



E480232

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}	3000	W
Power Dissipation on Infinite Heat Sink at $T_L = 75^\circ\text{C}$	P_D	6.5	W
Peak Forward Surge Current Unidirectional Only (Note 4)	I_{FSM}	300	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.

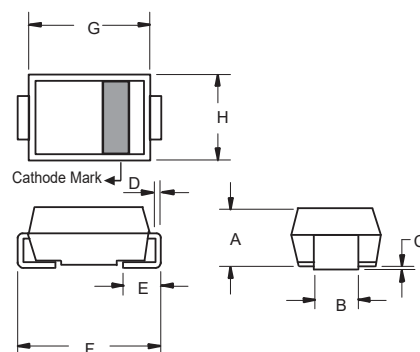
Internal Structure

Description	Simplified outline	Graphic symbol
Uni-directional		
Bi-directional		

XXXX = Marking code YYWW = Date Code

3000Watt TVS
5.0 to 85
Volts

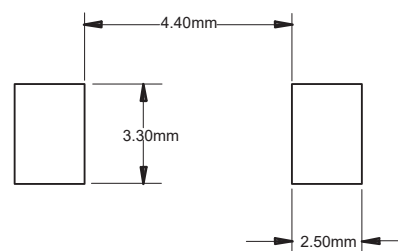
SMC (DO-214AB)
(LEAD FRAME)



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.079	0.103	2.00	2.62	
B	0.108	0.128	2.75	3.25	
C	0.002	0.008	0.051	0.203	
D	0.006	0.012	0.152	0.305	
E	0.030	0.060	0.76	1.52	
F	0.305	0.320	7.75	8.13	
G	0.260	0.280	6.60	7.11	
H	0.220	0.245	5.59	6.22	

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	$R_{\theta\text{JL}}$	15	$^{\circ}\text{C/W}$
Typical Thermal Resistance Junction to Ambient	$R_{\theta\text{JA}}$	75	$^{\circ}\text{C/W}$
Typical Thermal Resistance Junction to Case	$R_{\theta\text{JC}}$	13	$^{\circ}\text{C/W}$

Note:

5.Mounted on 0.31 x 0.31" (8.0 x 8.0 mm) copper pads to each terminal.

