

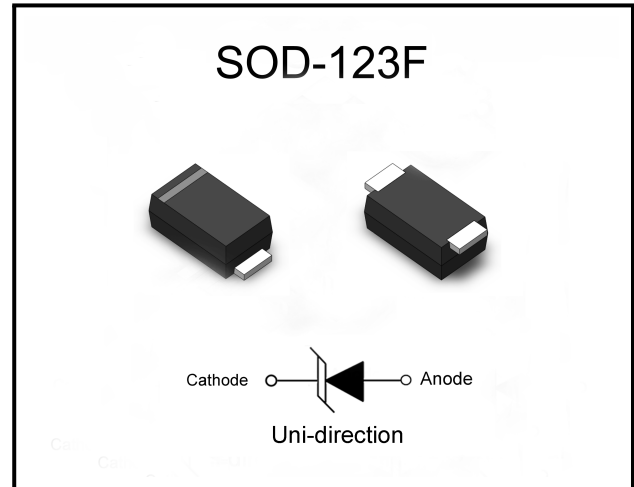
SMF3.3A

Transient Voltage Suppressor

Features

- Peak power dissipation 200W@10 x 1000 us Pulse
- Low incremental surge resistance
- Excellent clamping capability
- Excellent clamping capability
- Fast response time
- Halogen free and RoHS compliant
- Lead-free finish

Package



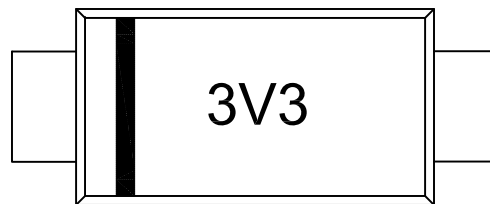
Mechanical Characteristics

- Package: SOD-123FL plastic package.
- Lead Finish: Matte Tin
- Case Material: Epoxy Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020

Applications

- Telecom
- Computer
- Industrial electronic
- Consumer electronic
- Automotive electronic

Making Code



Summary of Packing Options

Order code	Package	Base qty	Delivery mode
SMF3.3A	SOD-123FL	3000	Tape and reel

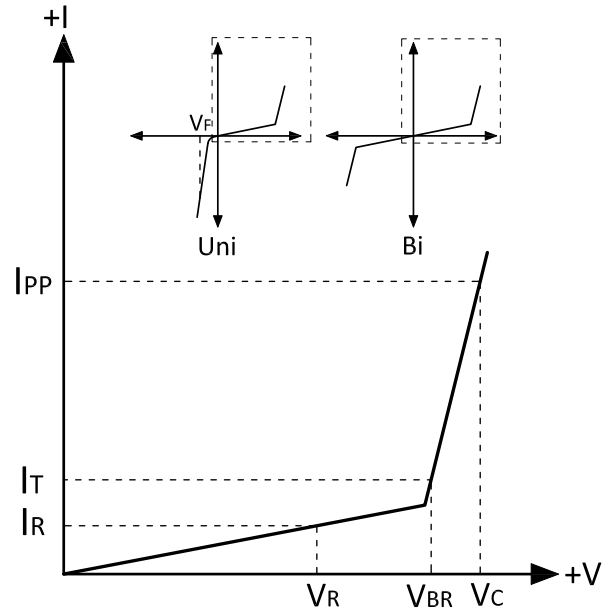


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Electrical Parameters

Parameter	Definition
C_J	Junction Capacitance - typical capacitance measured with 0V or V_R bias
I_{PP}	Peak Pulse Current - maximum rated peak impulse current
V_C	Clamping Voltage - Peak voltage measured across the suppressor at a specified I_{ppm}
V_{BR}	Breakdown Voltage - Maximum voltage that flows though the TVS at a specified test current (I_T)
I_R	Leakage Current - maximum peak off-state current measured at V_R
V_R	Peak Off-state Voltage - maximum voltage that can be applied while maintaining off state



Absolute Maximum Ratings ($T_A=+25^\circ\text{C}$, unless otherwise noted)

