



# DATA SHEET

SEMICONDUCTOR

U1A Thru U1M

## Surface Mount Ultrafast Rectifiers



**Reverse Voltage** 50 to 1000V  
**Forward Current** 1.0A

SMF Unit: inch ( mm )

### Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- For surface mount applications
- Glass passivated chip junctions
- Low profile package
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Low forward voltage, low power loss
- Built-in strain relief, ideal for automated placement
- High temperature soldering guaranteed: 250°C/10 seconds on terminals

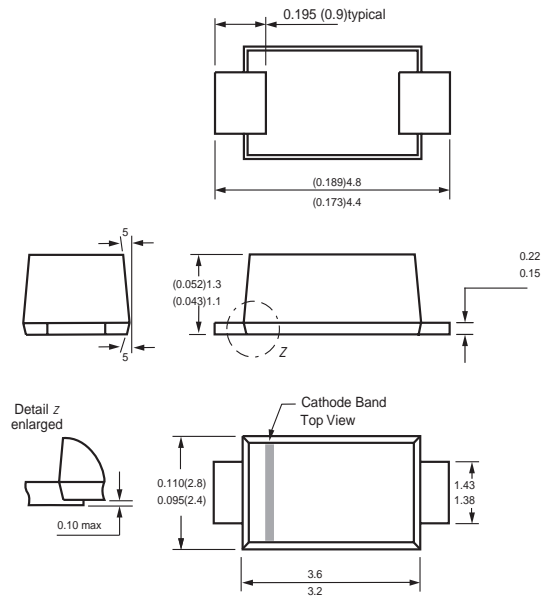
### Mechanical Data

**Case:** JEDEC DO-214AC molded plastic body over passivated chip

**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Weight:** 0.002 ounce, 0.064 gram



## Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	U1A	U1B	U1D	U1G	U1J	U1K	U1M	Units
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at T <sub>L</sub> = 110°C	I <sub>F(AV)</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 thermal resistance <sup>(1)</sup>	R <sub>θJA</sub> R <sub>θJL</sub>	75 27							°C/W
Operating and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C

## Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Maximum instantaneous forward voltage at 1.0A	V <sub>F</sub>	1.0				1.7				V
Maximum DC reverse current at rated DC blocking voltage	I <sub>R</sub>	10				50				μA
Maximum reverse recovery time at I <sub>F</sub> = 0.5A, I <sub>R</sub> = 1.0A, I <sub>rr</sub> = 0.25A	t <sub>rr</sub>	50				75				ns
Typical junction capacitance at 4.0V, 1MHz	C <sub>J</sub>	15				10				pF

**Notes:** (1) P.C.B. mounted on 0.2 x 0.2" (5.0 x 5.0mm) copper pad area

# RATING AND CHARACTERISTIC CURVES

## U1A Thru U1M

