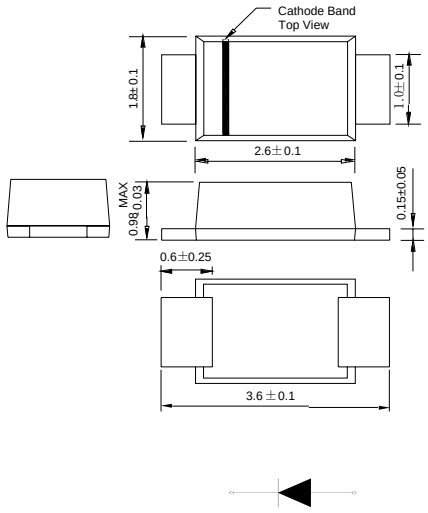
Features

- For surface mounted applications in order to optimize board space.
- Low profile package
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Flammability

SOD-123FL



Dimensions in inches and (millimeters)

Mechanical Data

Case : JEDEC SOD-123FL molded plastic body
Terminals : Solderable per MIL-STD-750,Method 2026
Polarity : Polarity symbol marking on body
Mounting Position : Any
Weight : 0.0007 ounce, 0.02 grams
Marking : Date Code and Marking Code See Page 3

Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on TA=25°C (Note 1,2,5, Fig1)	P_{PPM}	200	W
Peak Forward Surge Current (Note 3)	I_{FSM} (UNI)	20	A
Peak Pulse Current on 10/1000 us waveform (Note 1) Fig 2	I_{PPM}	see Table 1	A
Steady State Power Dissipation (Note 4)	$P_{M(AV)}$	1	W
Operating Junction and Storage Range	T_J, T_{STG}	-55 to +150	°C
Typical Thermal Resistance	$R_{\theta JA}$	180	°C/W

NOTES
1. Non-repetitive current pulse per Fig 3 and derated above T_A=25°C per Fig 2
2. Mounted on 5mm^2 copper pads to each terminal
3. 8.3ms single half sinewave, or equivalent square wave duty cycle=4 pulses per minutes maximum
4. lead temperature at T_L=75°C
5. Peak pulse powe. waveform is tp=10/1000us
6. A transient suppressor is selected according to the working peak reverse voltage(V_{RWM}), Which Should be equal to or greater than the DC or continuous peak operating voltage level

