

Primary Characteristics

I_F	3.0	A
V_{RRM}	20~200	V
I_{FSM}	60.0	A
V_F	0.55~0.95	V

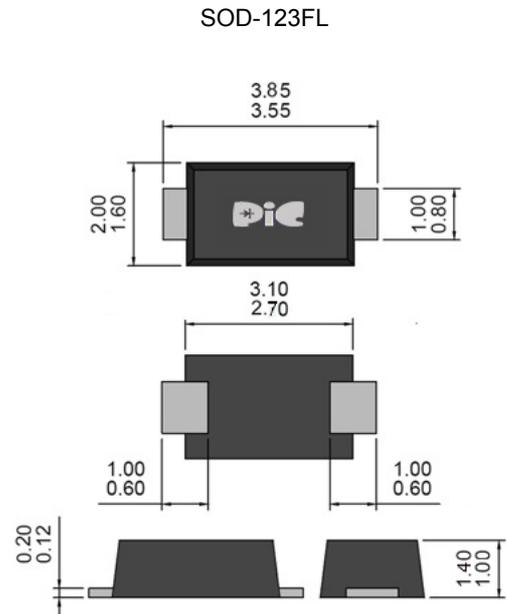
Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- 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

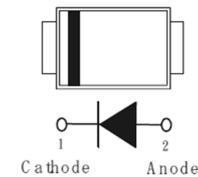
Mechanical Data

- Case: JEDEC SOD-123FL molded plastic body
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: Approx. 0.017grams

Package Outline Dimensions



Unit : millimeters



Maximum Ratings & Electrical Characteristic

Parameter	Symbol	SS3020FL	SS3040FL	SS3060FL	SS3080FL	SS30100FL	SS30150FL	SS30200FL	UNITS
Max. repetitive peak reverse voltage	V_{RRM}	20	40	60	80	100	150	200	Volts
Max. RMS voltage	V_{RMS}	14	21	28	56	70	105	150	Volts
Max. DC blocking voltage	V_{DC}	20	40	60	80	100	150	200	Volts
Max. average forward rectified current at TA=75°C	$I_{(AV)}$	3.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	60							Amps
Max. instantaneous forward voltage at 3A	V_F	0.55	0.7	0.85	0.95				Volts
Maximum DC reverse current T A = 25°C at rated DC blocking voltage TA=100°C	I_R	0.5					0.2		mA
		20			10		2		
Typical thermal resistance (NOTE 1)	$R_{\theta JA}$	75							°C/W
Operating junction temperature range	T_J	-55 ~ +125			-55 ~ +150				°C
Storage temperature range	T_{STG}	-50 ~ +150							°C

