

### US1A THRU US1M

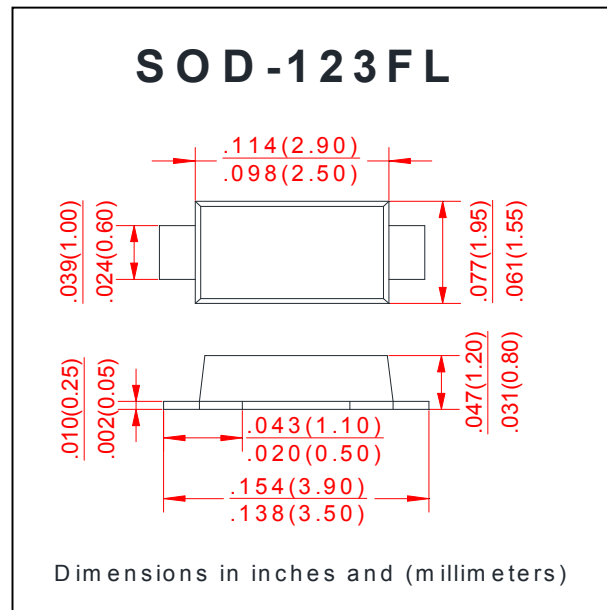
VOLTAGE RANGE      50 to 1000 Volts  
 CURRENT              1.0 Ampere

#### FEATURES

- Plastic package has underwrites laboratory flammability Classification 94V-0
- Built-in strain relief, ideal for automated placement
- Glass passivated chip junction
- Fast switching for high efficiency
- High temperature soldering  
260°C/10 second
- Component in accordance to  
ROHS 2002/95/1 and WEEE 2002/96/EC

#### MECHANICAL DATA

- Case: JEDEC SOD-123FL mold plastic  
Body over glass passivated chip
- Terminals: Solder plated, solderable per  
J-STD-002B and JESD22-B102D
- Polarity: Laser band denote cathode band



#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25°C ambient temperature unless otherwise specified.
- Single phase, half wave, 60Hz, resistive or inductive load.
- For capacitive load derate current by 20%.

	SYMBOLS	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	$V_{RMS}$	35	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 At $T_A=55^\circ\text{C}$	$I_{(AV)}$	1.0							Amps
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30							Amps
Maximum Instantaneous Forward Voltage per at 1.0A	$V_F$	1.0		1.30		1.70		Volts	
Maximum DC Reverse Current at rated DC Blocking Voltage	$T_A = 25^\circ\text{C}$	5.0							$\mu\text{A}$
	$T_A = 125^\circ\text{C}$	100							
Typical Reverse Recovery Time Test conditions $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{RR}=0.25\text{A}$	$t_{tr}$	50				100			nS
Typical Junction Capacitance (Measured at 1.0MHz and applied reverse voltage of 4.0V)	$C_J$	20				15			pF
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	88							$^\circ\text{C}/\text{W}$
	$R_{\theta JL}$	28							
Operating Junction Temperature	$T_J$	(-55 to +150)							$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	(-55 to +150)							$^\circ\text{C}$

#### Notes:

1. Thermal resistance from Junction to ambient and from junction to lead mounted on  
P.C.B. with 0.2×0.2" (5.0 × 5.0mm) copper pad areas.

## RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

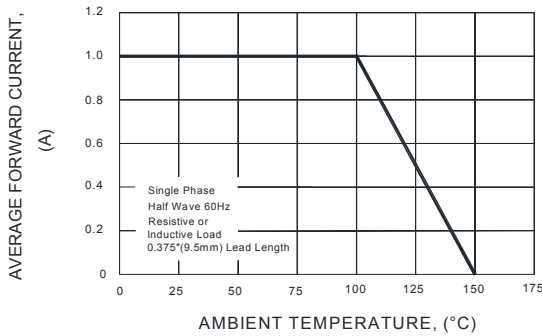


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

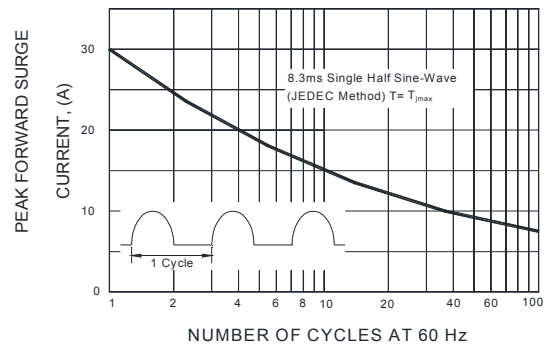


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

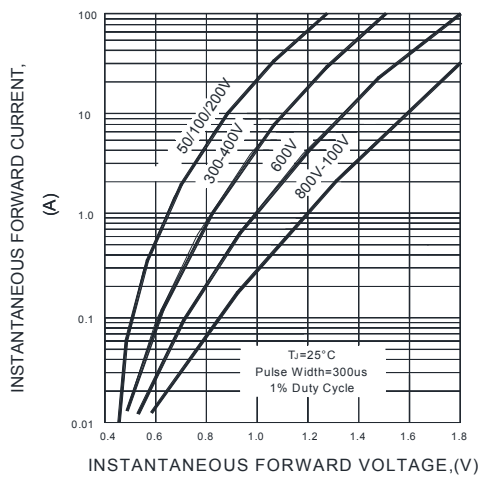


FIG.4-TYPICAL REVERSE CHARACTERISTICS

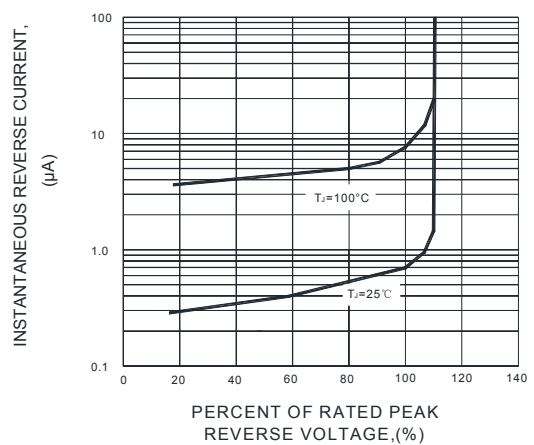


FIG.5-TYPICAL JUNCTION CAPACITANCE

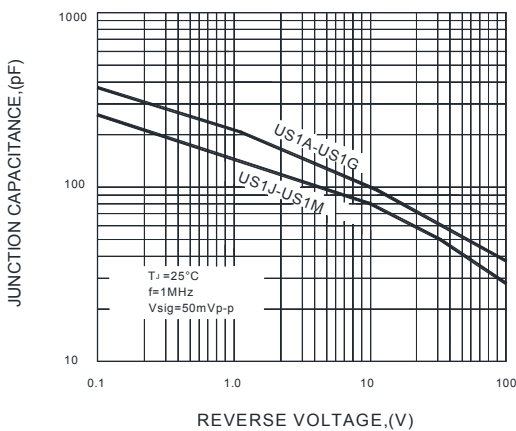
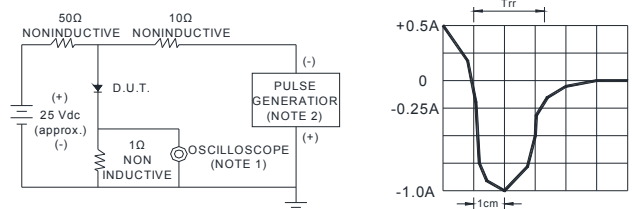


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES : 1. Rise Time=7ns max. Input Impedance= 1 magohm, 22pF  
2. Rise time=10ns max. Source Impedance= 50 ohms

SET TIME BASE FOR 50/100ns/cm

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