Characteristics at Ta = 25°C

Type		V_{RMW}	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
			V_{BR} @ I_T		I_T	I_R @ V_{RWM}	V_C @ I_{PP}	I_{PP}
			Min	Max				
Uni	Bi	V	V	V	mA	μA	V	A
SMF5.0A	SMF5.0CA	5.0	6.40	7.00	10	200	9.2	21.7
SMF6.0A	SMF6.0CA	6.0	6.67	7.37	10	100	10.3	19.4
SMF6.5A	SMF6.5CA	6.5	7.22	7.98	10	75	11.2	17.9
SMF7.0A	SMF7.0CA	7.0	7.78	8.60	10	50	12.0	16.7
SMF7.5A	SMF7.5CA	7.5	8.33	9.21	1	50	12.9	15.5
SMF8.0A	SMF8.0CA	8.0	8.89	9.83	1	25	13.6	14.7
SMF8.5A	SMF8.5CA	8.5	9.44	10.40	1	10	14.4	13.9
SMF9.0A	SMF9.0CA	9.0	10.00	11.10	1	5	15.4	13.0
SMF10A	SMF10CA	10.0	11.10	12.30	1	2.5	17.0	11.8
SMF11A	SMF11CA	11.0	12.20	13.50	1	2.5	18.2	11.0
SMF12A	SMF12CA	12.0	13.30	14.70	1	2.5	19.9	10.1
SMF13A	SMF13CA	13.0	14.40	15.90	1	1	21.5	9.3
SMF14A	SMF14CA	14.0	15.60	17.20	1	1	23.2	8.6
SMF15A	SMF15CA	15.0	16.70	18.50	1	1	24.4	8.2
SMF16A	SMF16CA	16.0	17.80	19.70	1	1	26.0	7.7
SMF17A	SMF17CA	17.0	18.90	20.90	1	1	27.6	7.2
SMF18A	SMF18CA	18.0	20.00	22.10	1	1	29.2	6.8
SMF20A	SMF20CA	20.0	22.20	24.50	1	1	32.4	6.2
SMF22A	SMF22CA	22.0	24.40	26.90	1	1	35.5	5.6
SMF24A	SMF24CA	24.0	26.70	29.50	1	1	38.9	5.1
SMF26A	SMF26CA	26.0	28.90	31.90	1	1	42.1	4.8
SMF28A	SMF28CA	28.0	31.10	34.40	1	1	45.4	4.4
SMF30A	SMF30CA	30.0	33.30	36.80	1	1	48.4	4.1
SMF33A	SMF33CA	33.0	36.70	40.60	1	1	53.3	3.8
SMF36A	SMF36CA	36.0	40.00	44.20	1	1	58.1	3.4
SMF40A	SMF40CA	40.0	44.40	49.10	1	1	64.5	3.1
SMF43A	SMF43CA	43.0	47.80	52.80	1	1	69.4	2.9
SMF45A	SMF45CA	45.0	50.00	55.30	1	1	72.7	2.8
SMF48A	SMF48CA	48.0	53.30	58.90	1	1	77.4	2.6
SMF51A	SMF51CA	51.0	56.70	62.70	1	1	82.4	2.4
SMF54A	SMF54CA	54.0	60.00	66.30	1	1	87.1	2.3
SMF58A	SMF58CA	58.0	64.40	71.20	1	1	93.6	2.1
SMF60A	SMF60CA	60.0	66.70	73.70	1	1	96.8	1.8
SMF64A	SMF64CA	64.0	71.10	78.60	1	1	103.0	1.7
SMF70A	SMF70CA	70.0	77.80	86.00	1	1	113.0	1.5
SMF75A	SMF75CA	75.0	83.30	92.10	1	1	121.0	1.4
SMF78A	SMF78CA	78.0	86.70	95.80	1	1	126.0	1.4
SMF85A	SMF85CA	85.0	94.40	104.00	1	1	137.0	1.3
SMF90A	SMF90CA	90.0	100.00	111.00	1	1	146.0	1.2
SMF100A	SMF100CA	100.0	111.00	123.00	1	1	162.0	1.1
SMF110A	SMF110CA	110.0	122.00	135.00	1	1	177.0	1.0
SMF120A	SMF120CA	120.0	133.00	147.00	1	1	193.0	0.9
SMF130A	SMF130CA	130.0	144.00	159.00	1	1	209.0	0.8
SMF150A	SMF150CA	150.0	167.00	185.00	1	1	243.0	0.7
SMF160A	SMF160CA	160.0	178.00	197.00	1	1	259.0	0.7
SMF170A	SMF170CA	170.0	189.00	209.00	1	1	275.0	0.6
SMF180A	SMF180CA	180.0	201.00	222.00	1	1	292.0	0.5
SMF200A	SMF200CA	200.0	224.00	247.00	1	1	324.0	0.5
SMF220A	SMF220CA	220.0	246.00	272.00	1	1	356.0	0.5

