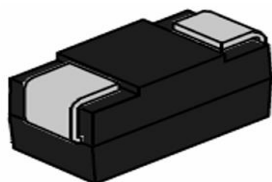


TRANSIENT VOLTAGE SUPPRESSOR

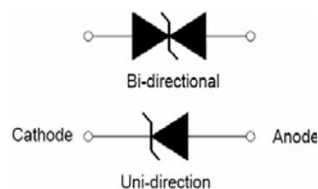
SMCJ SERIES

Features

- Low profile package.
 - Low inductance.
 - Excellent clamping capability.
 - 1500W peak pulse power capability at 10×1000μs waveform.
 - Typical IR less than 1μA above 12V.
-
- Fast response time: typically less than 1.0ps from 0V to VBR min.
 - High temperature to reflow soldering: 260°C/40s at terminals.
 - Plastic package has underwriters laboratory flammability 94V-0.
 - Meets MSL level 1, per J-STD020, LF maximum peak of 260°C.
 - For surface mounted applications in order to optimize board space.



SMCJ



Symbol

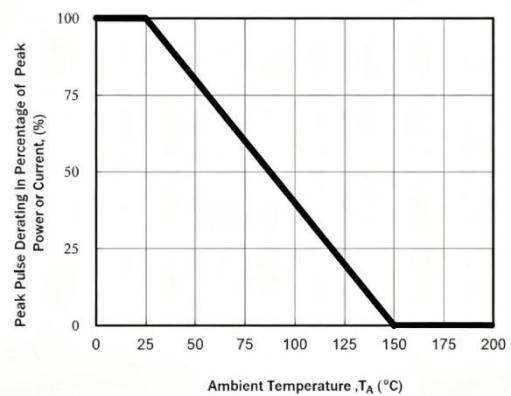
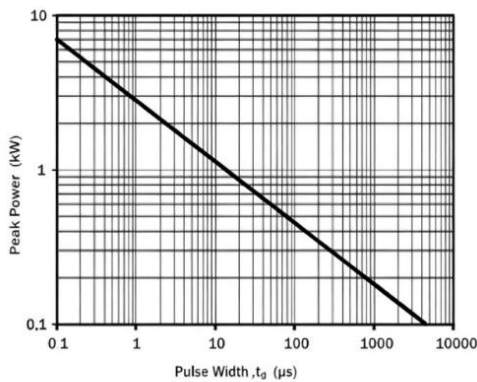
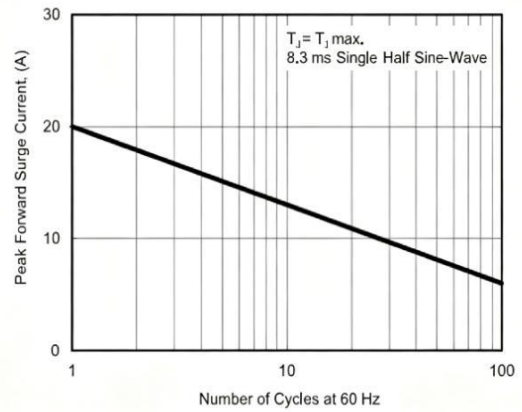
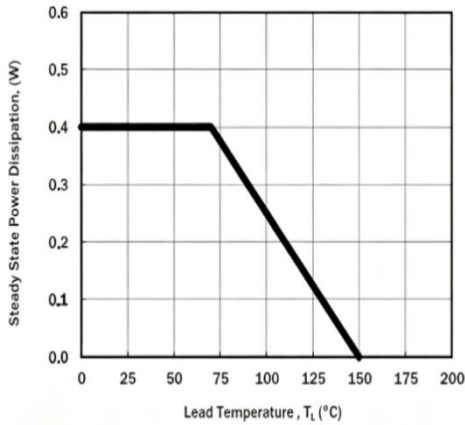
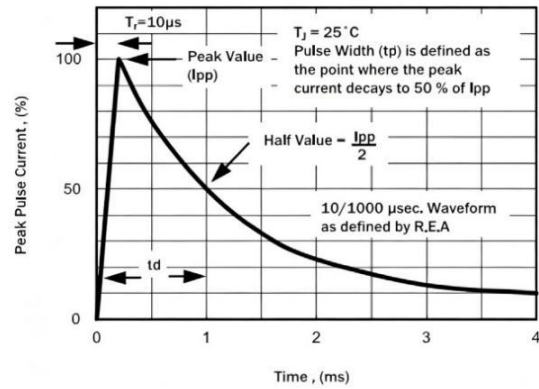
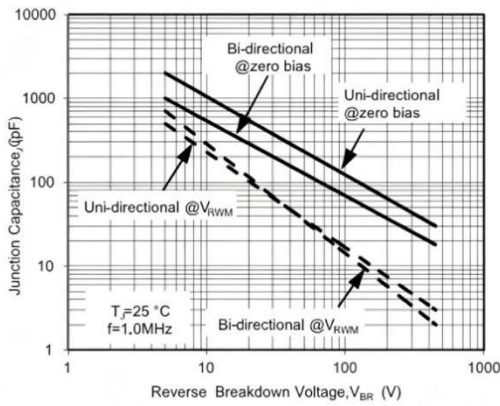
Parameter	Symbol	Value	Unit
Operating junction and storage temperature range	T_J/T_{STG}	-55 to +150	°C
Steady state power dissipation at $T_L=75^\circ\text{C}$	$P_{M(AV)}$	6.5	W
Peak pulse power dissipation on 10/ 1000μs waveform	PPP	1500	W
Maximum instantaneous forward voltage at 25 A for unidirectional	V_F	5.0	V
Peak forward surge current, 8.3ms single half sine wave (Note 1)	I_{FSM}	200	A
Typical thermal resistance junction to lead	$R_{\theta JL}$	15	°C/W
Typical thermal resistance	$R_{\theta JA}$	75	°C/W

