

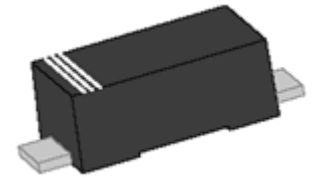


## SMF3.3AL 400W Transient Voltage Suppressor

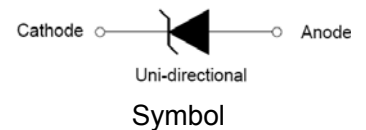
Rev.1.2

### FEATURES:

- ✧ Planar technology.
- ✧ Halogen-free and RoHS compliant.
- ✧ Stand-off voltage: 3.3V.
- ✧ 400W peak pulse power capability at 10/1000μs waveform.
- ✧ Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C.
- ✧ Terminal: solder plated, solderable per J-STD-002.
- ✧ Excellent clamping capability.
- ✧ Fast response time.
- ✧ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact).



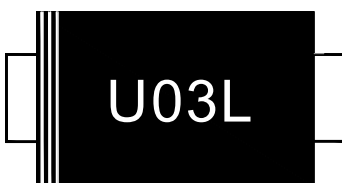
SOD-123FL



### ABSOLUTE MAXIMUM RATINGS( $T_A=25^{\circ}\text{C}$ , RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage and operating junction temperature range	$T_{STG}/T_J$	-55 to +150	$^{\circ}\text{C}$
Peak pulse power dissipation at 10/1000μs waveform	$P_{PP}$	400	W
Typical thermal resistance junction to lead	$R_{\theta JL}$	100	$^{\circ}\text{C}/\text{W}$
Typical thermal resistance junction to ambient	$R_{\theta JA}$	220	$^{\circ}\text{C}/\text{W}$

### MARKING



U03L : Device Marking Code

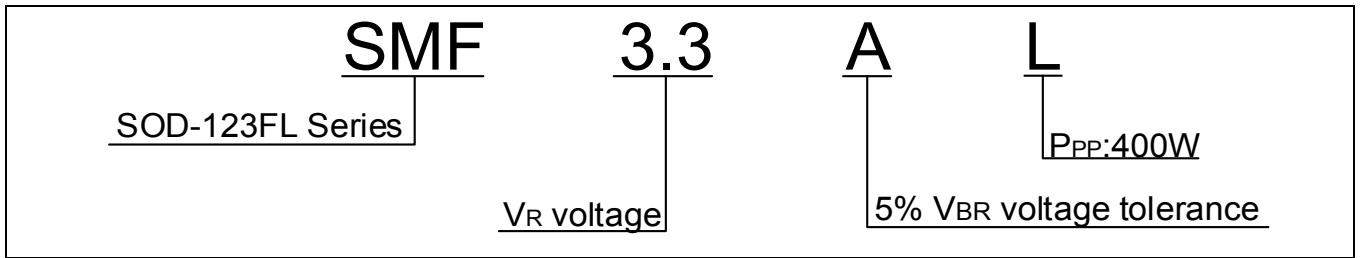
### ELECTRICAL CHARACTERISTICS( $T_A=25^{\circ}\text{C}$ )

Part Number	$V_R$	$I_R@V_R$	$V_{BR}@I_T$	$I_T$	$V_C@I_{PP}$	$I_{PP}^{①}$	$C_o^{②}$	Marking
	V	μA(max)	V(min)	mA	V(max)	A(max)	pF(typ.)	
SMF3.3AL	3.3	80	4.1	1	7.3	54.7	2900	U03L

① Surge waveform: 10/1000μs

②  $C_o$  is measured at:  $V_{bias}=0\text{V}$ ,  $V_{RMS}=0.1\text{V}$ ,  $f=1\text{MHz}$

ORDERING INFORMATION



RATINGS AND V-I CHARACTERISTICS CURVES ( $T_A=25^{\circ}C$ , unless otherwise noted)

FIG.1:V- I curve characteristics (Uni-directional)