Typical Characterisitics

Fig.1 Peak Pulse Power Rating Curve

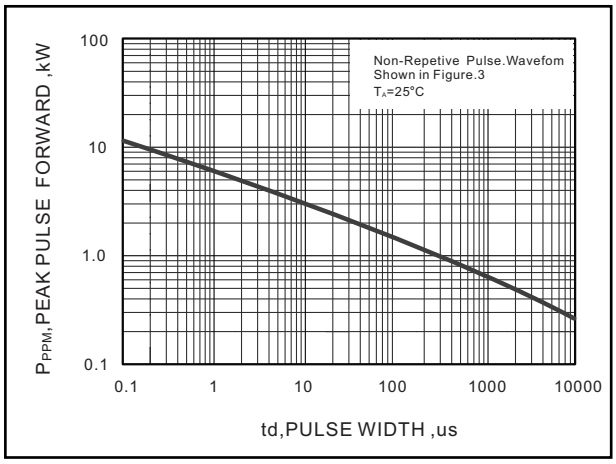


Fig.2 Forward Current Derating Curve

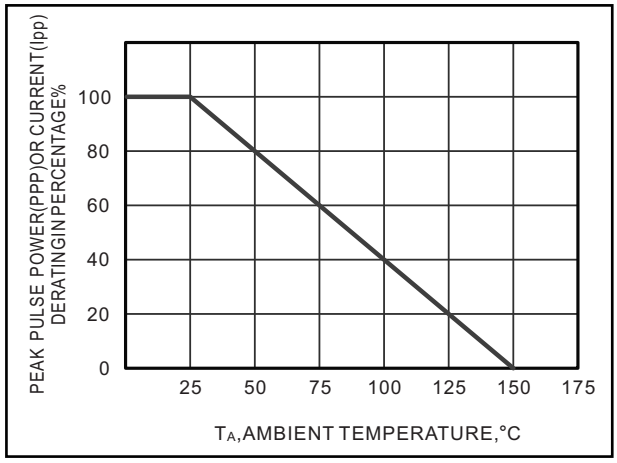


Fig.3 Pulse Waveform

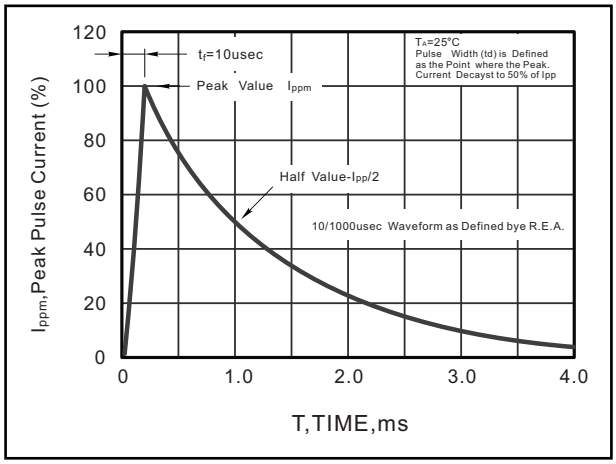
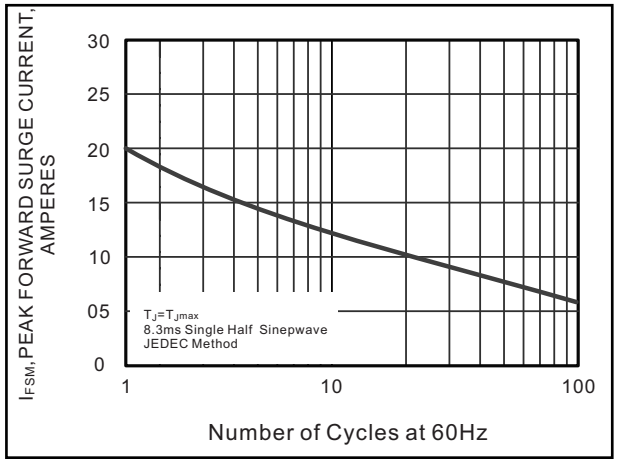
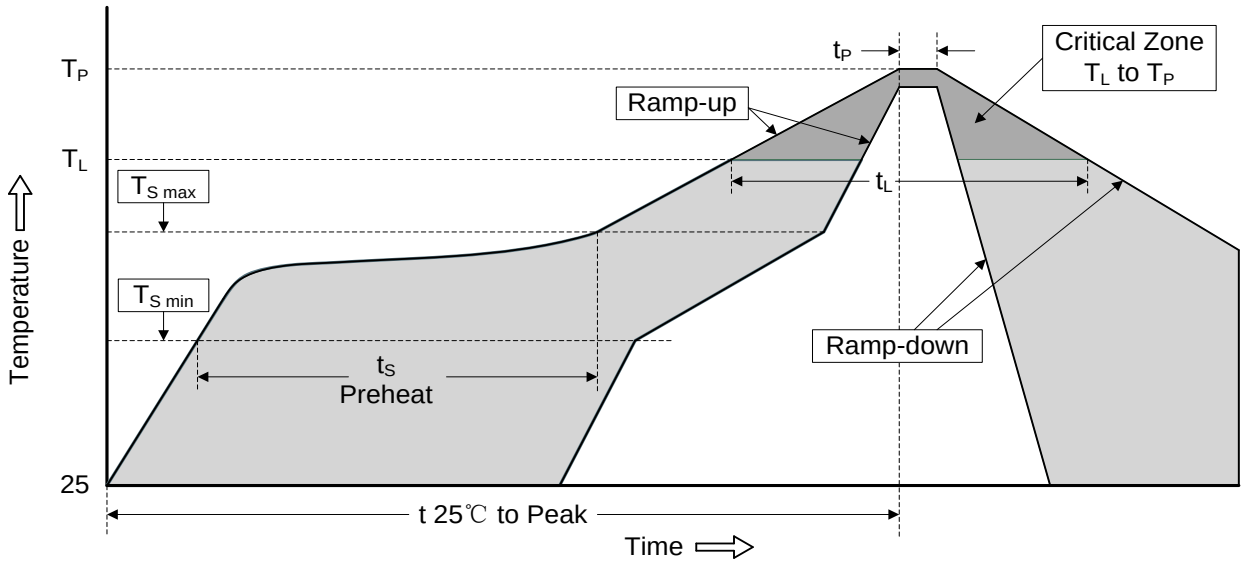