Electrical Characteristics @ 25°C Unless Otherwise Specified

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	
(Uni)	(Bi)	$V_{RWM}(V)$	Min (V)	Max (V)	$I_T(mA)$	$V_C(V)$	$I_{PP}(A)$	$I_R(\mu A)$	Uni	Bi
SMLJ5.0AQ	SMLJ5.0CAQ	5.0	6.40	7.07	10	9.2	326.09	1000	RDE	DDE
SMLJ6.0AQ	SMLJ6.0CAQ	6.0	6.67	7.37	10	10.3	291.26	1000	RDG	DDG
SMLJ6.5AQ	SMLJ6.5CAQ	6.5	7.22	7.98	10	11.2	267.86	500	RDK	DDK
SMLJ7.0AQ	SMLJ7.0CAQ	7.0	7.78	8.60	10	12.0	250.00	200	PDM	DDM
SMLJ7.5AQ	SMLJ7.5CAQ	7.5	8.33	9.21	1	12.9	232.56	100	PDP	DDP
SMLJ8.0AQ	SMLJ8.0CAQ	8.0	8.89	9.83	1	13.6	220.59	50	PDR	DDR
SMLJ8.5AQ	SMLJ8.5CAQ	8.5	9.44	10.40	1	14.4	208.33	25	PDT	DDT
SMLJ9.0AQ	SMLJ9.0CAQ	9.0	10.00	11.10	1	15.4	194.81	10	PDV	DDV
SMLJ10AQ	SMLJ10CAQ	10.0	11.10	12.30	1	17.0	176.47	5	PDX	DDX
SMLJ11AQ	SMLJ11CAQ	11.0	12.20	13.50	1	18.2	164.84	5	PDZ	DDZ
SMLJ12AQ	SMLJ12CAQ	12.0	13.30	14.70	1	19.9	150.75	2	PEE	DEE
SMLJ13AQ	SMLJ13CAQ	13.0	14.40	15.90	1	21.5	139.53	2	PEG	DEG
SMLJ14AQ	SMLJ14CAQ	14.0	15.60	17.20	1	23.2	129.31	1	PEK	DEK
SMLJ15AQ	SMLJ15CAQ	15.0	16.70	18.50	1	24.4	122.95	1	PEM	DEM
SMLJ16AQ	SMLJ16CAQ	16.0	17.80	19.70	1	26.0	115.38	1	PEP	DEP
SMLJ17AQ	SMLJ17CAQ	17.0	18.90	20.90	1	27.6	108.70	1	PER	DER
SMLJ18AQ	SMLJ18CAQ	18.0	20.00	22.10	1	29.2	102.74	1	PET	DET
SMLJ19AQ	SMLJ19CAQ	19.0	21.10	23.30	1	30.8	97.47	1	PEU	DEU
SMLJ20AQ	SMLJ20CAQ	20.0	22.20	24.50	1	32.4	92.59	1	PEV	DEV
SMLJ22AQ	SMLJ22CAQ	22.0	24.40	26.90	1	35.5	84.51	1	PEX	DEX
SMLJ24AQ	SMLJ24CAQ	24.0	26.70	29.50	1	38.9	77.12	1	PEZ	DEZ
SMLJ26AQ	SMLJ26CAQ	26.0	28.90	31.90	1	42.1	71.26	1	PFE	DFE
SMLJ28AQ	SMLJ28CAQ	28.0	31.10	34.40	1	45.4	66.08	1	PFG	DFG
SMLJ30AQ	SMLJ30CAQ	30.0	33.30	36.80	1	48.4	61.98	1	PFK	DFK
SMLJ33AQ	SMLJ33CAQ	33.0	36.70	40.60	1	53.3	56.29	1	PFM	DFM
SMLJ36AQ	SMLJ36CAQ	36.0	40.00	44.20	1	58.1	51.64	1	PFP	DFP
SMLJ40AQ	SMLJ40CAQ	40.0	44.40	49.10	1	64.5	46.51	1	PFR	DFR
SMLJ43AQ	SMLJ43CAQ	43.0	47.80	52.80	1	69.4	43.23	1	PFT	DFT
SMLJ45AQ	SMLJ45CAQ	45.0	50.00	55.30	1	72.7	41.27	1	PFV	DFV
SMLJ48AQ	SMLJ48CAQ	48.0	53.30	58.90	1	77.4	38.76	1	PFX	DFX
SMLJ51AQ	SMLJ51CAQ	51.0	56.70	62.70	1	82.4	36.40	1	PFZ	DFZ
SMLJ54AQ	SMLJ54CAQ	54.0	60.00	66.30	1	87.1	34.40	1	RGE	DGE
SMLJ58AQ	SMLJ58CAQ	58.0	64.40	71.20	1	93.6	32.00	1	PGG	DGG
SMLJ60AQ	SMLJ60CAQ	60.0	66.70	73.70	1	96.8	31.00	1	PGK	DGK
SMLJ64AQ	SMLJ64CAQ	64.0	71.10	78.60	1	103.0	29.13	1	PGM	DGM
SMLJ70AQ	SMLJ70CAQ	70.0	77.80	86.00	1	113.0	26.55	1	PGP	DGP
SMLJ75AQ	SMLJ75CAQ	75.0	83.30	92.10	1	121.0	24.80	1	PGR	DGR
SMLJ78AQ	SMLJ78CAQ	78.0	86.70	95.80	1	126.0	23.81	1	PGT	DGT
SMLJ80AQ	SMLJ80CAQ	80.0	88.80	97.60	1	129.6	23.15	1	PGU	DGU
SMLJ85AQ	SMLJ85CAQ	85.0	94.40	104.00	1	137.0	21.90	1	PGV	DGV

6.For bi-directional types having VRWM of 10 V and less, the IR limit is doubled.

7.For the bi-directional SMLJ5.0CAQ, the maximum VBR is 7.25 V.

