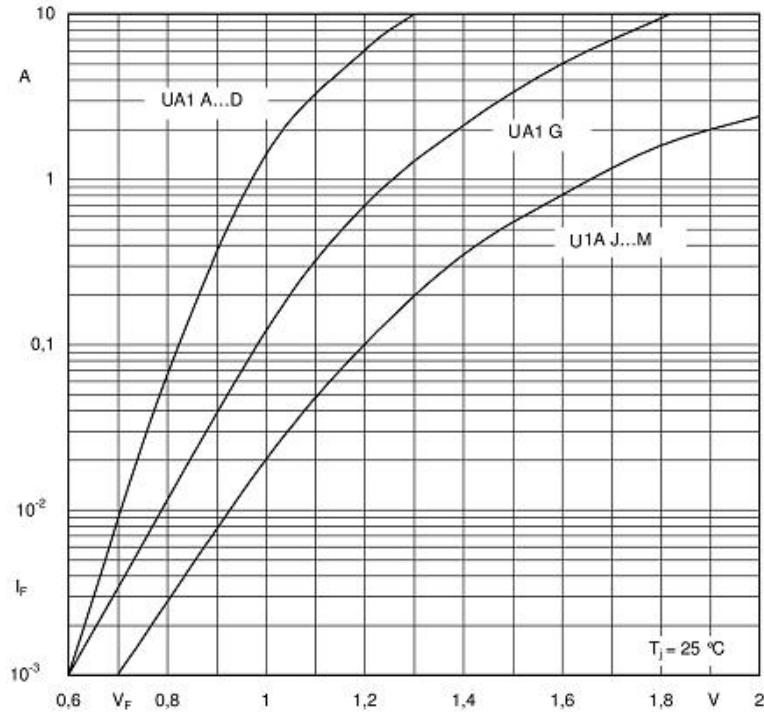


Fig. 1 Forward characteristics (typical values)

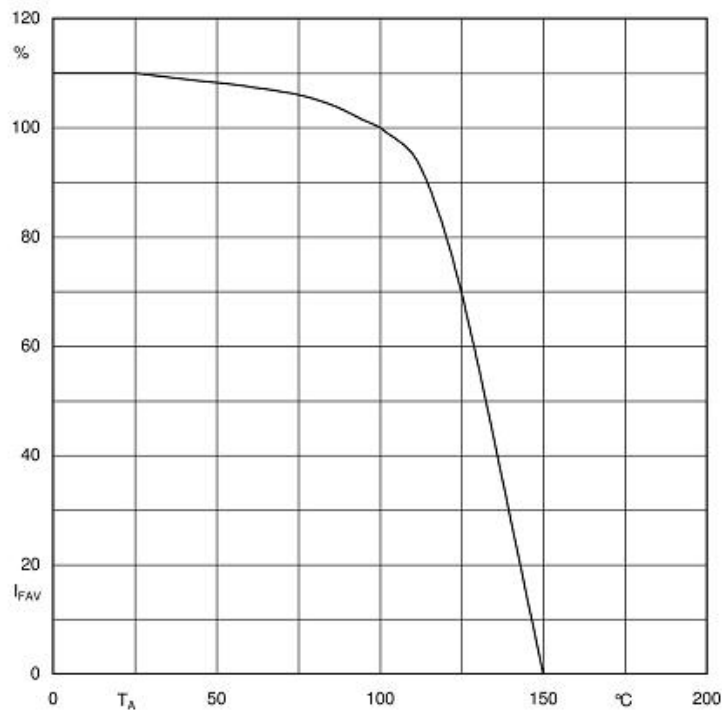
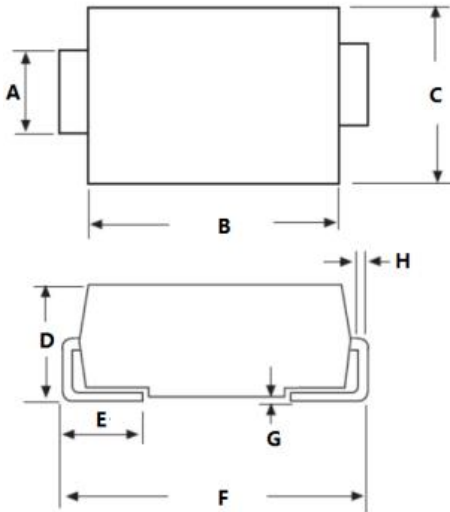


Fig. 2 Rated forward current vs. temp. of the terminals⁴⁾

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

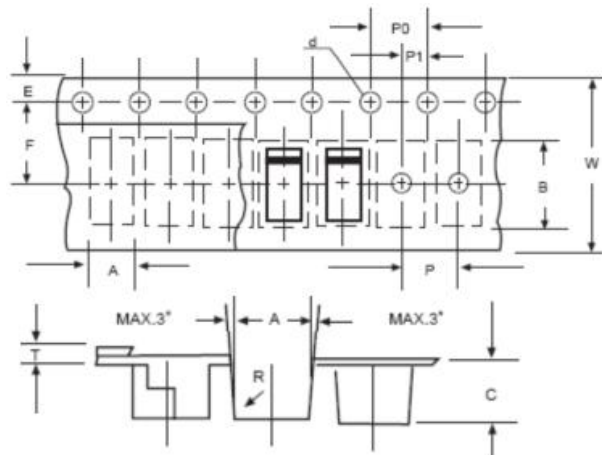


Where XXXXX is YYWWL

- 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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