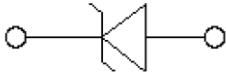
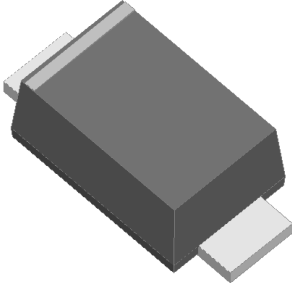


Surface Mount Transient Voltage Suppressor

Uni-directional



Features

- For surface mounted applications
- Low-profile package
- Ideal for automated placement
- Available in Unidirectional and Bidirectional
- 200 W peak pulse power capability with a 10/1000 μ s waveform
- Low incremental surge resistance, excellent clamping capability
- Very fast response time: typically less than 1.0ns from 0 Volts to V_{BR} min
- High temperature soldering guaranteed: 260 °C/10 s at terminals
- Meets MSL level 1
- Component in accordance to RoHS

Typical Applications

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial, telecommunication.

Mechanical Date

- **Package:** SOD-123FL
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** For uni-directional types the band denotes cathode end

■Maximum Ratings ($T_A=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Conditions	Max
Peak power dissipation ⁽¹⁾ ⁽²⁾ (Fig.1)	P_{PPM}	W	with a 10/1000us waveform	200
Peak pulse current ⁽¹⁾	I_{PPM}	A	with a 10/1000us waveform	(See Next Table)
Power dissipation, on infinite heat sink	P_D	W	$T_L=75^\circ\text{C}$	0.4
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only ⁽³⁾	I_{FSM}	A		20
Operating junction and storage temperature range	T_J, T_{STG}	$^\circ\text{C}$		-55 to +150
Electrostatic Discharge	ESD	KV	IEC61000-4-2 air discharge	± 30
Electrostatic Discharge			IEC61000-4-2 contact discharge	
Thermal resistance ⁽⁴⁾	$R_{\theta JL}$	$^\circ\text{C/W}$	Between junction and lead	40
	$R_{\theta JA}$		Between junction and Ambient	180



SMF3.3A

Notes:

- (1). Non repetitive current pulse, per Fig2 and derated above $T_A=25^{\circ}\text{C}$ per Fig3.
- (2). $T_L=30^{\circ}\text{C}$ unless otherwise noted, $V_F \leq 1.50\text{V}@1\text{A}$.
- (3). Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum
- (4). Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SMF3.3A	F1	0.0167	3000	30000	120000	7" reel

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Part Number	Breakdown Voltage $V_{BR}@I_T$			Maximum Reverse Leakage $I_R^{(3)}$ @ V_{RWM} (μA)	Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Surge Current $I_{PP}^{(2)}$ (A)	Maximum Clamping Voltage V_c @ I_{PP} (V)
	(Uni)	Min(V)	Max (V)				
SMF3.3A		5.2	6.5	10	150	27.4	8

Notes:

- (1) $t_p \leq 50\text{ms}$ Pulse test: $t_p \leq 50\text{ms}$.
- (2) Surge current waveform per Fig. 2 and derated per Fig.3.
- (3) For bi-directional types having VRWM of 10 V and less, the I_R limit is doubled.

Characteristics(Typical)

