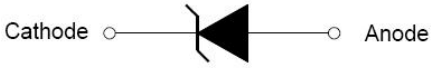
5.0SMDJ Series 5000W Transient Voltage Suppressor

DESCRIPTION:

TVS diodes can be used in a wide range of applications which like consumer electronic products, automotive industries, munitions, telecommunications, aerospace industries, and intelligent control systems.

SMC

Bi-directional



Uni-direction

Symbol

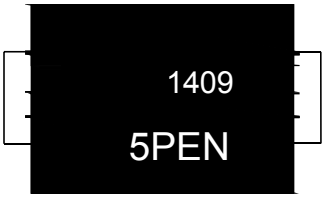
FEATURES:

- ✧ Glass passivated or planar junction.
- ✧ Excellent clamping capability.
- ✧ Repetition rate (duty cycle): 0.01%.
- ✧ Typical I_R less than 1μA above 20V.
- ✧ Low profile package and low inductance.
- ✧ 5000W Peak Pulse power capability at 10×1000μs waveform.
- ✧ Fast response time: typically less than 1.0ps from 0V to V_{BR}min.
- ✧ High temperature soldering: 260℃/10s at terminals.
- ✧ Plastic package has Underwriters Laboratory Flammability 94V-0.
- ✧ For surface mounted applications in order to optimize board space.

ABSOLUTE MAXIMUM RATINGS (T_A=25℃, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage temperature range	T_{stg}	-55 to +150	℃
Operating junction temperature range	T_j	-55 to +125	℃
Steady state power dissipation at T_L=75℃	$P_{M(AV)}$	10	W
Peak pulse power dissipation on 10/1000μs waveform	P_{PP}	5000	W
Maximum Instantaneous Forward Voltage at 100A for Unidirectional	V_F	5.0	V

MARKING



5PEN: Device Marking Code
1409: In ninth week, 2014

ELECTRICAL CHARACTERISTICS (T_A=25℃)