Parameter	Symbol	Value	Units
Peak Pulse Power Dissipation on 10/1000 us Waveform(Note1,2,FIG.1)	P_{PPM}	200	W
Power Dissipation on Infinite Heat Sink at $T_L=50^\circ\text{C}$	P_D	1	W
Peak Pulse Current of on 10/1000 us Waveform(Note1,FIG.3)	I_{PPM}	See Table	A
Peak Forward Surge Current,8.3ms Single Half Sine-Wave(Note2.3)	I_{FSM}	20	A
Operating Junction Temperature Range	T_J	-55 to 150	$^\circ\text{C}$
Storage Temperature Range	T_J	-55 to 150	$^\circ\text{C}$

Notes:

- (1) Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^\circ\text{C}$ per Fig.2.
- (2) Mounted on $5.0 \times 5.0 \text{mm}^2$ (0.03mm thick) Copper Pads to each terminal.
- (3) Measured on 8.3ms single half sine-wave, or equivalent square wave, for Unidirectional device only.

Absolute Maximum Ratings ($T_A=+25^\circ\text{C}$, unless otherwise noted)

Part Number	Reverse Stand-Off Voltage	Breakdown Voltage		Test Current I_T	Maximum Clamping Voltage $V_C @ I_{pp}$	Maximum Peak Pulse Current I_{pp}	Maximum Reverse Leakage $I_R @ V_R$
		Min.(V)	Max.(V)				
(Uni)	(V)			(mA)	(V)	(A)	(μA)
SMF3.3A	3.3	5.0	5.8	10	7.6	26.3	50





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Ratings and Characteristic Curves