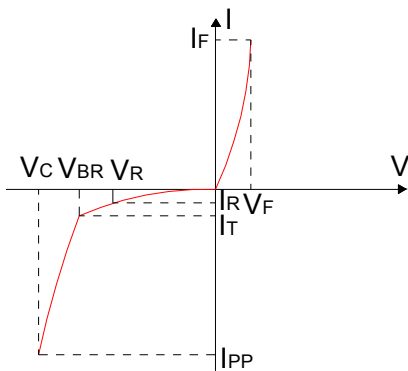


FIG.2: Pulse waveform

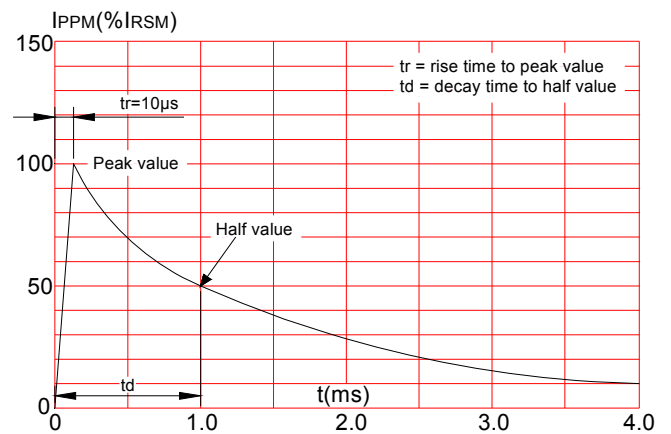
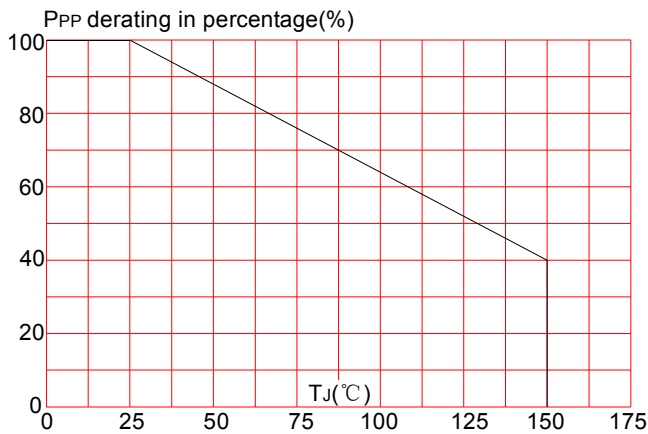
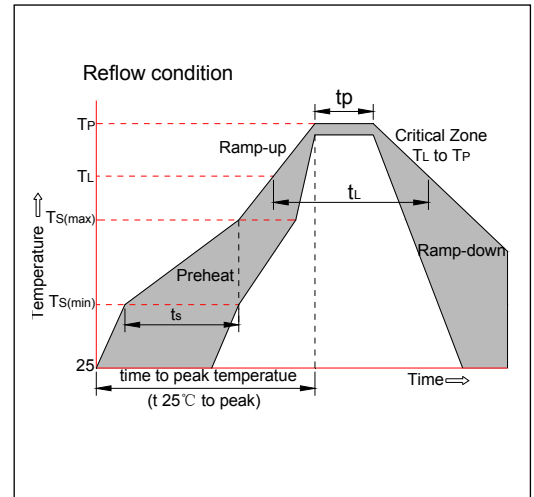


