

## Features

- Fully Automotive Qualified to AEC-Q101
- 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)

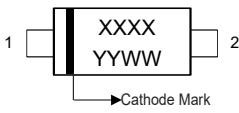
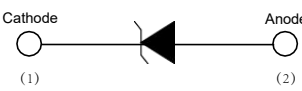
## Maximum Ratings

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 $T_L = 75^\circ\text{C}$	$P_D$	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  $T_A = 25^\circ\text{C}$  per Fig.4.
4. 8.3ms, single half sine wave duty cycle = 4 pulses per Minutes maximum.

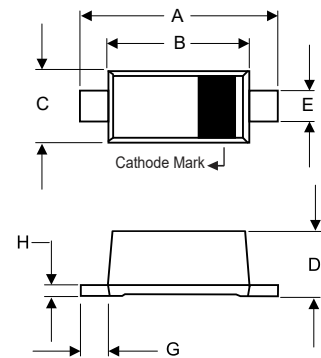
## Internal Structure and Marking Code

Description	Simplified outline	Graphic symbol
Uni-directional		

XXXX = Marking code YYWW = Date Code

**200Watt TVS**  
**5.0 to 100**  
**Volts**

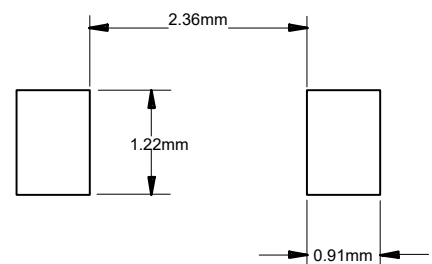
## SOD-123FL



### 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



## Thermal Characteristics

Parameter	Symbol	Value	Unit
Operating Junction Temperature Range	$T_J$	-55 to +175	°C
Storage Temperature Range	$T_{STG}$	-55 to +175	°C
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	26	°C/W
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	300	°C/W
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	40	°C/W

MCC Part Number	Working Peak Reverse Voltage	Breakdown Voltage $V_{BR}$ @ $I_T$			Maximum Clamping Voltage @ $I_{PP}$	Maximum Reverse Surge Current	Maximum Reverse Leakage @ $V_{RWM}$	Device Marking Code
	$V_{RWM}(V)$	Min (V)	Max (V)	$I_T$ (mA)	$V_C(V)$	$I_{PP}(A)$	$I_R(\mu A)$	Uni
SMF5.0AQ	5.0	6.40	7.07	10	9.2	21.74	400.0	5.0A
SMF6.0AQ	6.0	6.67	7.37	10	10.3	19.42	400.0	6.0A
SMF6.5AQ	6.5	7.22	7.98	10	11.2	17.86	250.0	6.5A
SMF7.0AQ	7.0	7.78	8.60	10	12.0	16.67	100.0	7.0A
SMF7.5AQ	7.5	8.33	9.21	1	12.9	15.50	50.0	7.5A
SMF8.0AQ	8.0	8.89	9.83	1	13.6	14.71	25.0	8.0A
SMF8.5AQ	8.5	9.44	10.40	1	14.4	13.89	10.0	8.5A
SMF9.0AQ	9.0	10.00	11.10	1	15.4	12.99	5.0	9.0A
SMF10AQ	10.0	11.10	12.30	1	17.0	11.76	2.5	10A
SMF11AQ	11.0	12.20	13.50	1	18.2	10.99	2.5	11A
SMF12AQ	12.0	13.30	14.70	1	19.9	10.05	2.5	12A
SMF13AQ	13.0	14.40	15.90	1	21.5	9.30	1.0	13A
SMF14AQ	14.0	15.60	17.20	1	23.2	8.62	1.0	14A
SMF15AQ	15.0	16.70	18.50	1	24.4	8.20	1.0	15A
SMF16AQ	16.0	17.80	19.70	1	26.0	7.69	1.0	16A
SMF17AQ	17.0	18.90	20.90	1	27.6	7.25	1.0	17A
SMF18AQ	18.0	20.00	22.10	1	29.2	6.85	1.0	18A
SMF19AQ	19.0	21.10	23.30	1	30.6	6.54	1.0	19A
SMF20AQ	20.0	22.20	24.50	1	32.4	6.17	1.0	20A
SMF22AQ	22.0	24.40	26.90	1	35.5	5.63	1.0	22A
SMF24AQ	24.0	26.70	29.50	1	38.9	5.14	1.0	24A
SMF26AQ	26.0	28.90	31.90	1	42.1	4.75	1.0	26A
SMF28AQ	28.0	31.10	34.40	1	45.4	4.41	1.0	28A
SMF30AQ	30.0	33.30	36.80	1	48.4	4.13	1.0	30A
SMF33AQ	33.0	36.70	40.60	1	53.3	3.75	1.0	33A
SMF36AQ	36.0	40.00	44.20	1	58.1	3.44	1.0	36A
SMF40AQ	40.0	44.40	49.10	1	64.5	3.10	1.0	40A
SMF43AQ	43.0	47.80	52.80	1	69.4	2.88	1.0	43A
SMF45AQ	45.0	50.00	55.30	1	72.7	2.75	1.0	45A
SMF48AQ	48.0	53.30	58.90	1	77.4	2.58	1.0	48A
SMF51AQ	51.0	56.70	62.70	1	82.4	2.43	1.0	51A
SMF54AQ	54.0	60.00	66.30	1	87.1	2.30	1.0	54A
SMF58AQ	58.0	64.40	71.20	1	93.6	2.14	1.0	58A
SMF60AQ	60.0	66.70	73.70	1	96.8	2.07	1.0	60A
SMF64AQ	64.0	71.10	78.60	1	103.0	1.94	1.0	64A
SMF70AQ	70.0	77.80	86.00	1	113.0	1.77	1.0	70A
SMF75AQ	75.0	83.30	92.10	1	121.0	1.65	1.0	75A
SMF78AQ	78.0	86.70	95.80	1	126.0	1.59	1.0	78A
SMF80AQ	80.0	88.80	97.60	1	129.0	1.55	1.0	80A
SMF85AQ	85.0	94.40	104.00	1	137.0	1.46	1.0	85A
SMF90AQ	90.0	100.00	111.00	1	146.0	1.37	1.0	90A
SMF100AQ	100.0	111.00	123.00	1	162.0	1.23	1.0	100

