



DATA SHEET

SEMICONDUCTOR

U1A THRU U1M

Surface Mount Ultrafast Rectifiers



Reverse Voltage 50 to 1000V

Forward Current 1.0A

SMF Unit: inch (mm)

Features

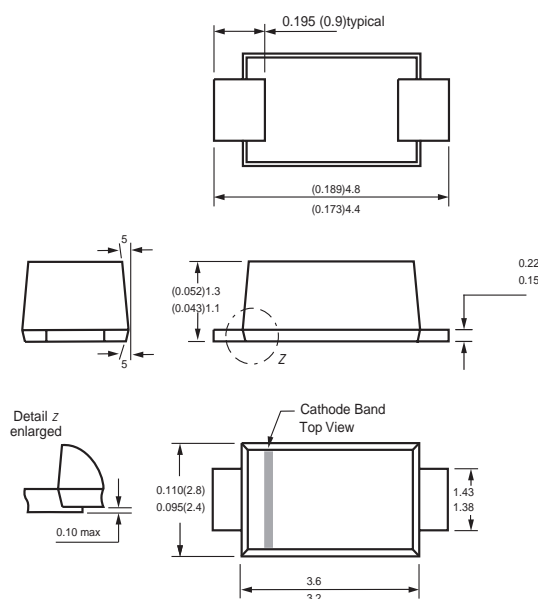
- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- For surface mount applications
- Glass passivated chip junctions
- Low profile package
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Low forward voltage, low power loss
- Built-in strain relief,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

Mechanical Data

Case: JEDEC SMF molded plastic body over passivated chip

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

Polarity: Color band denotes cathode end



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_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at $T_L = 110^\circ\text{C}$	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30							A
Maximum thermal resistance ⁽¹⁾	$R_{\theta JA}$ $R_{\theta JL}$	75 27							°C/W
Operating and storage temperature range	T_J, T_{STG}	-55 to +150							°C

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

Maximum instantaneous forward voltage at 1.0A	V _F	1.0	1.7	V
Maximum DC reverse current at rated DC blocking voltage	T _A = 25°C T _A =100°C I _R	10 50		μA
Maximum reverse recovery time at I _F = 0.5A, I _R = 1.0A, I _{rr} = 0.25A	t _{rr}	50	75	ns
Typical junction capacitance at 4.0V, 1MHz	C _J	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