Figure 1: Peak Pulse Power Rating

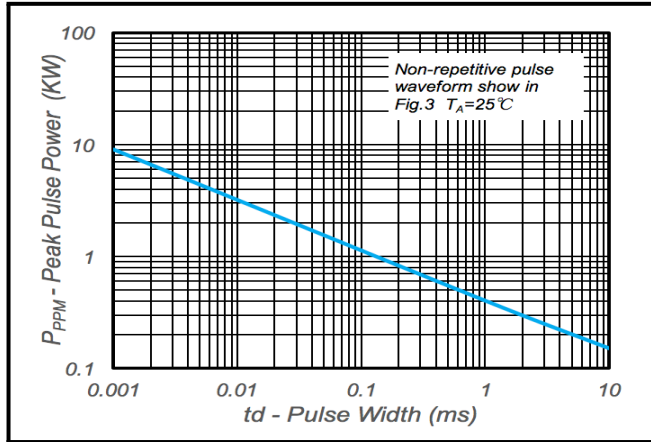


Figure 2: Pulse Derating Cure

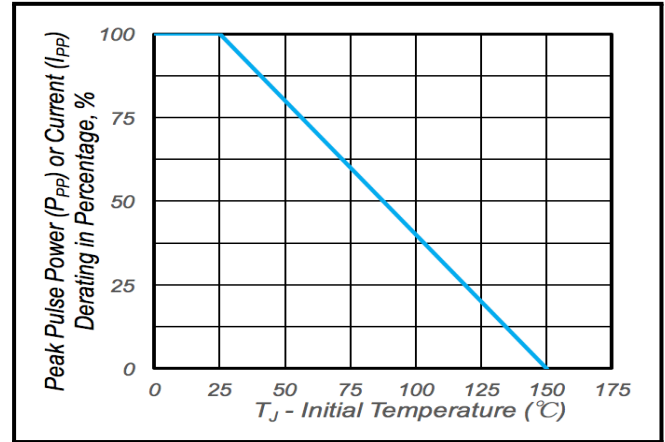
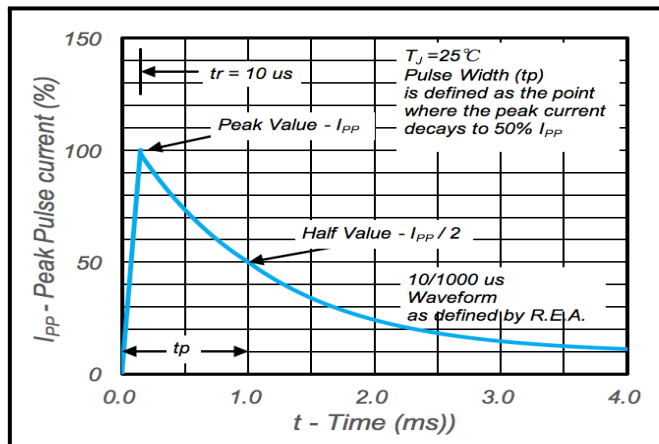
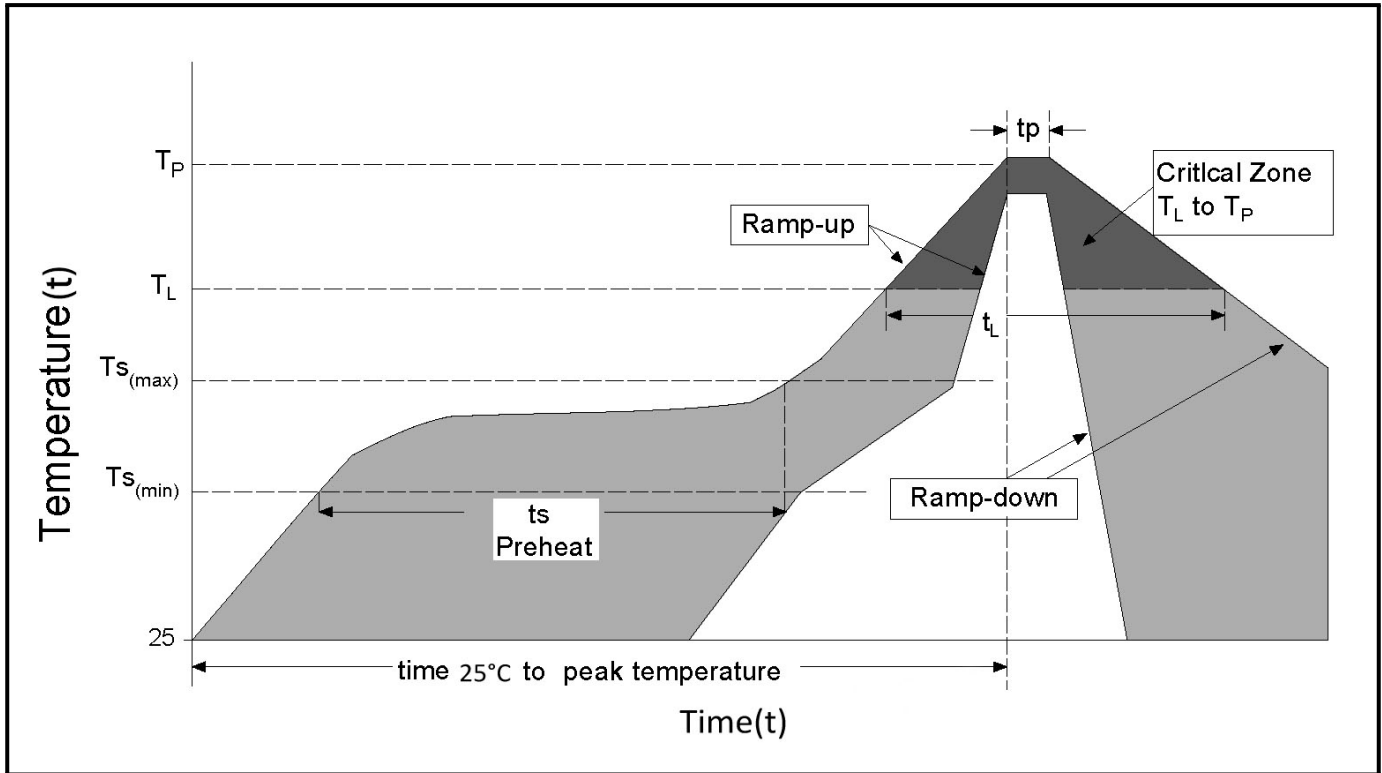


