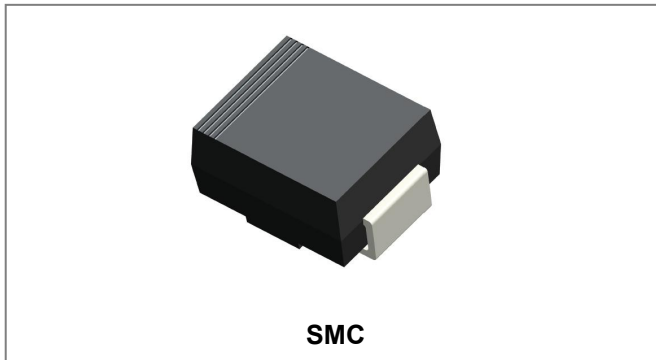


5.0 SMLJ SERIES
SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR



Features

- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Excellent clamping capability
- Repetition rate (duty cycle):0.01%
- Fast response time: typically less than 1.0 ps from 0 volts to BV for unidirectional types
- Plastic Case Material has UL Flammability Classification Rating 94V-0
- High temperature soldering: 260°C/40 seconds at terminals

Circuit Diagram



Mechanical Data

- Case: SMC Low Profile Molded Plastic
- Terminals: Solder Plated , Solderable per MIL-STD 750, Method 2026
- Polarity: Color band denoted positive end (cathode) except Bidirectional

Maximum Ratings and Thermal Characteristics@T_A=25°C unless otherwise specified

Parameter	Symbol	Value	Units
Peak Pulse Power Dissipation on 10/1000 us waveform (NOTE 1, 2, Fig.1)	P _{PPM}	5000	W
Peak Pulse Current of on 10/1000 us waveform (Note 1, Fig 3)	I _{PPM}	SEE TABLE 1	A
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 2),(Note 3)	I _{FSM}	300	A
Typical Thermal Resistance Junction to Lead	R _{θJL}	15	°C/W
Typical Thermal Resistance Junction to Ambient	R _{θJA}	75	°C/W
Operating Junction and Storage Temperature Range	T _J ,T _{STG}	-55 to 150	°C

- Notes:**
1. Non-repetitive current pulse , per Fig. 3 and derated above T_L= 25°C per Fig. 2.
 2. Mounted on 8.0x8.0mm Copper Pads to each terminal.
 3. Measured on 8.3ms single half sine wave or equivalent square wave, duty cycle=4pulses per minute maximum.

Ordering Information

Device	Package	Shipping
5.0SMLJ12A THRU 5.0SMLJ170A	SMC (Pb-Free)	3000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram



