

## US1A THRU US1M

## SURFACE MOUNT ULTRA FAST RECTIFIER

Reverse Voltage - 50 to 1000 Volts    Forward Current - 1.0 Ampere

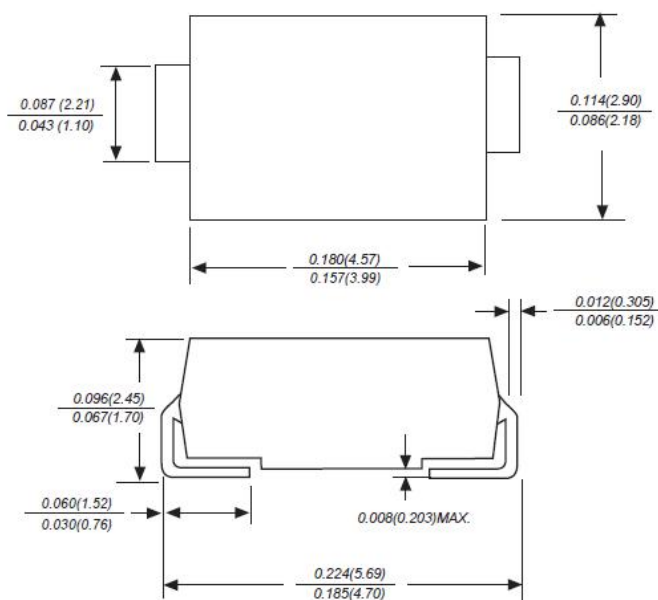
## FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
  - ◆ For surface mounted applications
  - ◆ Ultra fast switching for high efficiency
  - ◆ Low reverse leakage
  - ◆ Built-in strain relief, ideal for automated placement
  - ◆ High forward surge current capability
  - ◆ High temperature soldering guaranteed
- 250°C/10 seconds at terminals

## Mechanical Data

- ◆ Case: JEDEC SMA-J molded plastic body
- ◆ Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- ◆ Polarity: Color band denotes cathode end
- ◆ Mounting position: Any

## SMA-J



Dimensions in inches and (millimeters)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%

PARAMETER	SYMBOL	US1A	US1B	US1D	US1G	US1J	US1K	US1M	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	VOLTS
Maximum RMS Voltage	$V_{RMS}$	100	70	140	280	420	560	700	VOLTS
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	VOLTS
Maximum average forward rectified current 0.375" (9.5mm) lead length (see fig.1)	$I_{(AV)}$	1.0							Amp
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30.0							Amps
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.0		1.3		1.7		VOLTS	
Maximum DC Reverse Current $T_A = 25^\circ\text{C}$ at Rated DC blocking voltage $T_A = 100^\circ\text{C}$	$I_R$	5.0 50.0							$\mu\text{A}$
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	50				75			ns
Typical Junction Capacitance (Note 2)	$C_J$	15.0							pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	50.0							$^\circ\text{C}/\text{W}$
Operating junction and Storage temperature range	$T_J, T_{STG}$	-65 to +125							$^\circ\text{C}$

Note: 1. Reverse recovery condition  $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$ 