Notes: (1) P.C.B. mounted with 5.0x5.0mm copper pad areas

Rating & Characteristic Curves

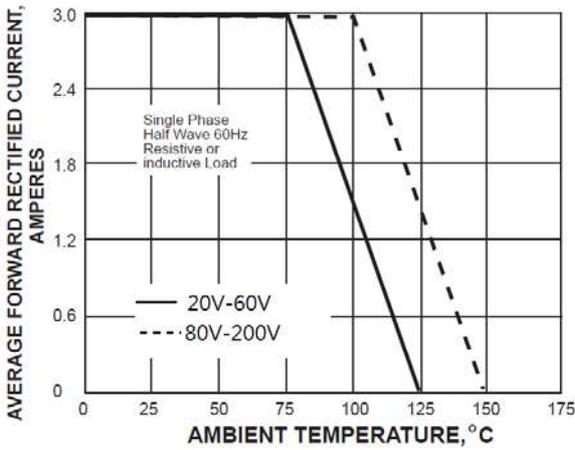


Fig. 1 FORWARD CURRENT DERATING CURVE

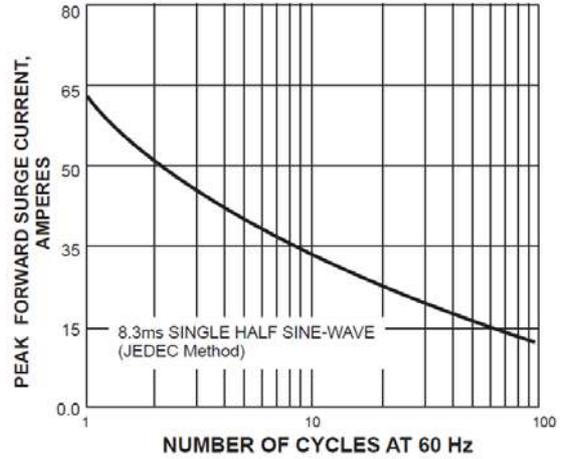


Fig. 2 MAX. NON-REPETITIVE PEAK FORWARD SURGE CURRENT

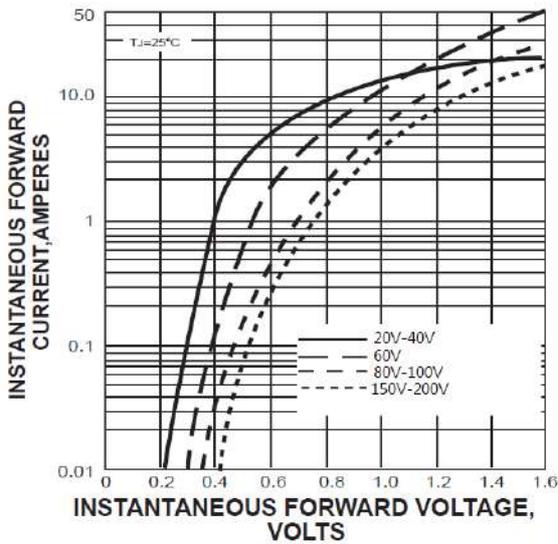


Fig. 3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

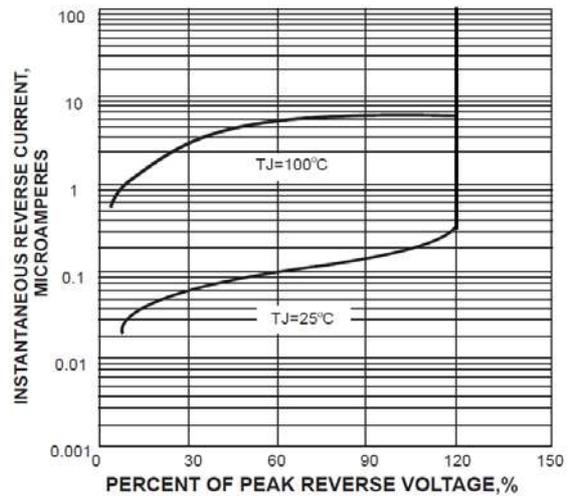


Fig. 4 TYPICAL REVERSE CHARACTERISTICS

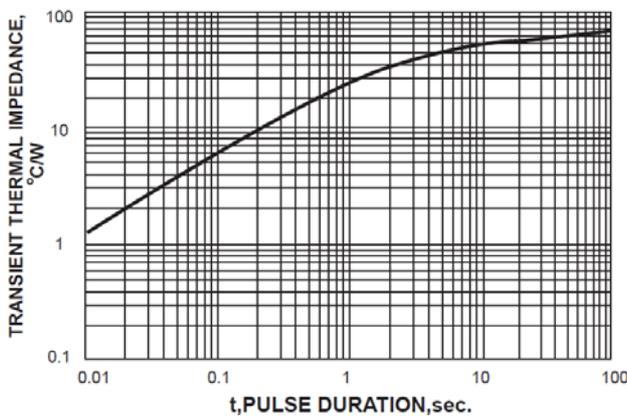


Fig. 5 TYPICAL TRANSIENT THERMAL IMPEDANCE

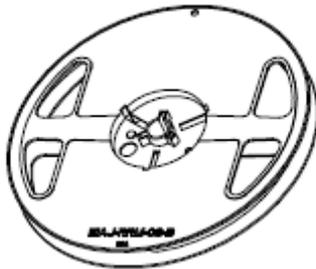
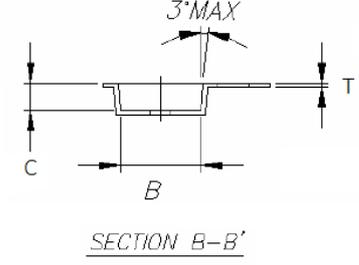
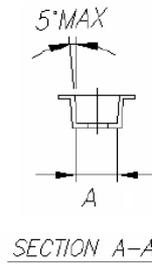
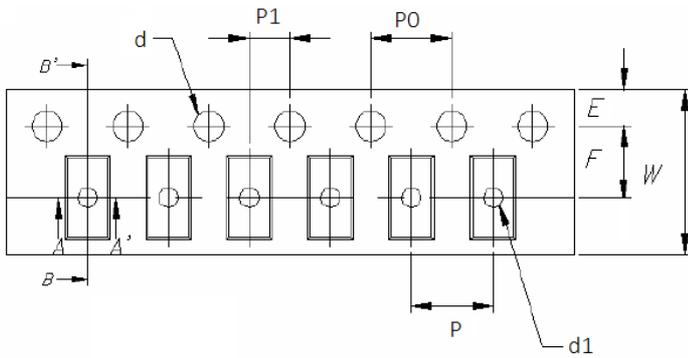
Pad Layout



