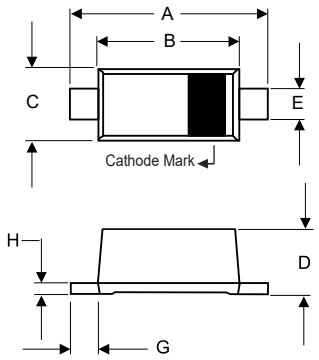
Features

- AEC-Q101 Qualified
- For Surface Mount Applications
- Excellent Clamping Capability
- High Temp Soldering:260°C / 10 Seconds At Terminals
- Halogen Free. “Green” Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- ESD protection of data lines in accordance with IEC 61000-4-2, 30kV(Air),30kV (Contact)

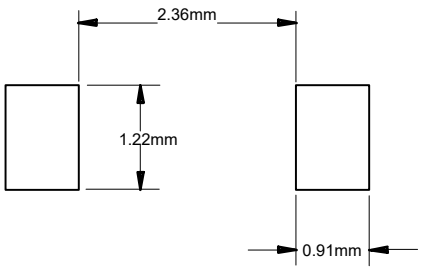
200Watt TVS 5.0 to 100 Volts

SOD-123FL



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.130	0.152	3.30	3.85	
B	0.100	0.122	2.55	3.10	
C	0.055	0.075	1.40	1.90	
D	0.035	0.053	0.90	1.35	
E	0.020	0.041	0.50	1.05	
G	0.010	----	0.25	----	
H	----	0.010	----	0.25	

SUGGESTED SOLDER PAD LAYOUT



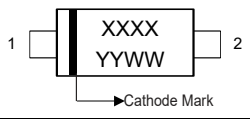
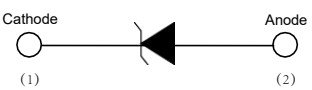
Maximum Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Power Surge Current with a 10/1000μs Waveform (Note 3)	I_{PPM}	See Next Table	A
Peak Pulse Power Dissipation(Note 3)	P_{PPM}	200	W
Power Dissipation on Infinite Heatsink at T_L= 75°C	P_D	0.4	W
Peak Forward Surge Current Unidirectional Only (Note 4)	I_{FSM}	20	A

Note:

1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.
3. Non-repetitive current pulse, per Fig.3 and derated above T_A=25 °C per Fig.4.
4. 8.3ms, single half sine wave duty cycle = 4 pulses per Minutes maximum.

Internal Structure and Marking Code

Description	Simplified outline	Graphic symbol
Uni-directional		

XXXX = Marking code YYWW = Date Code

Thermal Characteristics

Parameter	Symbol	Value	Unit
Operating Junction Temperature Range	T_J	-55 to +150	℃
Storage Temperature Range	T_{STG}	-55 to +150	℃
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	26	℃/W
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	300	℃/W
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	40	℃/W

