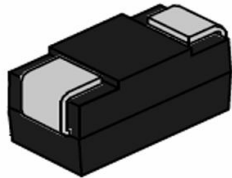


TRANSIENT VOLTAGE SUPPRESSOR

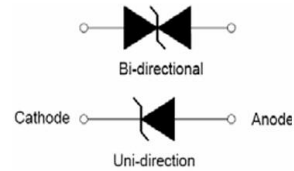
SMDJ SERIES

Features

- Low profile package.
 - Low inductance.
 - Excellent clamping capability.
 - 3000ak pulse power capability at 10×1000μs waveform.
 - Typical IR less than 1μA above 14
-
- 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.



SMC



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	3000	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}	300	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} Ⓞ
Uni-Polar	Bi-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
SMDJ5.0A	SMDJ5.0CA	5.0	800	6.40	7.00	10	9.2	326.1
SMDJ6.0A	SMDJ6.0CA	6.0	800	6.67	7.37	10	10.3	291.3
SMDJ6.5A	SMDJ6.5CA	6.5	500	7.22	7.98	10	11.2	267.9
SMDJ7.0A	SMDJ7.0CA	7.0	200	7.78	8.60	10	12.0	250.0
SMDJ7.5A	SMDJ7.5CA	7.5	100	8.33	9.21	1	12.9	232.6
SMDJ8.0A	SMDJ8.0CA	8.0	50	8.89	9.83	1	13.6	220.6
SMDJ8.5A	SMDJ8.5CA	8.5	20	9.44	10.40	1	14.4	208.3
SMDJ9.0A	SMDJ9.0CA	9.0	10	10.00	11.10	1	15.4	194.8
SMDJ10A	SMDJ10CA	10	5	11.10	12.30	1	17.0	176.5
SMDJ11A	SMDJ11CA	11	2	12.20	13.50	1	18.2	164.8
SMDJ12A	SMDJ12CA	12	2	13.30	14.70	1	19.9	150.8
SMDJ13A	SMDJ13CA	13	2	14.40	15.90	1	21.5	139.5
SMDJ14A	SMDJ14CA	14	2	15.60	17.20	1	23.2	129.3
SMDJ15A	SMDJ15CA	15	1	16.70	18.50	1	24.4	123.0
SMDJ16A	SMDJ16CA	16	1	17.80	19.70	1	26.0	115.4
SMDJ17A	SMDJ17CA	17	1	18.90	20.90	1	27.6	108.7
SMDJ18A	SMDJ18CA	18	1	20.00	22.10	1	29.2	102.7
SMDJ20A	SMDJ20CA	20	1	22.20	24.50	1	32.4	92.6
SMDJ22A	SMDJ22CA	22	1	24.40	26.90	1	35.5	84.5
SMDJ24A	SMDJ24CA	24	1	26.70	29.50	1	38.9	77.1
SMDJ26A	SMDJ26CA	26	1	28.90	31.90	1	42.1	71.3
SMDJ28A	SMDJ28CA	28	1	31.10	34.40	1	45.4	66.1

