

# SODU1A THRU SODU1M

## SODU1A THRU SODU1M Ultra-Fast Surface Mount Rectifiers

### General description

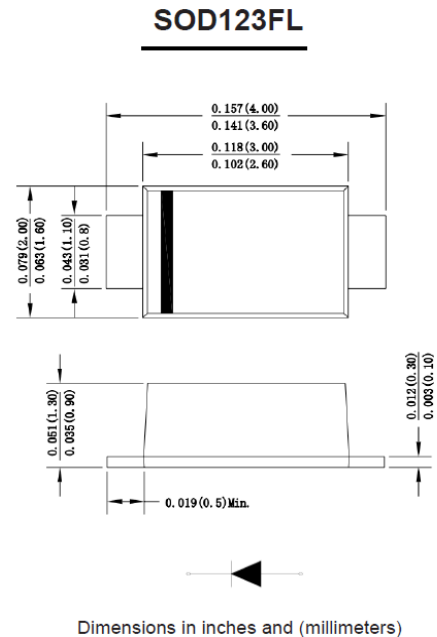
Ultra-fast Silicon Rectifier  
Reverse Voltage: 50 to 1000V  
Forward Current: 1.0A

### FEATURES

- The plastic package carries Underwriters Laboratory
- Flammability Classification 94V-0 Idea for printed circuit board
- Glass passivated Junction chip Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed 250 C/10 seconds at terminals

### MECHANICAL DATA

- Case: Molded plastic body
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Polarity symbol marking on body
- Mounting Position: Any
- Weight: 0.0007 ounce, 0.02 grams



### Absolute Maximum Ratings ( $T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	SYMBOLS	SOD U1A	SOD U1B	SOD U1D	SOD U1G	SOD U1J	SOD U1K	SOD U1M	UNITS
Marking Code	Mark	U1A	U1B	U1D	U1G	U1J	U1K	U1M	N/A
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 $T_L=100^\circ\text{C}$	$I_{(AV)}$	1.0							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	35.0							A
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.0			1.4	1.7			V
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=125^\circ\text{C}$	$I_R$	5.0				500			$\mu\text{A}$
Max. reverse recovery-time (Note 1)	$T_{rr}$	50				75			ns
Typical junction capacitance (Note2)	$C_J$	9.0							pF
Typical thermal resistance	$R_{qJA}$	85.0							$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

NOTES: 1. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$   
2. Measured at 1 MHz and applied  $V_r = 4.0$  volts.

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## Ratings And Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