Electrical Characteristic (@TA = 25°C, unless otherwise specified)

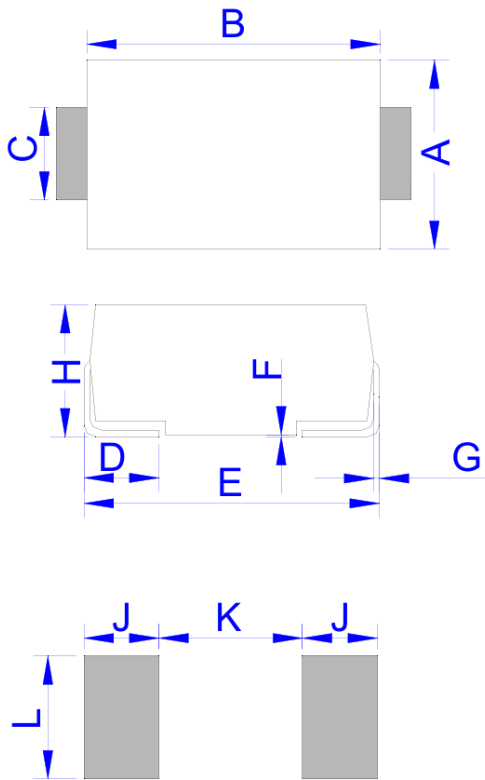
Part Number		V _R	I _{R@V_R}	V _{BR@I_T}		I _T	V _{C@I_{PP}}	I _{PP} ③
Uni-Polar	Bi-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
SMCJ5.0A	SMCJ5.0CA	5.0	300	6.40	7.00	10	9.2	163.0
SMCJ6.0A	SMCJ6.0CA	6.0	250	6.67	7.37	10	10.3	145.6
SMCJ6.5A	SMCJ6.5CA	6.5	150	7.22	7.98	10	11.2	134.0
SMCJ7.0A	SMCJ7.0CA	7.0	100	7.78	8.60	10	12.0	125.0
SMCJ7.5A	SMCJ7.5CA	7.5	50	8.33	9.21	1	12.9	116.3
SMCJ8.0A	SMCJ8.0CA	8.0	30	8.89	9.83	1	13.6	110.3
SMCJ8.5A	SMCJ8.5CA	8.5	20	9.44	10.40	1	14.4	104.2
SMCJ9.0A	SMCJ9.0CA	9.0	10	10.00	11.10	1	15.4	97.4
SMCJ10A	SMCJ10CA	10	5	11.10	12.30	1	17.0	88.2
SMCJ11A	SMCJ11CA	11	2	12.20	13.50	1	18.2	82.4
SMCJ12A	SMCJ12CA	12	1	13.30	14.70	1	19.9	75.4
SMCJ13A	SMCJ13CA	13	1	14.40	15.90	1	21.5	69.8
SMCJ14A	SMCJ14CA	14	1	15.60	17.20	1	23.2	64.7
SMCJ15A	SMCJ15CA	15	1	16.70	18.50	1	24.4	61.5
SMCJ16A	SMCJ16CA	16	1	17.80	19.70	1	26.0	57.7
SMCJ17A	SMCJ17CA	17	1	18.90	20.90	1	27.6	54.4
SMCJ18A	SMCJ18CA	18	1	20.00	22.10	1	29.2	51.4
SMCJ20A	SMCJ20CA	20	1	22.20	24.50	1	32.4	46.3
SMCJ22A	SMCJ22CA	22	1	24.40	26.90	1	35.5	42.3
SMCJ24A	SMCJ24CA	24	1	26.70	29.50	1	38.9	38.6
SMCJ26A	SMCJ26CA	26	1	28.90	31.90	1	42.1	35.6
SMCJ28A	SMCJ28CA	28	1	31.10	34.40	1	45.4	33.1
SMCJ30A	SMCJ30CA	30	1	33.30	36.80	1	48.4	31.0