FIG1: Peak Pulse Power Rating Curve

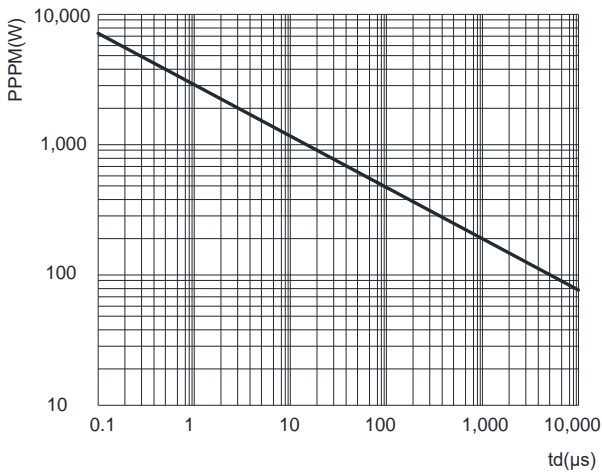


FIG2: Pulse Waveform

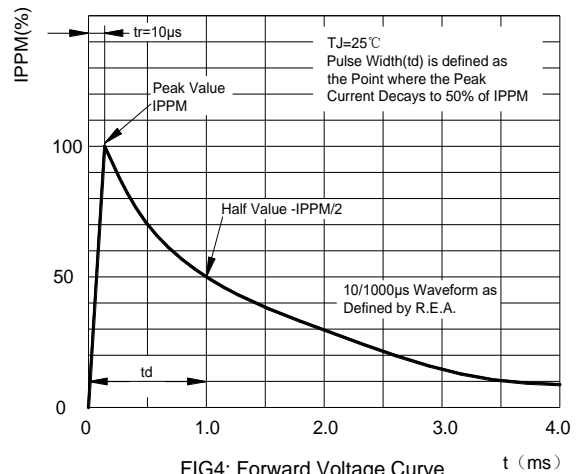


FIG3: Pulse Power or Current vs. Initial Junction Temperature

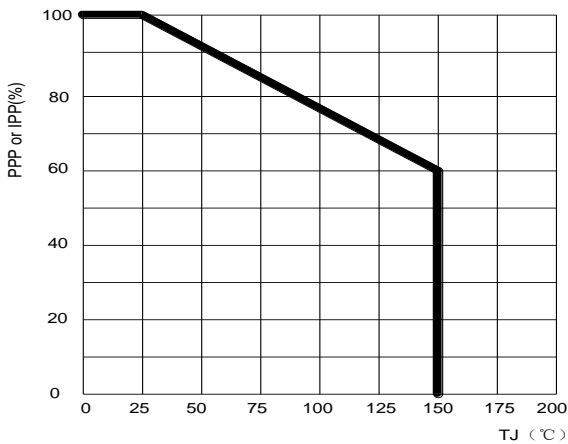
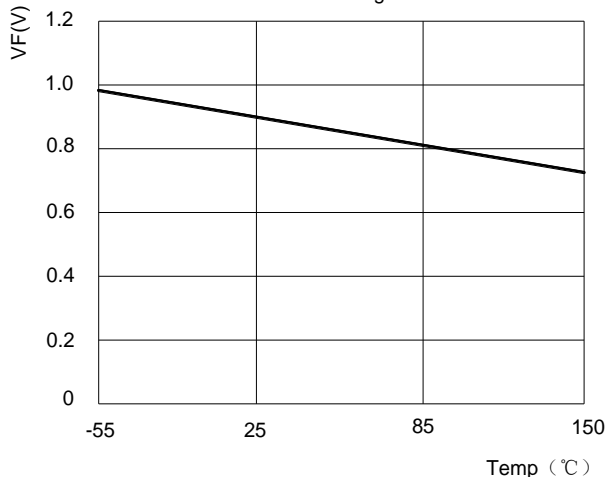
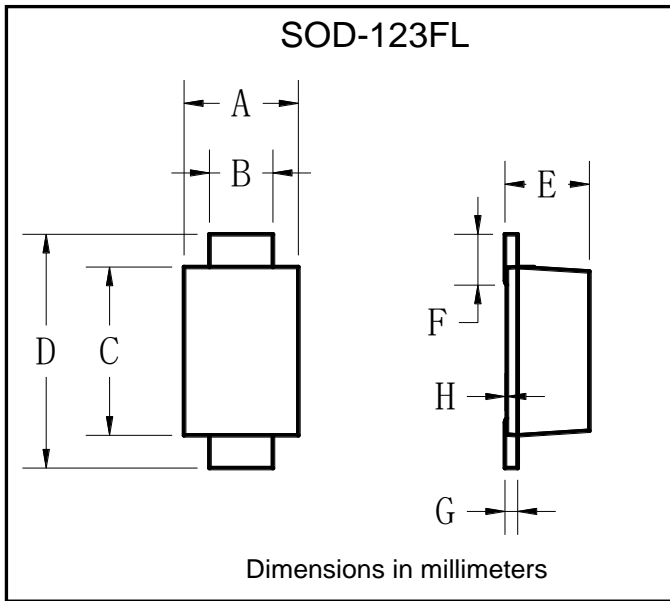


FIG4: Forward Voltage Curve

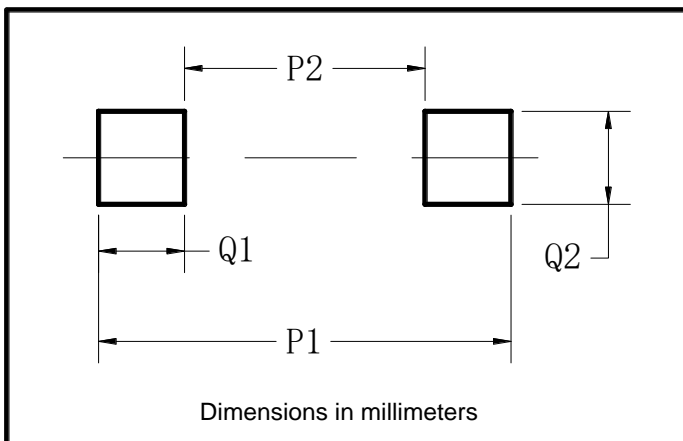


■ Outline Dimensions



SOD-123FL		
Dim	Min	Max
A	1.60	1.90
B	0.90	1.10
C	2.55	2.85
D	3.60	3.90
E	1.00	1.20
F	0.40	0.90
G	0.10	0.25
H	0.00	0.05

■ Suggested pad layout



SOD-123FL	
Dim	Millimeters
P1	3.90
P2	1.90
Q1	1.00
Q2	1.50



SMF3.3A

Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.