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



Recommended Soldering Conditions

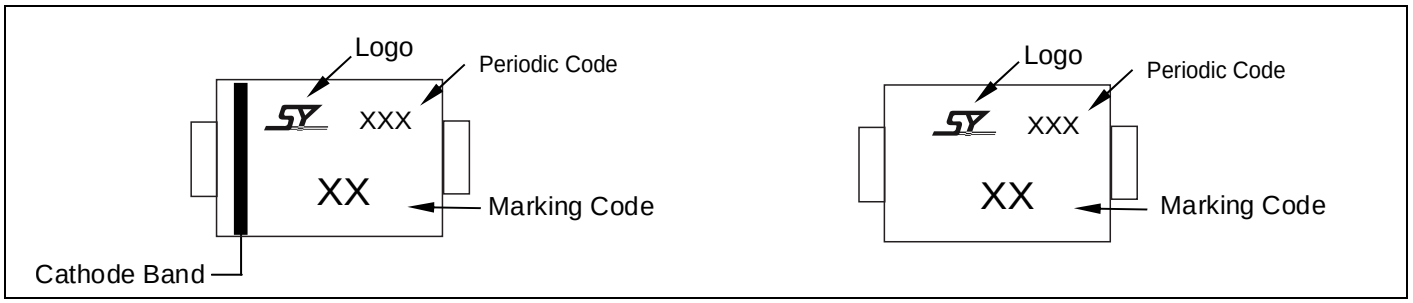
Reflow Soldering



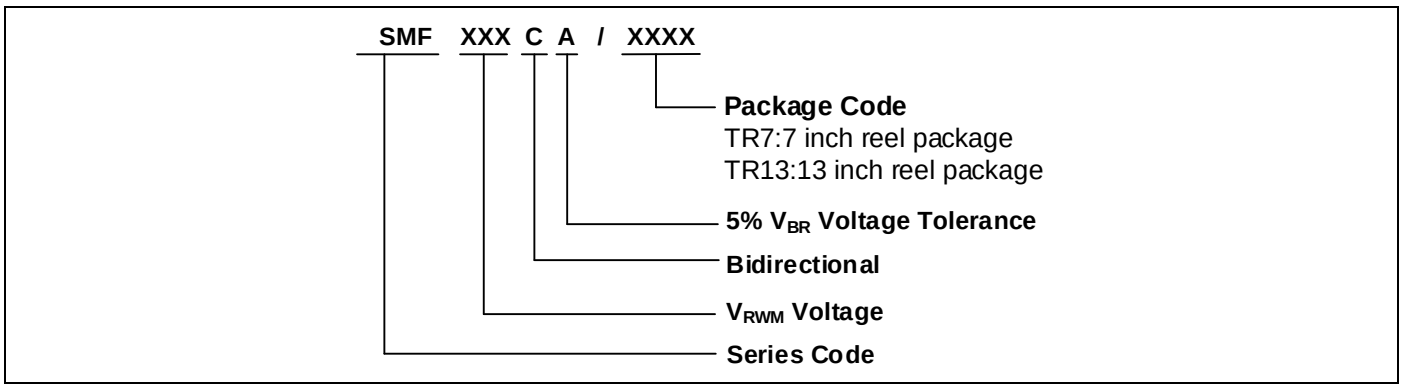
Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3℃/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_S)	 150℃ 200℃ 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	 3℃/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	 217℃ 60-150 seconds
Peak Temperature (T_P)	260℃
Time within 5℃ of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to Peak Temperature	8 minutes max.

Marking Code



Part Number Code

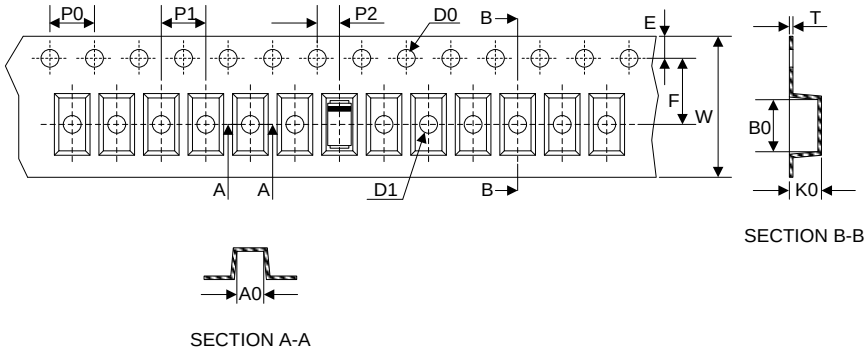


Ordering Code for Different Package