Part Number		V _R	I _{R@V_R}	V _{BR@I_T}		I _T	V _{C@I_{PP}}	I _{PP} ③
Uni-Polar	Bi-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
SMCJ33A	SMCJ33CA	33	1	36.70	40.60	1	53.3	28.2
SMCJ36A	SMCJ36CA	36	1	40.00	44.20	1	58.1	25.8
SMCJ40A	SMCJ40CA	40	1	44.40	49.10	1	64.5	23.3
SMCJ43A	SMCJ43CA	43	1	47.80	52.80	1	69.4	21.6
SMCJ45A	SMCJ45CA	45	1	50.00	55.30	1	72.7	20.6
SMCJ48A	SMCJ48CA	48	1	53.30	58.90	1	77.4	19.4
SMCJ51A	SMCJ51CA	51	1	56.70	62.70	1	82.4	18.2
SMCJ54A	SMCJ54CA	54	1	60.00	66.30	1	87.1	17.2
SMCJ58A	SMCJ58CA	58	1	64.40	71.20	1	93.6	16.1
SMCJ60A	SMCJ60CA	60	1	66.70	73.70	1	96.8	15.5
SMCJ64A	SMCJ64CA	64	1	71.10	78.60	1	103.0	14.6
SMCJ70A	SMCJ70CA	70	1	77.80	86.00	1	113.0	13.3
SMCJ75A	SMCJ75CA	75	1	83.30	92.10	1	121.0	12.4
SMCJ78A	SMCJ78CA	78	1	86.70	95.80	1	126.0	11.9
SMCJ85A	SMCJ85CA	85	1	94.40	104.0	1	137.0	11.0
SMCJ90A	SMCJ90CA	90	1	100.0	111.0	1	146.0	10.3
SMCJ100A	SMCJ100CA	100	1	111.0	123.0	1	162.0	9.3
SMCJ110A	SMCJ110CA	110	1	122.0	135.0	1	177.0	8.5
SMCJ120A	SMCJ120CA	120	1	133.0	147.0	1	193.0	7.8
SMCJ130A	SMCJ130CA	130	1	144.0	159.0	1	209.0	7.2
SMCJ150A	SMCJ150CA	150	1	167.0	185.0	1	243.0	6.2
SMCJ160A	SMCJ160CA	160	1	178.0	197.0	1	259.0	5.8
SMCJ170A	SMCJ170CA	170	1	189.0	209.0	1	275.0	5.5
SMCJ180A	SMCJ180CA	180	1	201.0	222.0	1	292.0	5.2

Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)