Curve Characteristics

Fig. 1 - Peak Pulse Power Rating Curve

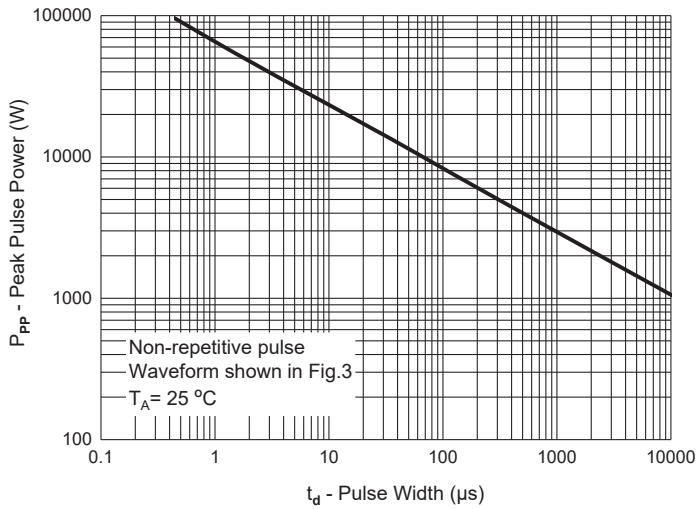


Fig. 2 - Typical Junction Capacitance

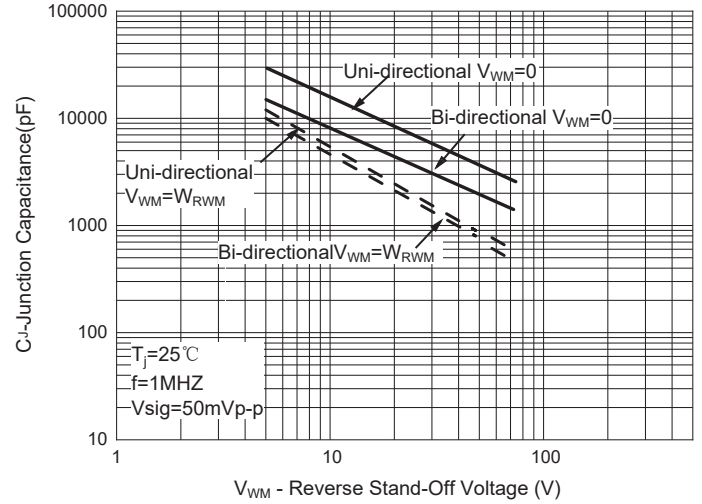


Fig. 3 - Pulse Waveform

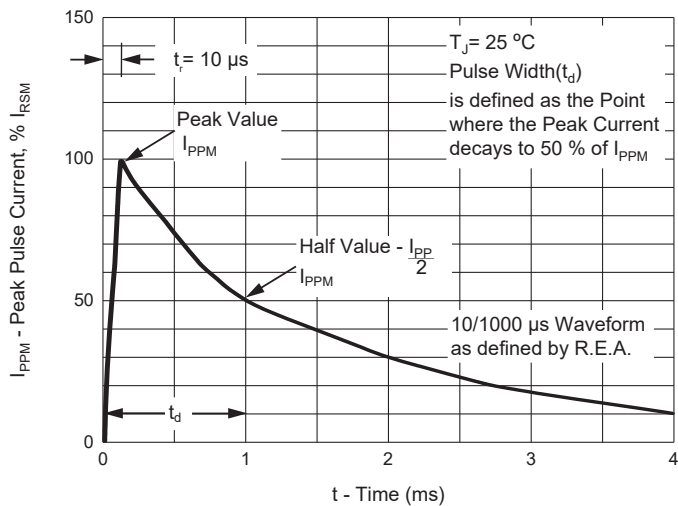
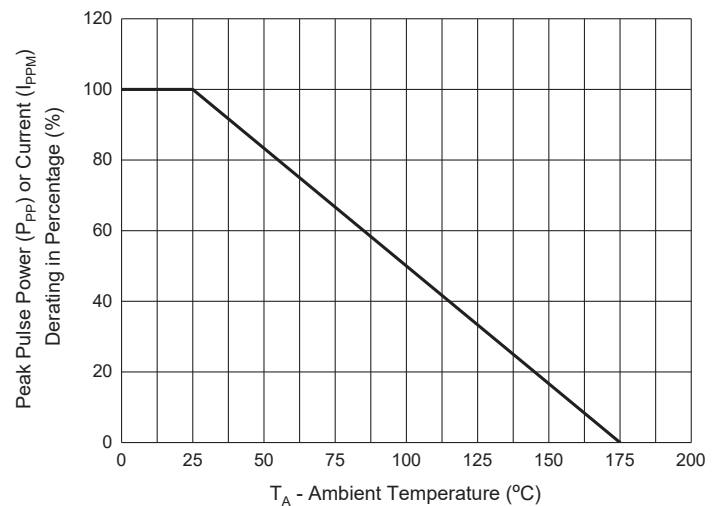


Fig. 4 - Pulse Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:3Kpcs/Reel

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