5.0SMLJ12A



5.0SMLJ12CA

Where XXXXX is YYWWL

- 5PEP/5BEP = Marking code
- YY = Year
- WW = Week
- L = Lot Number

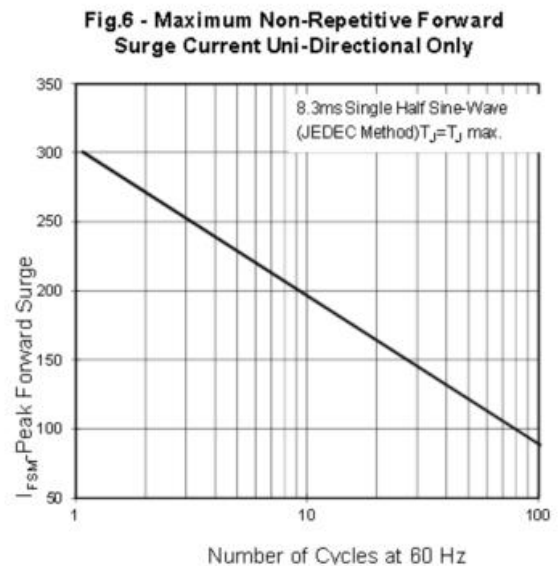
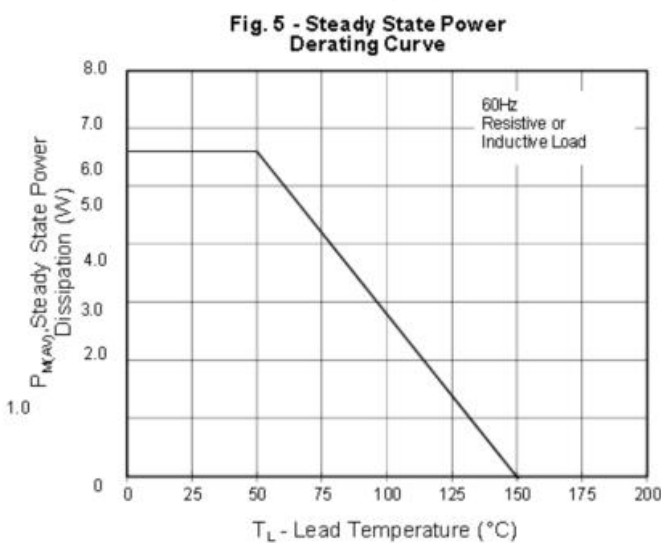
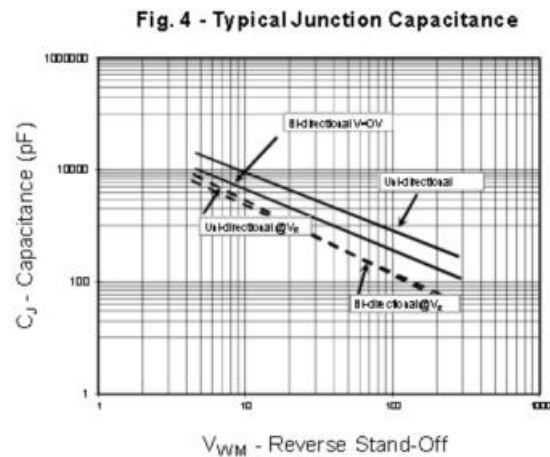
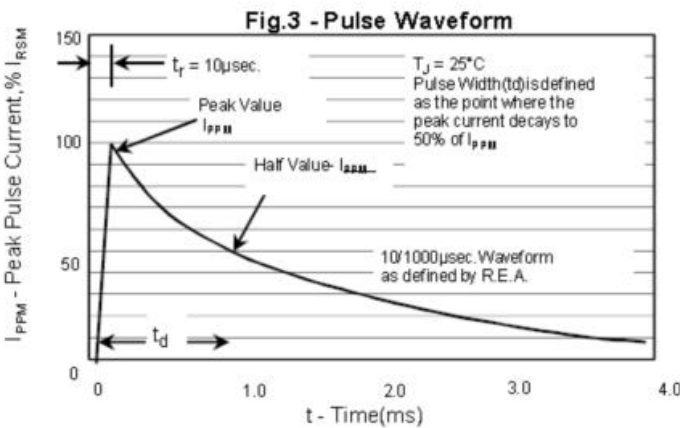
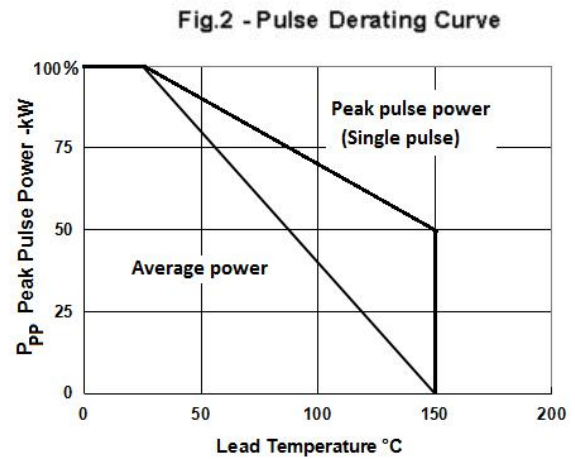
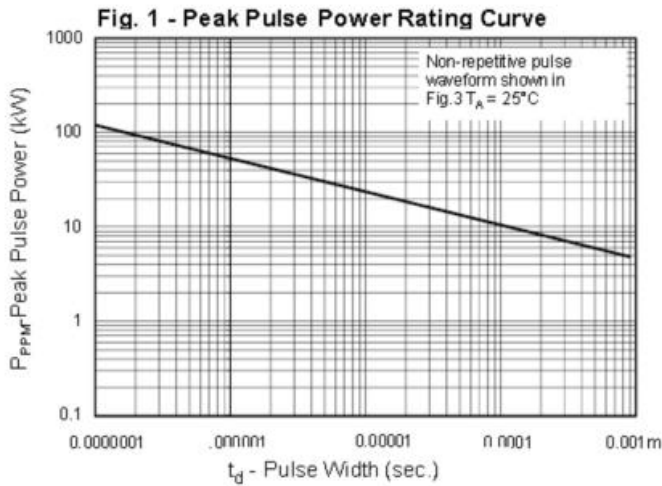
Cautions: Molding resin
Epoxy resin UL:94V-0