Product Dimensions And Suggested PAD Layout

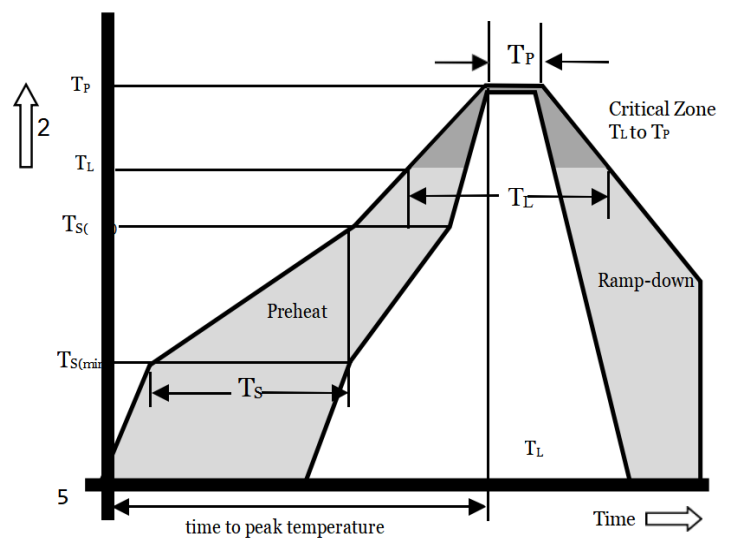


DO-214AB (SMC)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	5.75	6.26	0.226	0.246
B	6.90	7.40	0.272	0.291
C	2.75	3.25	0.108	0.128
D	0.95	1.52	0.037	0.060
E	7.70	8.20	0.303	0.323
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	2.40		0.094	
K		4.2		0.165
L	3.30		0.130	

Reflow profile

Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60 – 180 seconds
Average ramp up rate (Liquidus Temp (T _L) to peak)		3°C/second max
T _{S(max)} to T _L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T _L) (Liquidus)	217°C
	- Temperature (T _L)	60 – 150 seconds
Peak Temp (T _P)		260+0/-5 °C
Time within 5°C of actual Peak Temp (T _P)		8-15 seconds
Ramp-down Rate		6°C/s max
Time 25°C to peak Temp (T _P)		8 min max.
Do not exceed		260°C



Part Number System

SMCJ XXX C A(1) (2) (3) (4)

(1) Series Code

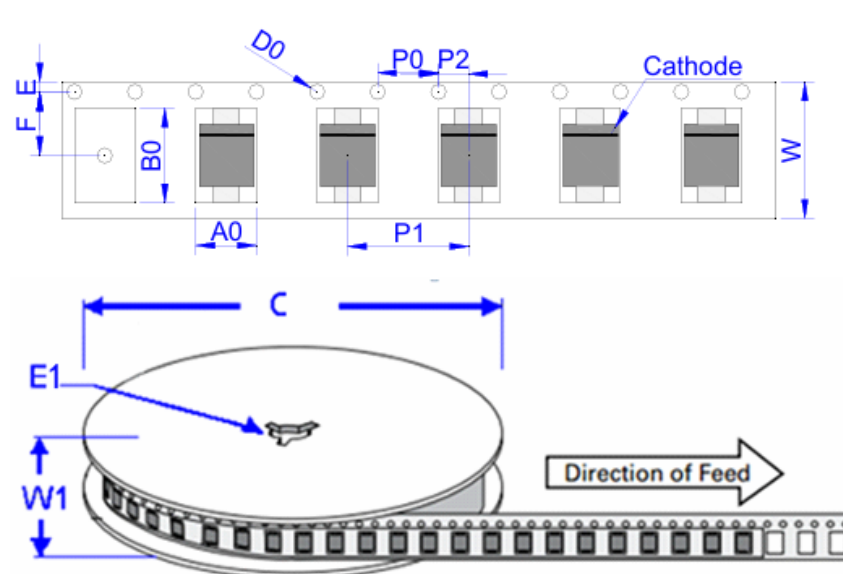
(2) Reverse Stand-Off Voltage (3)BI-directional

(3) Suffix “A” denotes 5% tolerance devices

Marking



Reel Taping Specification



Ref.	Dimensions	
	Millimeters	Inches
A0	6.05 ± 0.3	0.238 ± 0.012
B0	8.31 ± 0.3	0.327 ± 0.012
C	330.0	13.0
D0	1.55 ± 0.1	0.061 ± 0.004
E	1.75 ± 0.2	0.069 ± 0.008
E1	13.3 ± 0.3	0.524 ± 0.012
F	7.50 ± 0.2	0.295 ± 0.008
P0	4.00 ± 0.2	0.157 ± 0.008
P1	8.00 ± 0.2	0.3145 ± 0.008
P2	2.00 ± 0.2	0.079 ± 0.008
W	16.0 ± 0.2	0.630 ± 0.008
W1	19.7 ± 2.0	0.776 ± 0.079

Ordering information

PART No.	UNIT WEIGHT (g/PCS) typ.	PACKAGE	QUANTITY	TAPE & REEL
SMCJxxA/CA	0.262	SMC(DO-214AB)	3,000	13inch

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