

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:

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

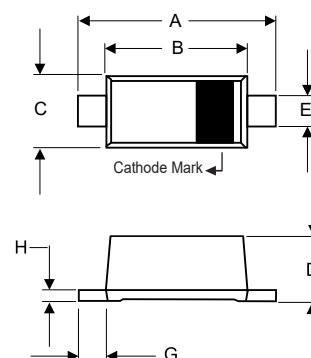
Internal Structure and Marking Code

Description	Simplified outline	Graphic symbol
Uni-directional		

XXXX = Marking code YYWW = Date Code

200Watt TVS
5.0 to 100
Volts

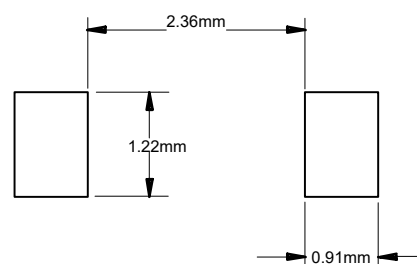
SOD-123FL



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	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to +175	$^{\circ}\text{C}$
Typical Thermal Resistance Junction to Lead	$R_{\theta\text{JL}}$	26	$^{\circ}\text{C/W}$
Typical Thermal Resistance Junction to Ambient	$R_{\theta\text{JA}}$	300	$^{\circ}\text{C/W}$
Typical Thermal Resistance Junction to Case	$R_{\theta\text{JC}}$	40	$^{\circ}\text{C/W}$