Figure 3 : Pulse Waveform



Soldering Parameters



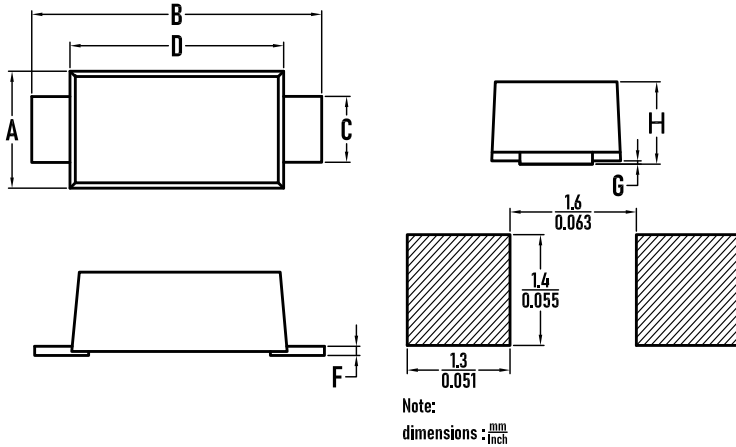
Reflow Condition		Lead-free assembly
Pre Heat	- Temperature Min ($T_{S(min)}$)	150°C
	- Temperature Max ($T_{S(max)}$)	200°C
	- Time (min to max) (t_s)	60 - 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Time (t_L)	60 - 150 secs
Peak Temperature (T_P)		260 ^{+0/-5} °C
Time within 5°C of actual peak Temperature (t_p)		6°C/second max
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (t)		8 minutes Max.
Do not exceed		260°C



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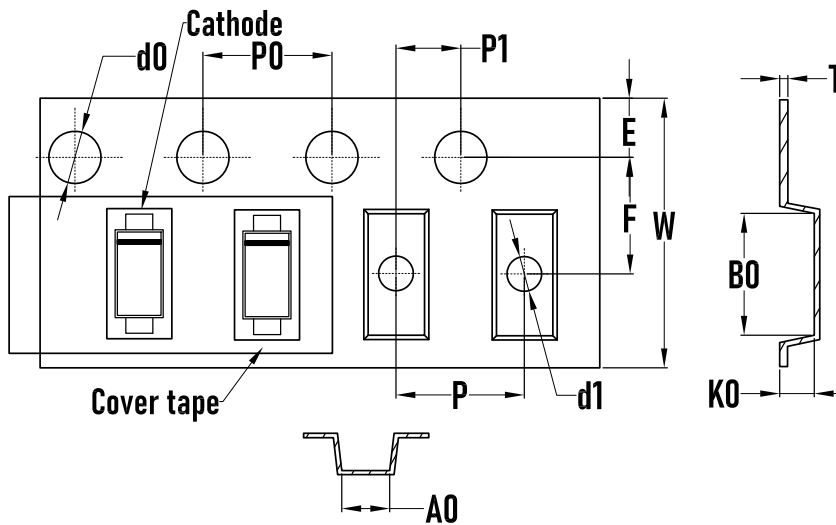
ESD Protection Diode

Package Mechanical Data - SOD-123FL



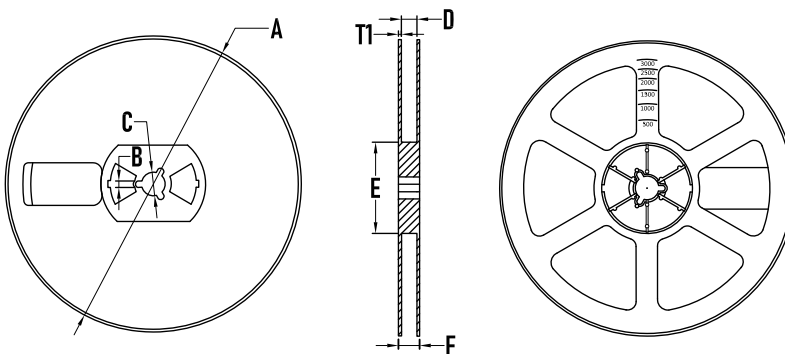
SYMBOL	MILLIMETER		
	MIN.	Typ.	MAX.
A	1.60	1.80	2.00
B	3.40	3.60	3.80
C	0.90	1.00	1.10
D	2.50	2.70	2.90
F	0.10	0.15	0.20
G	0.00	—	0.02
H	1.00	1.10	1.20

Packaging Tape - SOD-123FL



SYMBOL	MILLIMETER
A0	2.10±0.1
B0	4.0 ±0.1
d0	1.5±0.1
d1	1.0±0.1
E	1.75±0.1
F	3.50±0.1
K0	1.25±0.1
P	4.00±0.1
P0	4.00±0.1
P1	2.00±0.1
W	8.00±0.1
T	0.2±0.02

Packaging Reel



SYMBOL	MILLIMETER
A	177.8±0.2
B	2.7±0.2
C	13.5±0.2
D	9.6±0.3
E	54.5±0.2
F	12.3±0.3
T1	1.0±0.2
Quantity	3000PCS