Curve Characteristics

Fig. 1 - Peak Pulse Power Rating Curve

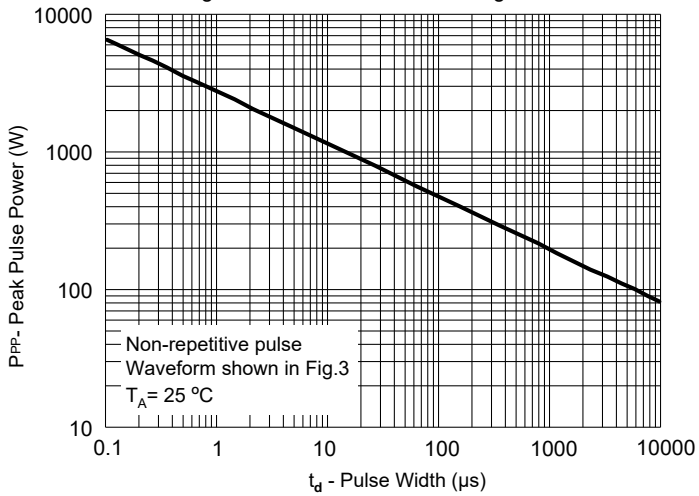


Fig. 2 - Typical Junction Capacitance

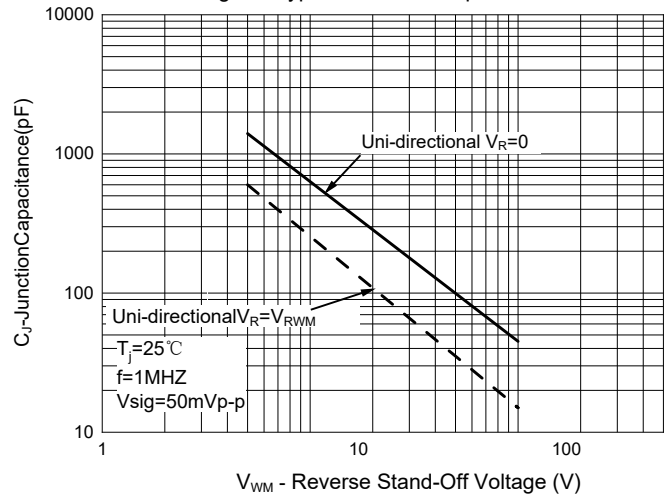


Fig. 3 - Pulse Waveform

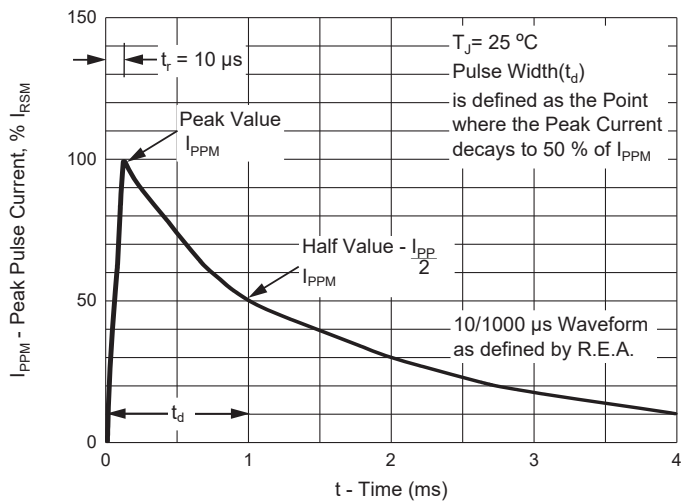
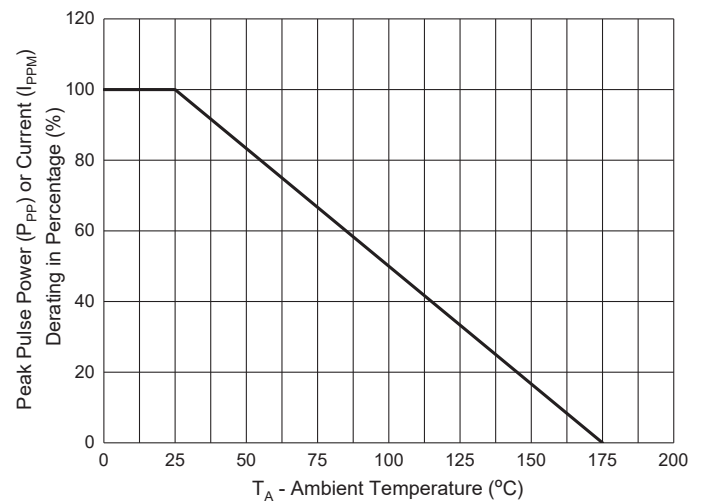


Fig. 4 - Pulse Derating Curve



## Ordering Information

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

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