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
SMDJ30A	SMDJ30CA	30	1	33.30	36.80	1	48.4	62.0
SMDJ33A	SMDJ33CA	33	1	36.70	40.60	1	53.3	56.3
SMDJ36A	SMDJ36CA	36	1	40.00	44.20	1	58.1	51.6
SMDJ40A	SMDJ40CA	40	1	44.40	49.10	1	64.5	46.5
SMDJ43A	SMDJ43CA	43	1	47.80	52.80	1	69.4	43.2
SMDJ45A	SMDJ45CA	45	1	50.00	55.30	1	72.7	41.3
SMDJ48A	SMDJ48CA	48	1	53.30	58.90	1	77.4	38.8
SMDJ51A	SMDJ51CA	51	1	56.70	62.70	1	82.4	36.4
SMDJ54A	SMDJ54CA	54	1	60.00	66.30	1	87.1	34.4
SMDJ58A	SMDJ58CA	58	1	64.40	71.20	1	93.6	32.1
SMDJ60A	SMDJ60CA	60	1	66.70	73.70	1	96.8	31.0
SMDJ64A	SMDJ64CA	64	1	71.10	78.60	1	103.0	29.1
SMDJ70A	SMDJ70CA	70	1	77.80	86.00	1	113.0	26.5
SMDJ75A	SMDJ75CA	75	1	83.30	92.10	1	121.0	24.8
SMDJ78A	SMDJ78CA	78	1	86.70	95.80	1	126.0	23.8
SMDJ85A	SMDJ85CA	85	1	94.40	104.0	1	137.0	21.9
SMDJ90A	SMDJ90CA	90	1	100.0	111.0	1	146.0	20.5
SMDJ100A	SMDJ100CA	100	1	111.0	123.0	1	162.0	18.5
SMDJ110A	SMDJ110CA	110	1	122.0	135.0	1	177.0	16.9
SMDJ120A	SMDJ120CA	120	1	133.0	147.0	1	193.0	15.5
SMDJ130A	SMDJ130CA	130	1	144.0	159.0	1	209.0	14.4
SMDJ150A	SMDJ150CA	150	1	167.0	185.0	1	243.0	12.3
SMDJ160A	SMDJ160CA	160	1	178.0	197.0	1	259.0	11.6

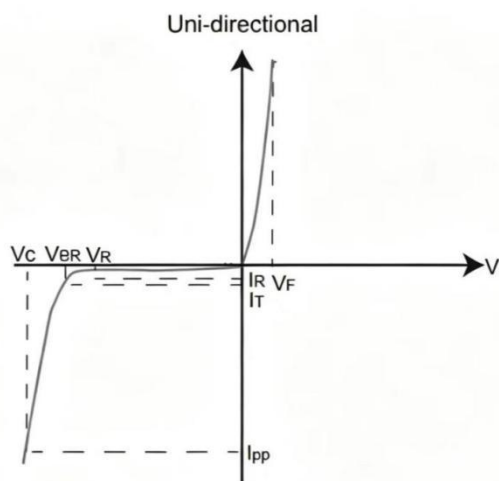
Part Number		V_R	$I_R@V_R$	$V_{BR@I_T}$		I_T	$V_C@I_{PP}$	I_{PP}
Uni-Polar	Bi-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
SMDJ170A	SMDJ170CA	170	1	189.0	209.0	1	275.0	10.9
SMDJ180A	SMDJ180CA	180	1	201.0	222.0	1	292.0	10.3
SMDJ190A	SMDJ190CA	190	1	211.0	234.0	1	307.0	9.7
SMDJ200A	SMDJ200CA	200	1	224.0	247.0	1	324.0	9.3
SMDJ210A	SMDJ210CA	210	1	233.0	258.0	1	337.0	8.8
SMDJ220A	SMDJ220CA	220	1	244.0	270.0	1	356.0	8.4
SMDJ36A	SMDJ36CA	36	1	40.00	44.20	1	58.1	51.6
SMDJ40A	SMDJ40CA	40	1	44.40	49.10	1	64.5	46.5
SMDJ43A	SMDJ43CA	43	1	47.80	52.80	1	69.4	43.2
SMDJ45A	SMDJ45CA	45	1	50.00	55.30	1	72.7	41.3
SMDJ48A	SMDJ48CA	48	1	53.30	58.90	1	77.4	38.8
SMDJ51A	SMDJ51CA	51	1	56.70	62.70	1	82.4	36.4
SMDJ54A	SMDJ54CA	54	1	60.00	66.30	1	87.1	34.4
SMDJ58A	SMDJ58CA	58	1	64.40	71.20	1	93.6	32.1
SMDJ60A	SMDJ60CA	60	1	66.70	73.70	1	96.8	31.0
SMDJ64A	SMDJ64CA	64	1	71.10	78.60	1	103.0	29.1
SMDJ70A	SMDJ70CA	70	1	77.80	86.00	1	113.0	26.5
SMDJ75A	SMDJ75CA	75	1	83.30	92.10	1	121.0	24.8
SMDJ78A	SMDJ78CA	78	1	86.70	95.80	1	126.0	23.8
SMDJ85A	SMDJ85CA	85	1	94.40	104.0	1	137.0	21.9
SMDJ90A	SMDJ90CA	90	1	100.0	111.0	1	146.0	20.5
SMDJ100A	SMDJ100CA	100	1	111.0	123.0	1	162.0	18.5
SMDJ110A	SMDJ110CA	110	1	122.0	135.0	1	177.0	16.9