Electrical Characteristics @ $T_A=25^{\circ}\text{C}$ unless otherwise specified

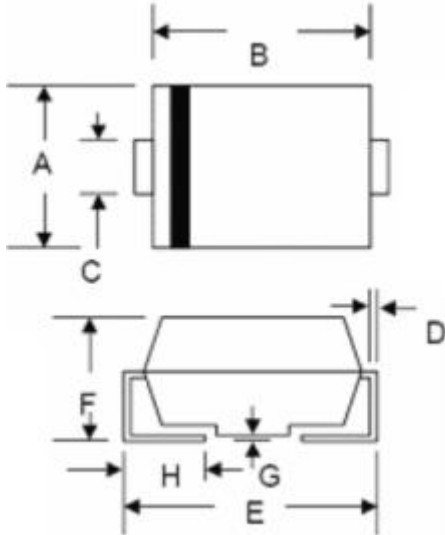
UNI-POLAR	BI-POLAR	DEVICE MARKING CODE		REVERSE STANDOFF VOLTAGE V_{RWM} (V)	BREAKDOWN VOLTAGE V_{BR} (V) MIN. @ I_T	BREAKDOWN VOLTAGE V_{BR} (V) MAX. @ I_T	TEST CURRENT (I_T) mA	MAXIMUM CLAMPING VOLTAGE @ I_{PP} V_C (V)	PEAK PULSE CURRENT I_{PP} (A)	REVERSE LEAKAGE @ V_{RWM} I_R (μA)	REVERSE LEAKAGE @ V_{RWM} $T_J = 150^{\circ}\text{C}$ I_R (μA)
		UNI	BI								
5.0SMLJ12A	5.0SMLJ12CA	5PEP	5BEP	12.00	13.30	14.70	1	19.9	252.0	100	300
5.0SMLJ13A	5.0SMLJ13CA	5PEQ	5BEQ	13.00	14.40	15.90	1	21.5	233.0	80	300
5.0SMLJ14A	5.0SMLJ14CA	5PER	5BER	14.00	15.60	17.20	1	23.2	216.0	50	300
5.0SMLJ15A	5.0SMLJ15CA	5PES	5BES	15.00	16.70	18.50	1	24.4	205.0	20	300
5.0SMLJ16A	5.0SMLJ16CA	5PET	5BET	16.00	17.80	19.70	1	26.0	193.0	10	300
5.0SMLJ17A	5.0SMLJ17CA	5PEU	5BEU	17.00	18.90	20.90	1	27.6	181.0	5	50
5.0SMLJ18A	5.0SMLJ18CA	5PFV	5BFV	18.00	20.00	22.10	1	29.2	172.0	5	50
5.0SMLJ20A	5.0SMLJ20CA	5PEW	5BEW	20.00	22.20	24.50	1	32.4	155.0	5	50
5.0SMLJ22A	5.0SMLJ22CA	5PEX	5BEX	22.00	24.40	26.90	1	35.5	141.0	2	50
5.0SMLJ24A	5.0SMLJ24CA	5PEZ	5BEZ	24.00	26.70	29.50	1	38.9	129.0	2	50
5.0SMLJ26A	5.0SMLJ26CA	5PFE	5BFE	26.00	28.90	31.90	1	42.1	119.0	2	50
5.0SMLJ28A	5.0SMLJ28CA	5PFG	5BFG	28.00	31.10	34.40	1	45.4	110.0	2	50
5.0SMLJ30A	5.0SMLJ30CA	5PFK	5BFK	30.00	33.30	36.80	1	48.4	103.0	2	50
5.0SMLJ33A	5.0SMLJ33CA	5PFM	5BFM	33.00	36.70	40.60	1	53.3	93.9	2	50
5.0SMLJ36A	5.0SMLJ36CA	5PFP	5BFP	36.00	40.00	44.20	1	58.1	86.1	2	50
5.0SMLJ40A	5.0SMLJ40CA	5PFR	5BFR	40.00	44.40	49.10	1	64.5	77.6	2	50
5.0SMLJ43A	5.0SMLJ43CA	5PFT	5BFT	43.00	47.80	52.80	1	69.4	72.1	2	50
5.0SMLJ45A	5.0SMLJ45CA	5PFV	5BFV	45.00	50.00	55.30	1	72.7	68.8	2	50
5.0SMLJ48A		5PFX		48.00	53.30	58.90	1	77.4	64.7	2	50
5.0SMLJ51A		5PFZ		51.00	56.70	62.70	1	82.4	60.7	2	50
5.0SMLJ54A		5PGE		54.00	60.00	66.30	1	87.1	57.5	2	50
5.0SMLJ58A		5PGG		58.00	64.40	71.20	1	93.6	53.5	2	50
5.0SMLJ60A		5PGK		60.00	66.70	73.70	1	96.8	51.7	2	50
5.0SMLJ64A		5PGM		64.00	71.10	78.60	1	103.0	48.6	2	50
5.0SMLJ70A		5PGP		70.00	77.80	86.00	1	113.0	44.3	2	50
5.0SMLJ75A		5PGR		75.00	83.30	92.10	1	121.0	41.4	2	50
5.0SMLJ78A		5PGT		78.00	86.70	95.80	1	126.0	39.7	2	50
5.0SMLJ85A		5PGV		85.00	94.40	104.00	1	137.0	36.5	2	50
5.0SMLJ90A		5PGX		90.00	100.00	111.00	1	146.0	34.3	2	50
5.0SMLJ100A		5PGZ		100.00	111.00	123.00	1	162.0	30.9	2	50
5.0SMLJ110A		5PHE		110.00	122.00	135.00	1	177.0	28.3	2	50
5.0SMLJ120A		5PHG		120.00	133.00	147.00	1	193.0	26.0	2	50
5.0SMLJ130A		5PHK		130.00	144.00	159.00	1	209.0	24.0	2	50
5.0SMLJ150A		5PHM		150.00	167.00	185.00	1	243.0	20.6	2	50
5.0SMLJ160A		5PHP		160.00	178.00	197.00	1	259.0	19.3	2	50
5.0SMLJ170A		5PHR		170.00	189.00	209.00	1	275.0	18.2	2	50