7 inch reel package: Add suffix " /TR7" at the end of the part number, such as SMFXXXCA/TR7
13 inch reel package: Add suffix " /TR13" at the end of the part number, such as SMFXXXCA/TR13

Packaging

Tape

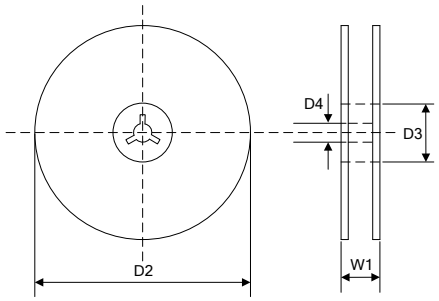


SECTION A-A

SECTION B-B

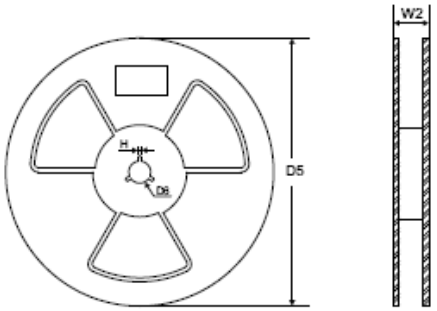
Symbol	Dimension (mm)
W	12.00±0.20
P0	4.00±0.10
P1	4.00±0.10
P2	2.00±0.10
D0	Φ1.5±0.10
D1	Φ1.5±0.10
E	1.75±0.10
F	5.50±0.05
A0	2.79±0.10
B0	5.33±0.10
K0	2.55±0.15
T	0.25±0.05

7” Reel



D2	Φ178.0±2.0
D3	Φ50.0Min.
D4	Φ13.0±0.5
W1	16.0±2.0
Quantity: 3000PCS	

13” Reel



D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	16.0±2.0
Quantity: 10000PCS	