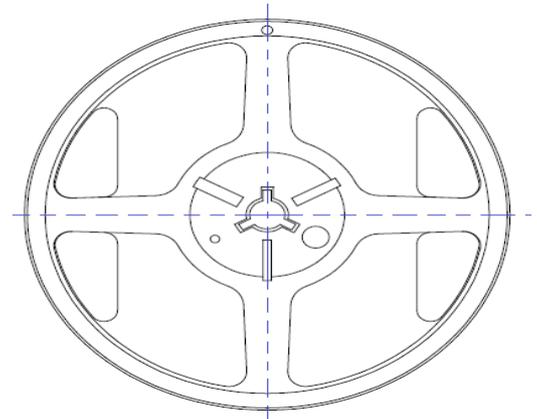
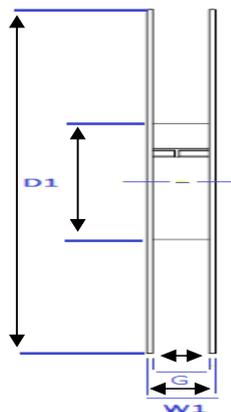
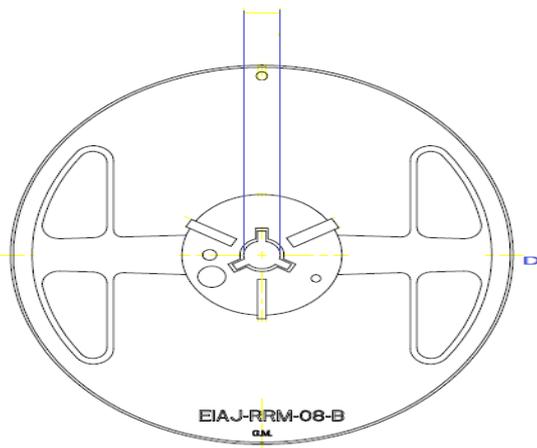
Unit: mm