For bidirectional type having V_{RWM} of 20 volts and less, the IR limit is double.
For parts without A, the VBR is $\pm 10\%$.

Ratings and Characteristics Curves

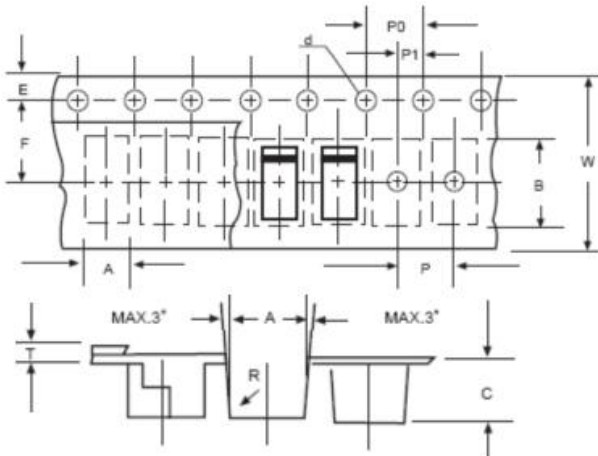


Mechanical Dimensions SMC



Dim.	SMC/DO-214AB			
	Min.	Max.	Min.	Max.
A	5.59	6.22	0.220	0.245
B	6.60	7.11	0.260	0.280
C	2.90	3.20	0.114	0.126
D	0.152	0.305	0.006	0.012
E	7.75	8.13	0.305	0.320
F	2.00	2.62	0.079	0.103
G	-	0.203	-	0.008
H	0.76	1.52	0.030	0.060
In Millimeters			In inches	

Carrier Tape Specification SMC



SYMBOL	Millimeters	
	Min.	Max.
A	5.90	6.10
B	8.20	8.40
C	2.40	2.60
d	1.40	1.60
E	1.40	1.60
F	7.60	7.70
P	7.90	8.10
P0	3.90	4.10
P1	3.90	4.10
T	-	0.600
W	15.80	16.20



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