MCC Part Number	Working Peak Reverse Voltage	Breakdown Voltage V_{BR} @I_T			Maximun Clamping Voltage @I_{PP}	Maximum Reverse Surge Current	Maximum Reverse Leakage @V_{RWM}	Device Marking Code
(Uni)	V_{RWM}(V)	Min (V)	Max (V)	I_T (mA)	V_C(V)	I_{PP}(A)	I_R(μA)	Uni
SMF5.0AHE3	5.0	6.40	7.07	10	9.2	21.7	400.0	5.0A
SMF6.0AHE3	6.0	6.67	7.37	10	10.3	19.4	400.0	6.0A
SMF6.5AHE3	6.5	7.22	7.98	10	11.2	17.9	250.0	6.5A
SMF7.0AHE3	7.0	7.78	8.6	10	12.0	16.7	100.0	7.0A
SMF7.5AHE3	7.5	8.33	9.21	1.0	12.9	15.5	50.0	7.5A
SMF8.0AHE3	8.0	8.89	9.83	1.0	13.6	14.7	25.0	8.0A
SMF8.5AHE3	8.5	9.44	10.4	1.0	14.4	13.9	10.0	8.5A
SMF9.0AHE3	9.0	10	11.1	1.0	15.4	13.0	5.0	9.0A
SMF10AHE3	10	11.1	12.3	1.0	17.0	11.8	2.5	10A
SMF11AHE3	11	12.2	13.5	1.0	18.2	11.0	2.5	11A
SMF12AHE3	12	13.3	14.7	1.0	19.9	10.1	2.5	12A
SMF13AHE3	13	14.4	15.9	1.0	21.5	9.3	1.0	13A
SMF14AHE3	14	15.6	17.2	1.0	23.2	8.6	1.0	14A
SMF15AHE3	15	16.7	18.5	1.0	24.4	8.2	1.0	15A
SMF16AHE3	16	17.8	19.7	1.0	26.0	7.7	1.0	16A
SMF17AHE3	17	18.9	20.9	1.0	27.6	7.2	1.0	17A
SMF18AHE3	18	20	22.1	1.0	29.2	6.8	1.0	18A
SMF19AHE3	19	21.1	23.3	1.0	30.6	6.5	1.0	19A
SMF20AHE3	20	22.2	24.5	1.0	32.4	6.2	1.0	20A
SMF22AHE3	22	24.4	26.9	1.0	35.5	5.6	1.0	22A
SMF24AHE3	24	26.7	29.5	1.0	38.9	5.1	1.0	24A
SMF26AHE3	26	28.9	31.9	1.0	42.1	4.8	1.0	26A
SMF28AHE3	28	31.1	34.4	1.0	45.4	4.4	1.0	28A
SMF30AHE3	30	33.3	36.8	1.0	48.4	4.1	1.0	30A
SMF33AHE3	33	36.7	40.6	1.0	53.3	3.8	1.0	33A
SMF36AHE3	36	40	44.2	1.0	58.1	3.4	1.0	36A
SMF40AHE3	40	44.4	49.1	1.0	64.5	3.1	1.0	40A
SMF43AHE3	43	47.8	52.8	1.0	69.4	2.9	1.0	43A
SMF45AHE3	45	50	55.3	1.0	72.7	2.8	1.0	45A
SMF48AHE3	48	53.3	58.9	1.0	77.4	2.6	1.0	48A
SMF51AHE3	51	56.7	62.7	1.0	82.4	2.4	1.0	51A
SMF54AHE3	54	60	66.3	1.0	87.1	2.3	1.0	54A
SMF58AHE3	58	64.4	71.2	1.0	93.6	2.1	1.0	58A
SMF60AHE3	60	66.7	73.7	1.0	96.8	1.8	1.0	60A
SMF64AHE3	64	71.1	78.6	1.0	103.0	1.7	1.0	64A
SMF70AHE3	70	77.8	86	1.0	113.0	1.5	1.0	70A
SMF75AHE3	75	83.3	92.1	1.0	121.0	1.4	1.0	75A
SMF78AHE3	78	86.7	95.8	1.0	126.0	1.4	1.0	78A
SMF85AHE3	85	94.4	104	1.0	137.0	1.3	1.0	85A
SMF90AHE3	90	100	111	1.0	146.0	1.2	1.0	90A
SMF100AHE3	100	111	123	1.0	162.0	1.1	1.0	100