Part Number		Marking		V_R	I_R@V_R	V_{BR}@I_T		I_T	V_C@I_{PP}	I_{PP}①
Uni-Polar	Bi-Polar	Uni	Bi	V	μA	min(V)	max(V)	mA	max(V)	A
5.0SMDJ11A	5.0SMDJ11CA	5PEN	5BEN	11	800	12.20	13.50	10	18.2	275.0
5.0SMDJ12A	5.0SMDJ12CA	5PEP	5BEP	12	800	13.30	14.70	10	19.9	252.0
5.0SMDJ13A	5.0SMDJ13CA	5PEQ	5BEQ	13	500	14.40	15.90	10	21.5	233.0
5.0SMDJ14A	5.0SMDJ14CA	5PER	5BER	14	200	15.60	17.20	10	23.2	216.0
5.0SMDJ15A	5.0SMDJ15CA	5PES	5BES	15	100	16.70	18.50	1	24.4	205.0
5.0SMDJ16A	5.0SMDJ16CA	5PET	5BET	16	50	17.80	19.70	1	26.0	193.0
5.0SMDJ17A	5.0SMDJ17CA	5PEU	5BEU	17	20	18.90	20.90	1	27.6	181.0
5.0SMDJ18A	5.0SMDJ18CA	5PEV	5BEV	18	10	20.00	22.10	1	29.2	172.0
5.0SMDJ20A	5.0SMDJ20CA	5PEW	5BEW	20	5	22.20	24.50	1	32.4	155.0
5.0SMDJ22A	5.0SMDJ22CA	5PEX	5BEX	22	5	24.40	26.90	1	35.5	141.0
5.0SMDJ24A	5.0SMDJ24CA	5PEZ	5BEZ	24	5	26.70	29.50	1	38.9	129.0
5.0SMDJ26A	5.0SMDJ26CA	5PFE	5BFE	26	5	28.90	31.90	1	42.1	119.0
5.0SMDJ28A	5.0SMDJ28CA	5PFG	5BFG	28	5	31.10	34.40	1	45.4	110.0
5.0SMDJ30A	5.0SMDJ30CA	5PFK	5BFK	30	5	33.30	36.80	1	48.4	103.0
5.0SMDJ33A	5.0SMDJ33CA	5PFM	5BFM	33	5	36.70	40.60	1	53.3	93.9
5.0SMDJ36A	5.0SMDJ36CA	5PFP	5BFP	36	5	40.00	44.20	1	58.1	86.1
5.0SMDJ40A	5.0SMDJ40CA	5PFR	5BFR	40	5	44.40	49.10	1	64.5	77.6
5.0SMDJ43A	5.0SMDJ43CA	5PFT	5BFT	43	5	47.80	52.80	1	69.4	72.1
5.0SMDJ45A	5.0SMDJ45CA	5PFV	5BFV	45	5	50.00	55.30	1	72.7	68.8
5.0SMDJ48A	5.0SMDJ48CA	5PFX	5BFX	48	5	53.30	58.90	1	77.4	64.7
5.0SMDJ51A	5.0SMDJ51CA	5PFZ	5BFZ	51	5	56.70	62.70	1	82.4	60.7
5.0SMDJ54A	5.0SMDJ54CA	5PGE	5BGE	54	5	60.00	66.30	1	87.1	57.5
5.0SMDJ58A	5.0SMDJ58CA	5PGG	5BGG	58	5	64.40	71.20	1	93.6	53.5
5.0SMDJ60A	5.0SMDJ60CA	5PGK	5BGK	60	5	66.70	73.70	1	96.8	51.7
5.0SMDJ64A	5.0SMDJ64CA	5PGM	5BGM	64	5	71.10	78.60	1	103.0	48.6
5.0SMDJ70A	5.0SMDJ70CA	5PGP	5BGP	70	5	77.80	86.00	1	113.0	44.3
5.0SMDJ75A	5.0SMDJ75CA	5PGR	5BGR	75	5	83.30	92.10	1	121.0	41.4
5.0SMDJ78A	5.0SMDJ78CA	5PGT	5BGT	78	5	86.70	95.80	1	126.0	39.7
5.0SMDJ85A	5.0SMDJ85CA	5PGV	5BGV	85	5	94.40	104.0	1	137.0	36.5
5.0SMDJ90A	5.0SMDJ90CA	5PGX	5BGX	90	5	100.0	111.0	1	146.0	34.3

ELECTRICAL CHARACTERISTICS (T_A=25℃)

Part Number		Marking		V_R	I_R@V_R	V_{BR}@I_T		I_T	V_C@I_{PP}	I_{PP}①
Uni-Polar	Bi-Polar	Uni	Bi	V	μA	min(V)	max(V)	mA	max(V)	A
5.0SMDJ100A	5.0SMDJ100CA	5PGZ	5BGZ	100	5	111.0	123.0	1	162.0	30.9
5.0SMDJ110A	5.0SMDJ110CA	5PHE	5BHE	110	5	122.0	135.0	1	177.0	28.3
5.0SMDJ120A	5.0SMDJ120CA	5PHG	5BHG	120	5	133.0	147.0	1	193.0	26.0
5.0SMDJ130A	5.0SMDJ130CA	5PHK	5BHK	130	5	144.0	159.0	1	209.0	24.0
5.0SMDJ150A	5.0SMDJ150CA	5PHM	5BHM	150	5	167.0	185.0	1	243.0	20.6
5.0SMDJ160A	5.0SMDJ160CA	5PHP	5BHP	160	5	178.0	197.0	1	259.0	19.3
5.0SMDJ170A	5.0SMDJ170CA	5PHR	5BHR	170	5	189.0	209.0	1	275.0	18.2