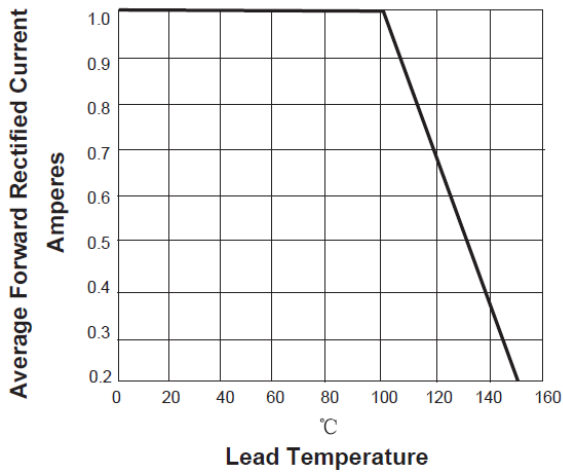


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

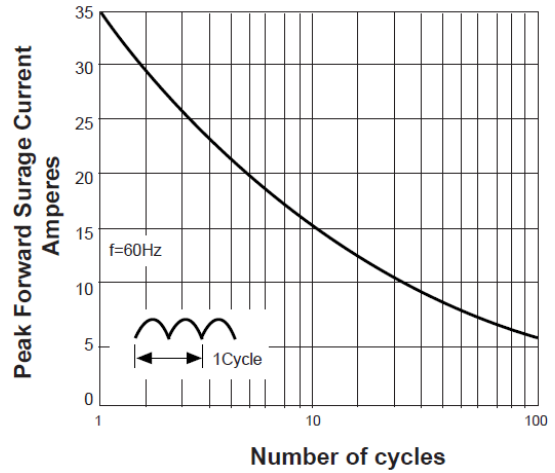


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

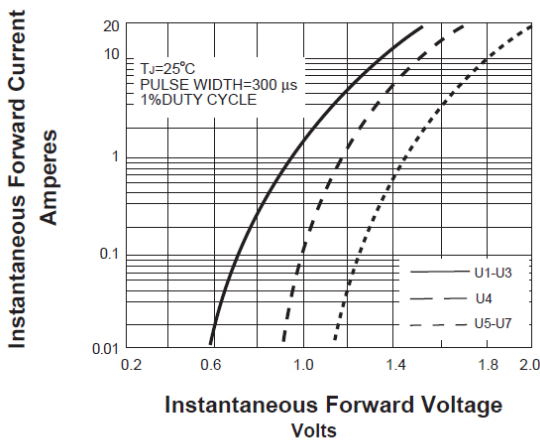
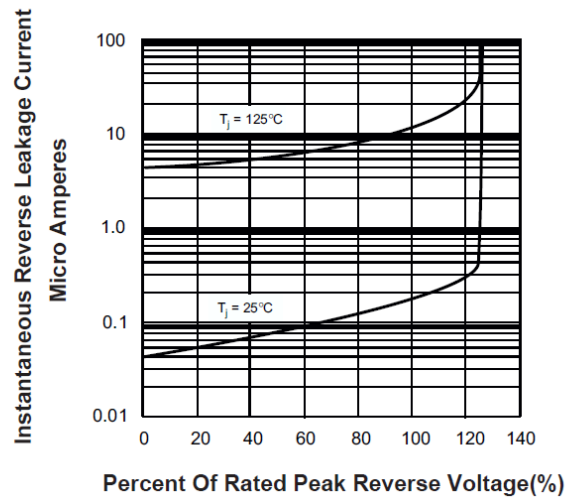
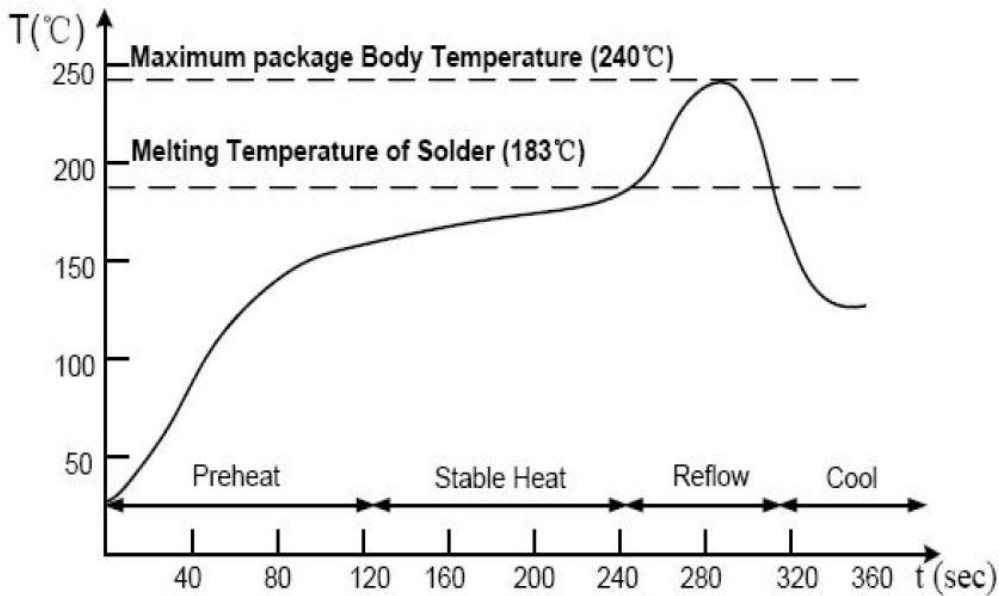


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



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## Suggested Soldering Temperature Profile



### Note

- Recommended reflow methods: IR, vapor phase oven, hot air oven, wave solder.
- The device can be exposed to a maximum temperature of 265°C for 10 seconds.
- Devices can be cleaned using standard industry methods and solvents.
- If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

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