FIG.3: Pulse derating curve

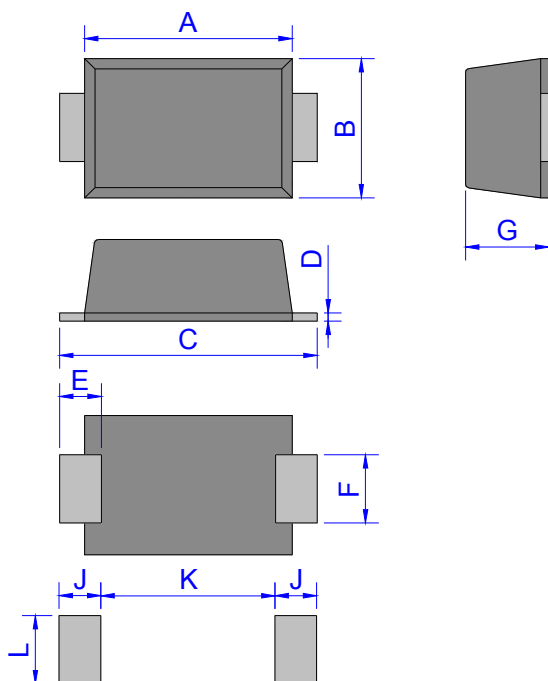


**SOLDERING PARAMETERS**

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	+150°C
	-Temperature Max( $T_{s(max)}$ )	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp ( $T_L$ )to peak)		3°C/sec. Max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature( $T_L$ )(Liquidus)	+217°C
	-Temperature( $t_L$ )	60-150 secs.
Peak Temp ( $T_P$ )		+260(+0/-5)°C
Time within 5°C of actual Peak Temp ( $t_p$ )		20-40secs.
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp ( $T_P$ )		8 min. Max
Do not exceed		+260°C



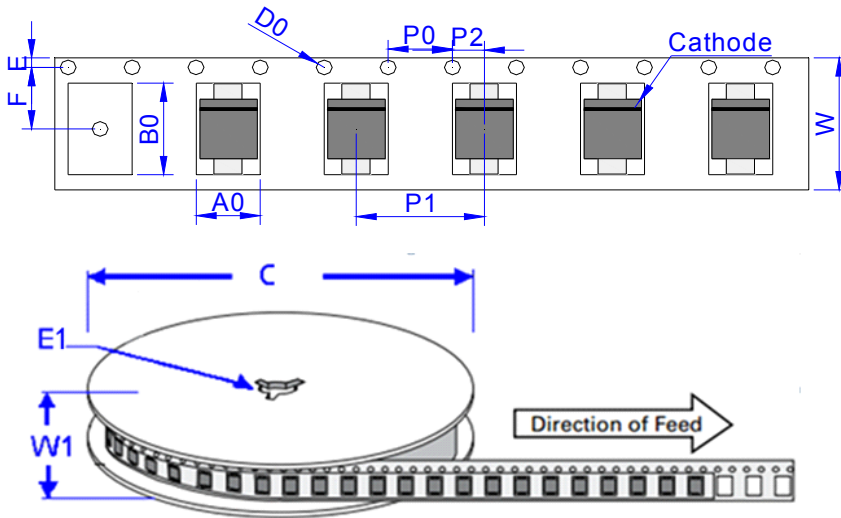
**PACKAGE MECHANICAL DATA**



SOD-123FL

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.60	3.00	0.102	0.118
B	1.60	2.00	0.063	0.079
C	3.45	3.95	0.136	0.156
D	0.10	0.25	0.004	0.01
E	0.3	0.9	0.012	0.035
F	0.80	1.20	0.031	0.047
G	0.70	1.00	0.028	0.039
J	1.30		0.051	
K		1.70		0.067
L	1.30		0.051	

TAPE AND REEL SPECIFICATION-SOD-123FL



Ref.	Dimensions	
	Millimeters	Inches
A0	1.95 ± 0.3	0.077 ± 0.012
B0	3.95 ± 0.3	0.156 ± 0.012
C	178	7.0
D0	1.55 ± 0.1	0.061 ± 0.004
E	1.75 ± 0.2	0.069 ± 0.008
E1	13.3 ± 0.3	0.524 ± 0.012
F	3.50 ± 0.2	0.138 ± 0.008
P0	4.00 ± 0.2	0.157 ± 0.008
P1	4.00 ± 0.2	0.157 ± 0.008
P2	2.00 ± 0.2	0.079 ± 0.008
W	8.0 ± 0.2	0.315 ± 0.008
W1	11.5 ± 1.0	0.453 ± 0.039

PART No.	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	DESCRIPTION
SMF3.3AL	0.0144	3000	150,000	7 inch reel pack

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