Curve Characteristics

FIG1:Peak Pulse Power Rating Curve

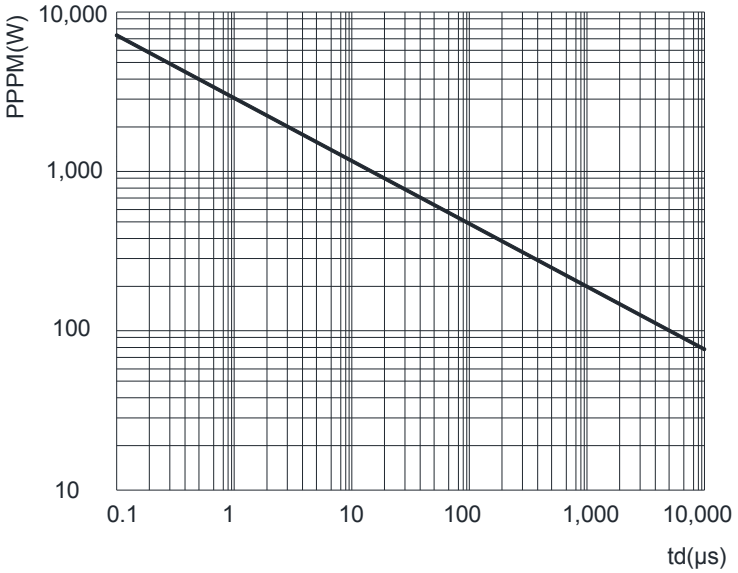


FIG2: Forward Voltage Curve

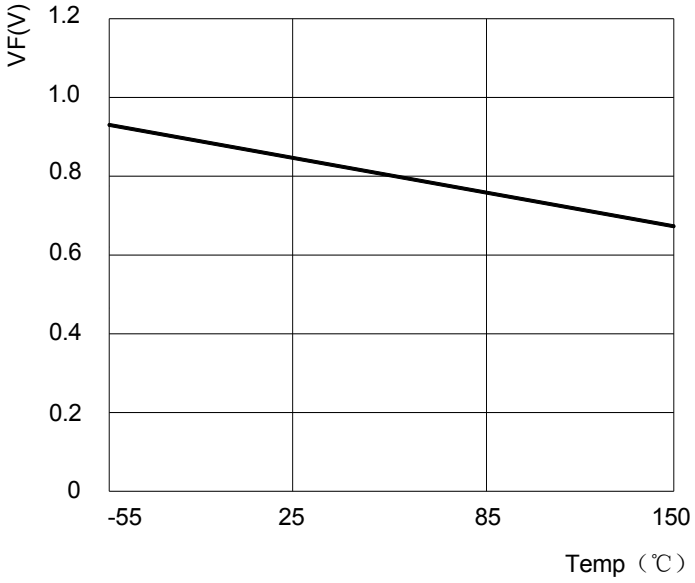


FIG3: Pulse Waveform

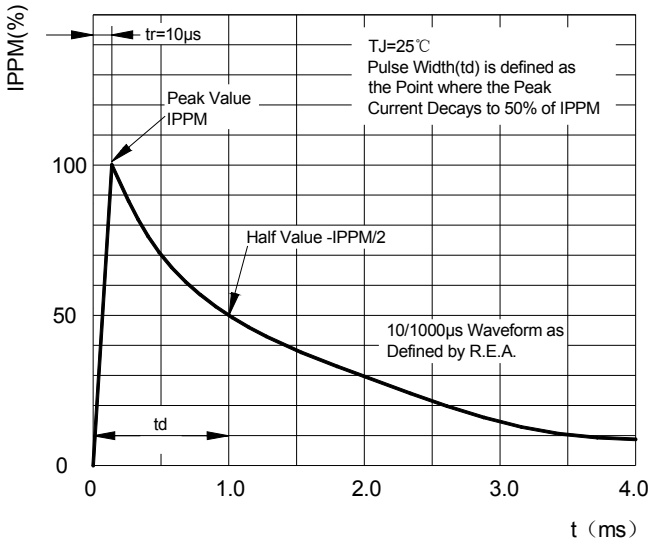
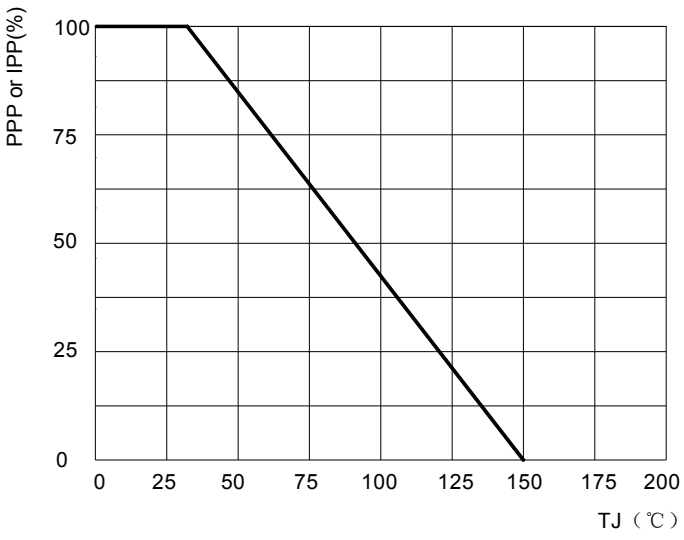


FIG4: Pulse Power or Current vs. Initial Junction Temperature



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:2.5Kpcs/Reel

Rev.4-1-09012023