① Surge waveform: 10/1000μs

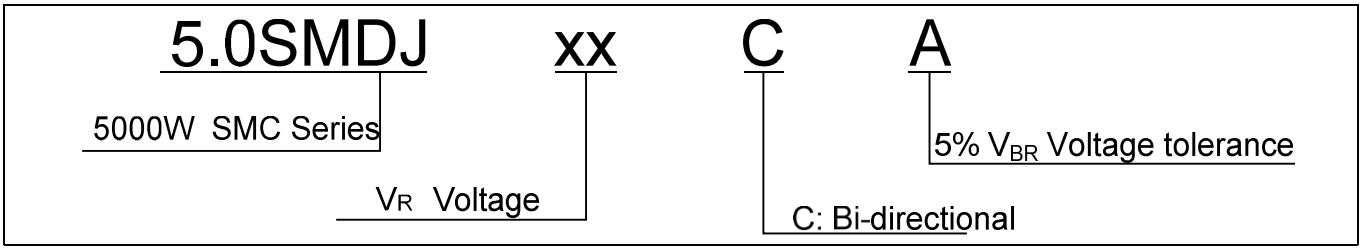
V_R ： Stand-off Voltage -- Maximum voltage that can be applied

V_{BR}： Breakdown Voltage

V_C：Clamping Voltage -- Peak voltage measured across the suppressor at a specified Ipp

I_R： Reverse Leakage Current

ORDERING INFORMATION



RATINGS AND V-I CHARACTERISTICS CURVES (T_A=25°C, unless otherwise noted)

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

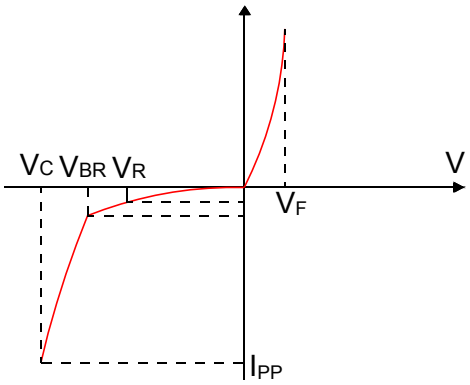


FIG.2:V- I curve characteristics (Bi-directional)

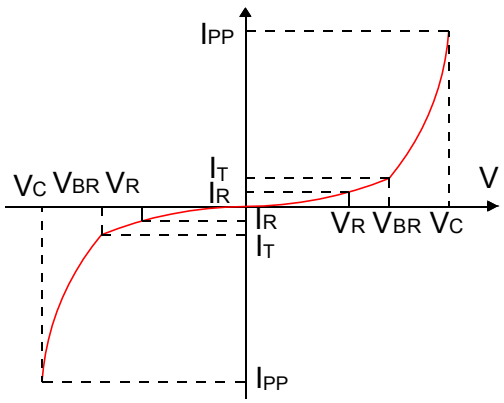


FIG.3: Pulse waveform

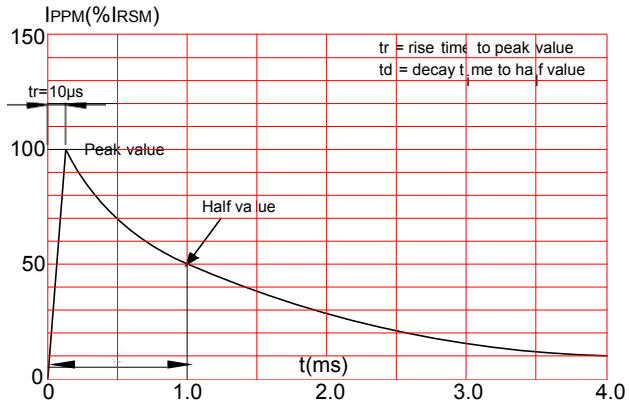
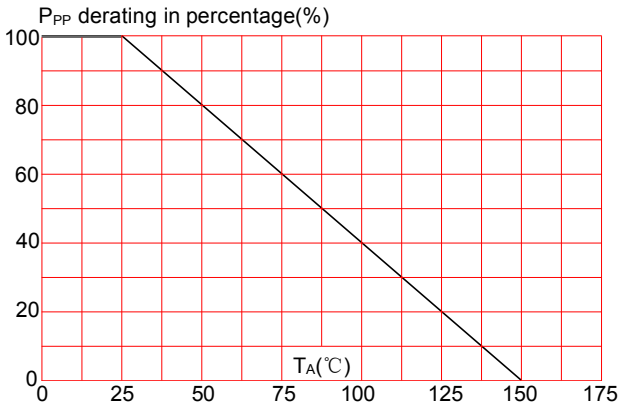