Packaging Specifications

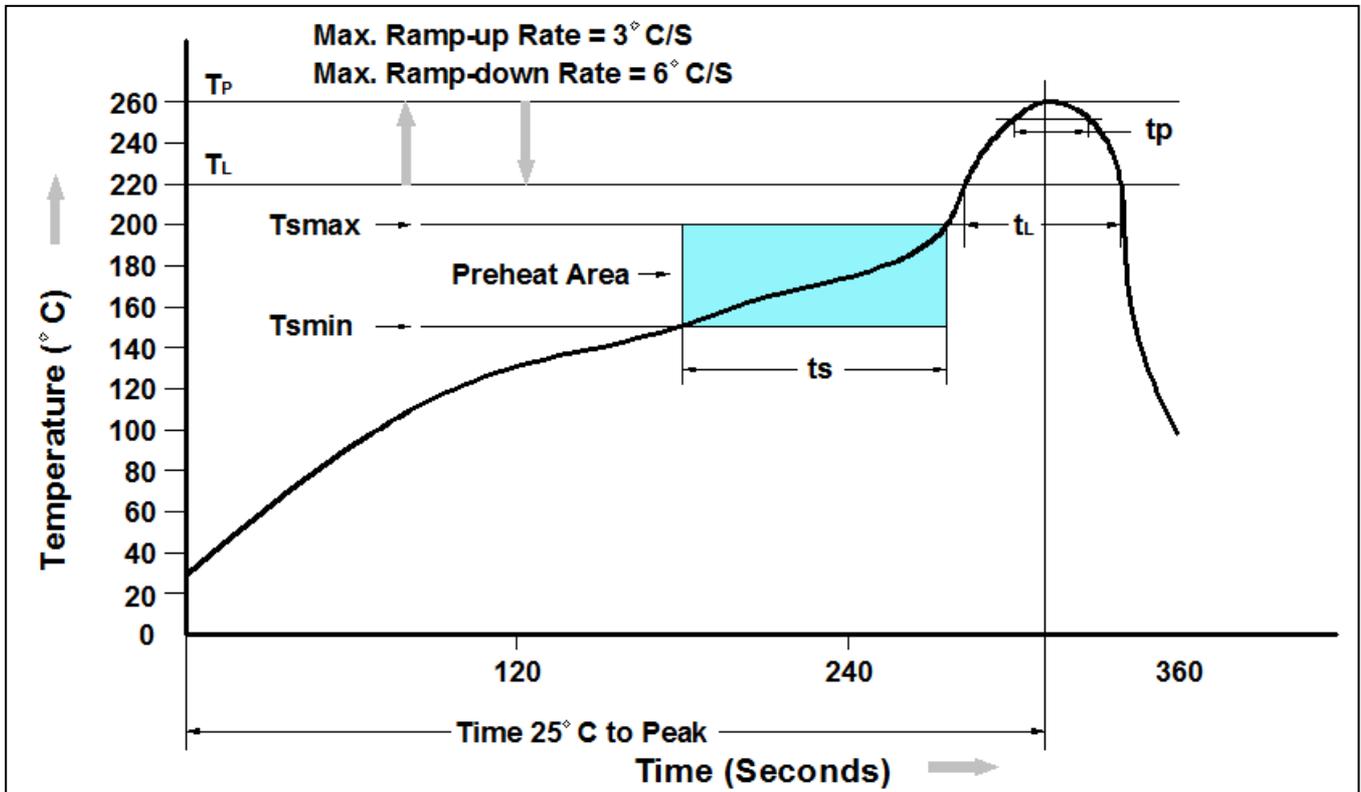
Package	W (mm)	A (mm)	B (mm)	C (mm)	d1 (mm)	d (mm)	E (mm)	F (mm)	P (mm)	P0 (mm)	P1 (mm)	T (mm)
SOD-123FL	8±0.2	2.00±0.1	3.85±0.1	1.1±0.1	1.0	1.50±0.1	1.75±0.1	3.5±0.05	4±0.1	4±0.05	2±0.05	0.23±0.05
SOD-123HE	8±0.3	2.00±0.1	4.00±0.1	1.45±0.1	1.0	1.55±0.1	1.75±0.1	3.5±0.05	4±0.1	4±0.10	2±0.05	0.23±0.10
SOD-323FL	8±0.2	1.37±0.1	2.75±0.1	0.85±0.1	1.00	1.60±0.1	1.75±0.1	3.50±0.05	4±0.1	4±0.10	-	0.20±0.10
SOD-323HE	8±0.3	1.60±0.1	2.80±0.1	0.95±0.1	1.0	1.50±0.1	1.75±0.1	3.5±0.05	4±0.1	4±0.10	2±0.05	0.23±0.10
SMAF	12±0.3	2.9±0.1	5.5±0.1	2.1±0.1	1.5	1.55±0.1	1.75±0.1	5.5±0.05	4±0.1	4±0.10	2±0.05	0.23±0.10
SMA-S	12±0.2	2.65±0.1	5.25±0.1	1.35±0.1	1.0	1.55±0.1	1.75±0.1	5.5±0.05	4±0.1	4±0.05	2±0.05	0.23±0.10
SMA-HE	12±0.2	2.65±0.1	5.25±0.1	1.35±0.1	1.0	1.55±0.1	1.75±0.1	5.5±0.05	4±0.1	4±0.05	2±0.05	0.23±0.10



Package	D (max.) (mm)	D1 (min.) (mm)	D2 (mm)	G (min.) (mm)	W1 (min.) (mm)
SOD-123FL	178	50.0	13.0±0.2	8.4	11.4
SOD-123HE	178	50.0	13.0±0.2	8.4	11.4
SOD-323FL	178	50.2	13.0±0.2	8.0	11.5
SOD-323HE	178	50.0	13.0±0.2	8.4	11.4
SMAF	178	50.0	13.0±0.2	12.4	18.0
	330	50.0	13.0±0.2	12.4	18.0
SMA-S	178	50.0	13.0±0.2	12.4	18.0
SMA-HE	178	50.0	13.0±0.2	12.4	18.0



Recommend IR Reflow Soldering Thermal Profile



Profile Feature	Pb-Free Assembly Profile
Temperature Min. (T _{smin})	150°C
Temperature Max. (T _{smax})	200°C
Time (t _s) from (T _{smin} to T _{smax})	60-120 seconds
Average Ramp-up Rate (t _L to t _P)	3°C/second max.
Liquidous Temperature (T _L)	217°C
Time (t _L) Maintained Above (T _L)	60 – 150 seconds
Peak Temperature	260°C +0°C / -5°C
Time (t _P) within 5°C of actual Peak Temperature	30 seconds
Ramp-down Rate (T _P to T _L)	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.

Ordering Information

Part Number	Description	Quantity
SS3020FL~SS30200FL	SOD-123FL Reel	3000 pcs

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