SODU1A THRU SODU1M

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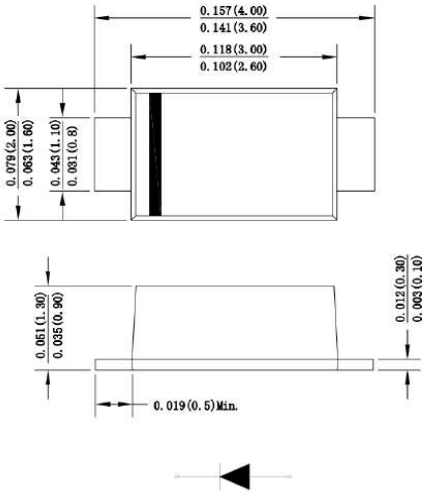
Ultra-Fast Surface Mount Rectifiers

General description

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

SOD123FL



Dimensions in inches and (millimeters)

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(Ta=25℃ unless otherwise specified)

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

Parameter	SYMBOLS	SOD U1A	SOD U1B	SOD U1D	SOD U1G	SOD U1J	SOD U1K	SOD 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=100℃	$I_{(AV)}$	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℃ at rated DC blocking voltage T_A=125℃	I_R	5.0 500							uA
Maxinum reverse recovery time(Note 1)	Trr	50				75			ns
Typical junction capacitance (Note2)	C_J	9.0							pF
Typical thermal resistance	R_{qJA}	85.0							℃/W
Operating junction and storage temperature range	T_J,T_{STG}	-55 to +150							℃

NOTES: 1. Reverse Recovery Test Conditions: IF=0.5A, IR=1.0A, Irr=0.25A
2. Measured at 1 MHz and applied Vr = 4.0 volts.

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Ratings And Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

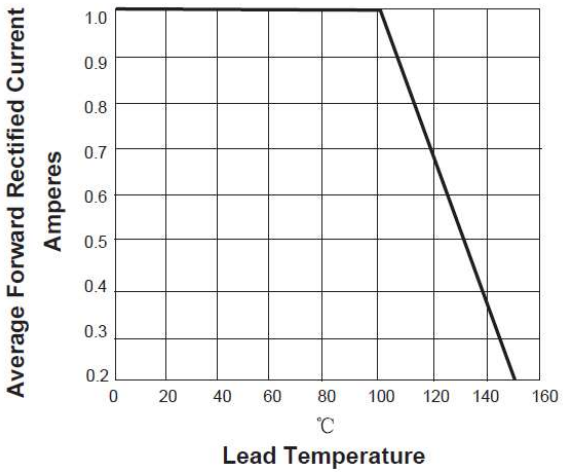


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PERLEG

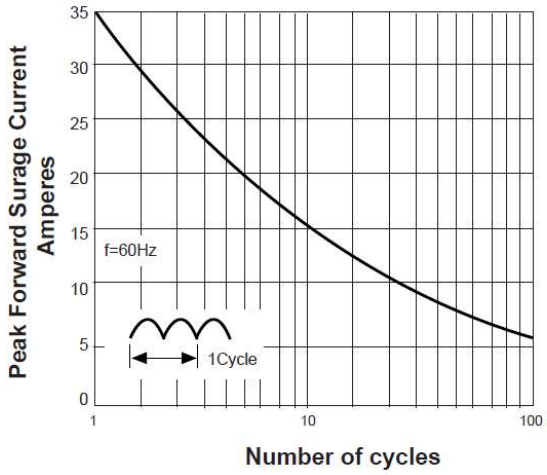


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

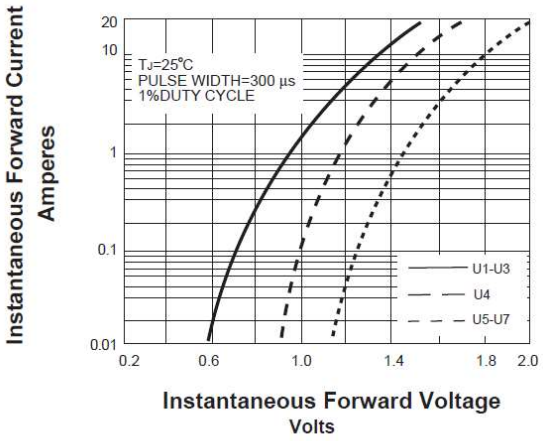
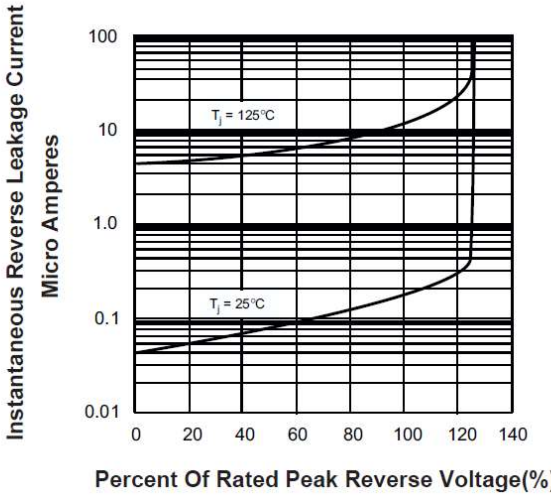
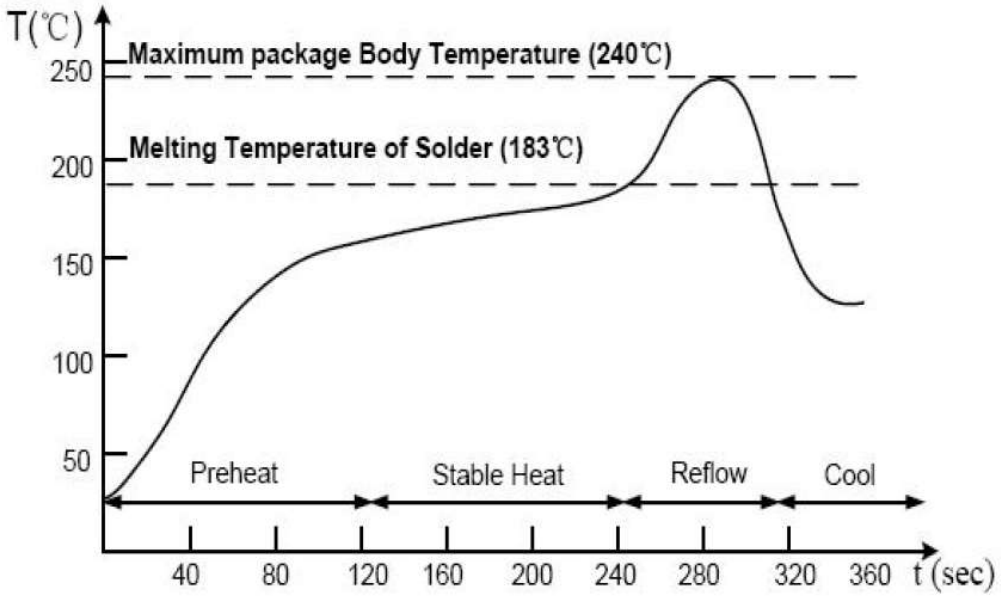


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



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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