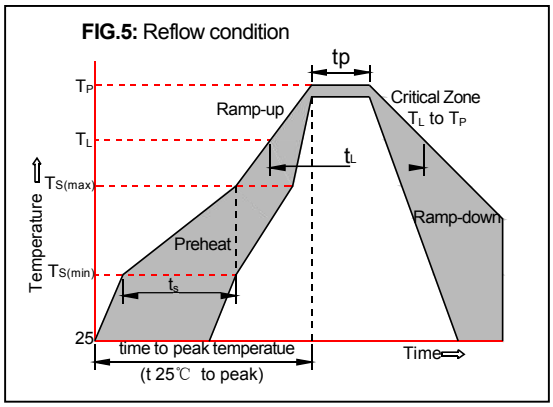
FIG.4: Pulse derating curve



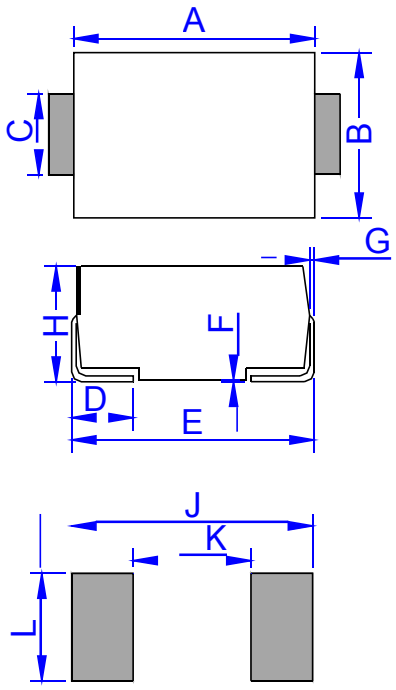
SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see FIG.5)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217℃
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃ of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6℃/sec. Max
Time 25℃ to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃

FIG.5: Reflow condition



PACKAGE MECHANICAL DATA



DO-214AB (SMC)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	6.60	7.11	0.260	0.280
B	5.59	6.20	0.220	0.244
C	2.75	3.20	0.108	0.126
D	0.76	1.52	0.030	0.060
E	7.74	8.13	0.305	0.320
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.15	2.62	0.085	0.103
J	8.12		0.320	
K		4.69		0.185
L	3.07		0.121	

TAPE AND REELSPECIFICATION-SMC

PART No.	PACKAGE	QUANTITY	TAPE & REEL
5.0SMDJxxCA/A	SMC(DO214AB)	3,000	13inch

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for ESD Suppressors / TVS Diodes ***category:***

Click to view products by Jinkaisheng ***manufacturer:***

Other Similar products are found below :

60KS200C D18V0L1B2LP-7B D5V0F4U5P5-7 DESD5V0U1BB-7 NTE4902 P4KE27CA P6KE11CA P6KE39CA-TP P6KE8.2A SA110CA SA60CA SA64CA SMBJ12CATR SMBJ33CATR SMBJ8.0A ESD101-B1-02ELS E6327 ESD105-B1-02EL E6327 ESD112-B1-02EL E6327 ESD119B1W01005E6327XTSA1 ESD5V0L1B02VH6327XTSA1 ESD7451N2T5G 19180-510 CPDT-5V0USP-HF 3.0SMCJ33CA-F 3.0SMCJ36A-F HSPC16701B02TP D3V3Q1B2DLP3-7 D55V0M1B2WS-7 DESD5V0U1BL-7B DRTR5V0U4SL-7 SCM1293A-04SO ESD200-B1-CSP0201 E6327 SM12-7 SMLJ45CA-TP CEN955 W/DATA 82350120560 VESD12A1A-HD1-GS08 CPDUR5V0R-HF CPDQC5V0U-HF CPDQC5V0USP-HF CPDQC5V0-HF D1213A-01LP4-7B D1213A-02WL-7 MMAD1108/TR13 5KP100A 5KP15A 5KP18A 5KP48A 5KP90A 5KP90CA