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

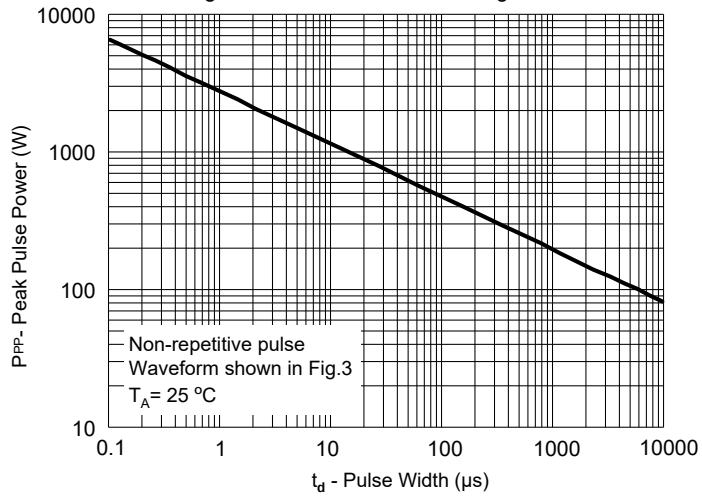


Fig. 2 - Typical Junction Capacitance

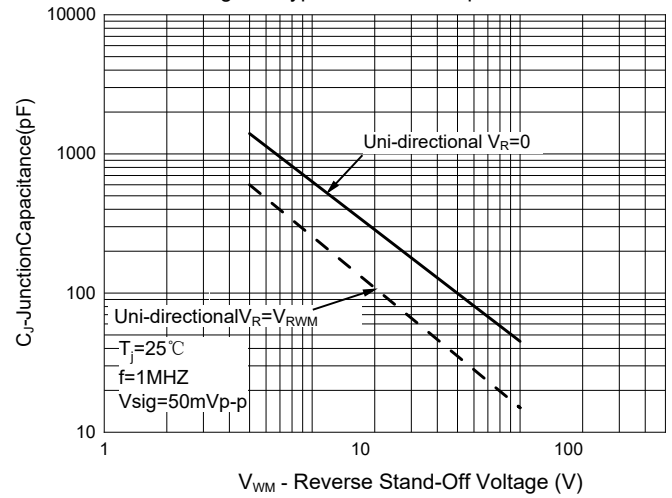


Fig. 3 - Pulse Waveform

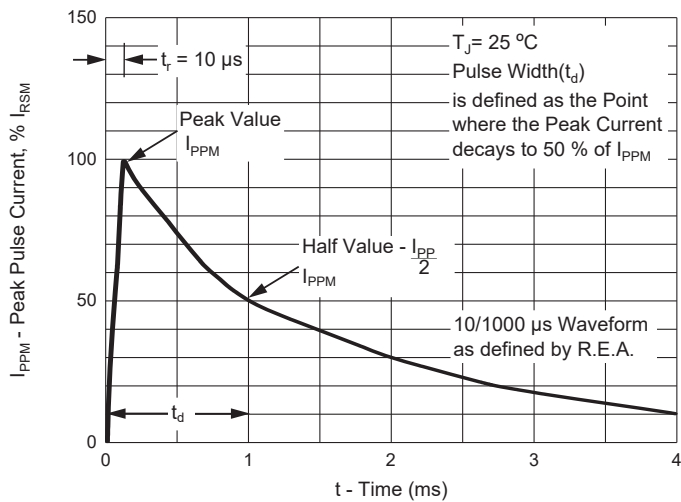
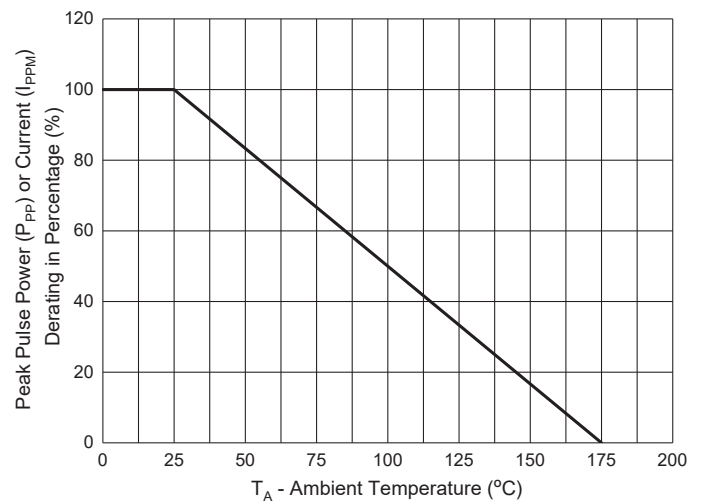


Fig. 4 - Pulse Derating Curve



Ordering Information

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

IMPORTANT NOTICE

Micro Commercial Components Corp. reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp.** . does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp.** . and all the companies whose products are represented on our website, harmless against all damages. **Micro Commercial Components Corp.** products are sold subject to the general terms and conditions of commercial sale, as published at <https://www.mccsemi.com/Home/TermsAndConditions>.

LIFE SUPPORT

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

CUSTOMER AWARENESS

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Micro Commercial Components (MCC):

[SMF100AQ-TP](#) [SMF10AQ-TP](#) [SMF11AQ-TP](#) [SMF12AQ-TP](#) [SMF13AQ-TP](#) [SMF14AQ-TP](#) [SMF15AQ-TP](#)
[SMF16AQ-TP](#) [SMF17AQ-TP](#) [SMF18AQ-TP](#) [SMF19AQ-TP](#) [SMF20AQ-TP](#) [SMF22AQ-TP](#) [SMF24AQ-TP](#) [SMF26AQ-](#)
[TP](#) [SMF28AQ-TP](#) [SMF30AQ-TP](#) [SMF33AQ-TP](#) [SMF36AQ-TP](#) [SMF40AQ-TP](#) [SMF43AQ-TP](#) [SMF45AQ-TP](#)
[SMF48AQ-TP](#) [SMF5.0AQ-TP](#) [SMF51AQ-TP](#) [SMF54AQ-TP](#) [SMF58AQ-TP](#) [SMF6.0AQ-TP](#) [SMF6.5AQ-TP](#)
[SMF60AQ-TP](#) [SMF64AQ-TP](#) [SMF7.0AQ-TP](#) [SMF7.5AQ-TP](#) [SMF70AQ-TP](#) [SMF75AQ-TP](#) [SMF78AQ-TP](#)
[SMF8.0AQ-TP](#) [SMF8.5AQ-TP](#) [SMF80AQ-TP](#) [SMF85AQ-TP](#) [SMF9.0AQ-TP](#) [SMF90AQ-TP](#)