2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

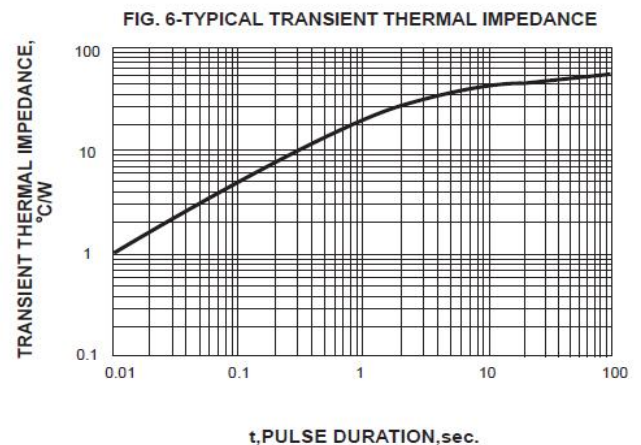
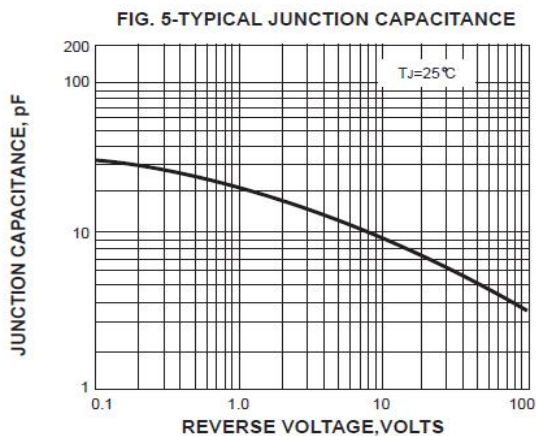
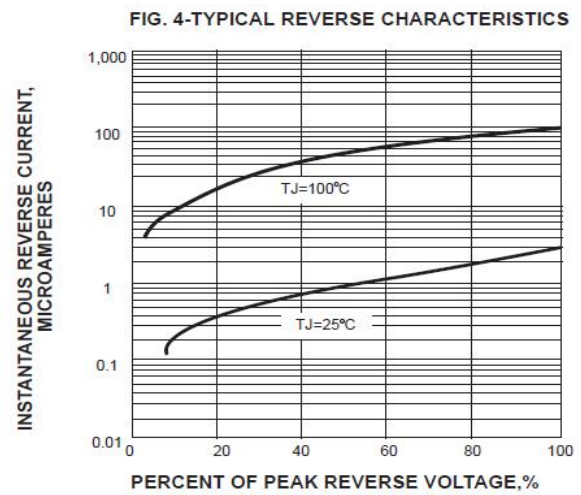
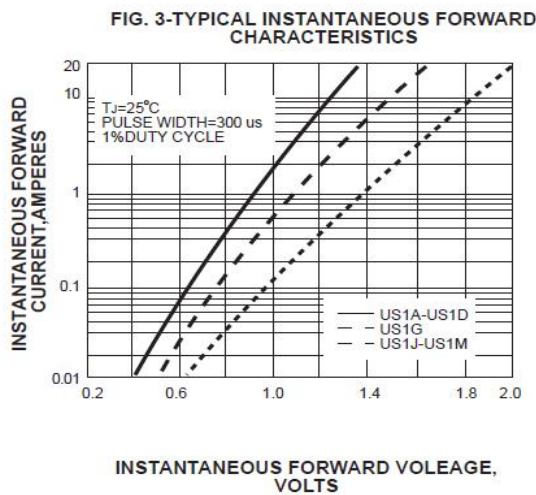
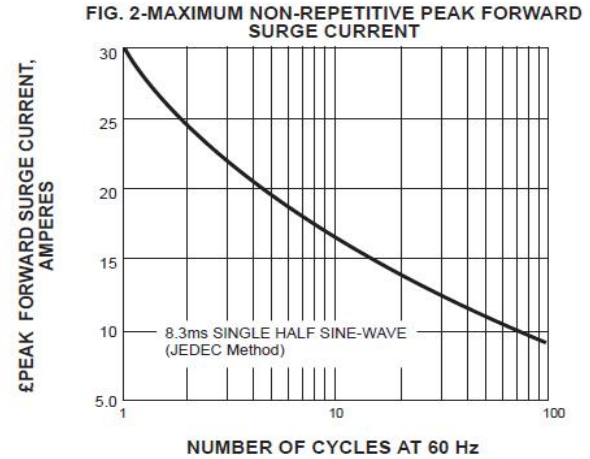
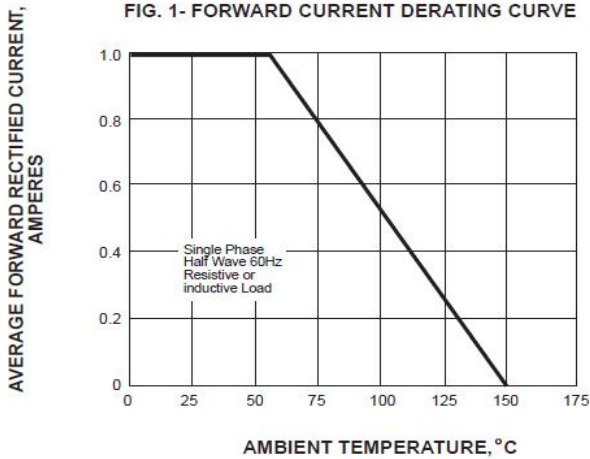
3. P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas

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### RATING AND CHARACTERISTIC CURVES US1A THRU US1M



Note: Specifications are subject to change without notice. For more detail and update, please visit our website.