Part Number		V_R	$I_R@V_R$	$V_{BR}@I_T$		I_T	$V_C@I_{PP}$	I_{PP}
Uni-Polar	Bi-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
SMDJ120A	SMDJ120CA	120	1	133.0	147.0	1	193.0	15.5
SMDJ130A	SMDJ130CA	130	1	144.0	159.0	1	209.0	14.4
SMDJ150A	SMDJ150CA	150	1	167.0	185.0	1	243.0	12.3
SMDJ160A	SMDJ160CA	160	1	178.0	197.0	1	259.0	11.6
SMDJ170A	SMDJ170CA	170	1	189.0	209.0	1	275.0	10.9
SMDJ180A	SMDJ180CA	180	1	201.0	222.0	1	292.0	10.3
SMDJ190A	SMDJ190CA	190	1	211.0	234.0	1	307.0	9.7
SMDJ200A	SMDJ200CA	200	1	224.0	247.0	1	324.0	9.3
SMDJ210A	SMDJ210CA	210	1	233.0	258.0	1	337.0	8.8
SMDJ220A	SMDJ220CA	220	1	244.0	270.0	1	356.0	8.4

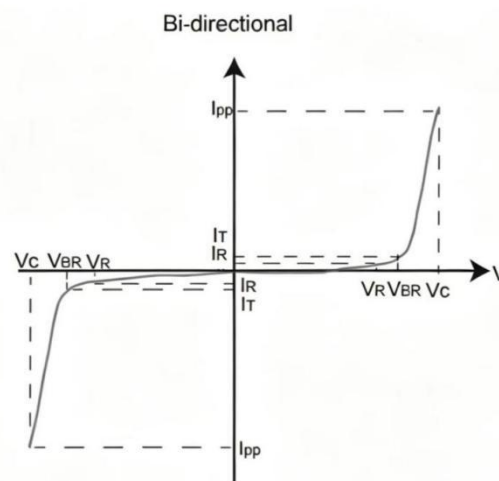
Notes:

- Notes: 1. Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional device only, duty cycle=4 per minute maximum
2. VBR measured with I_T current pulse = 10 ~ 15ms
3. Per 10 x 1000 μs waveform
4. For bidirectional type having V_R of 10 volts and less, the I_R limit is double

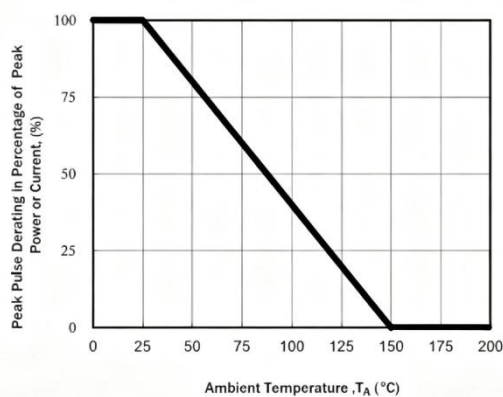
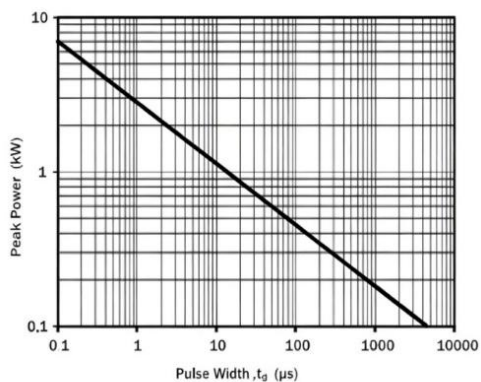
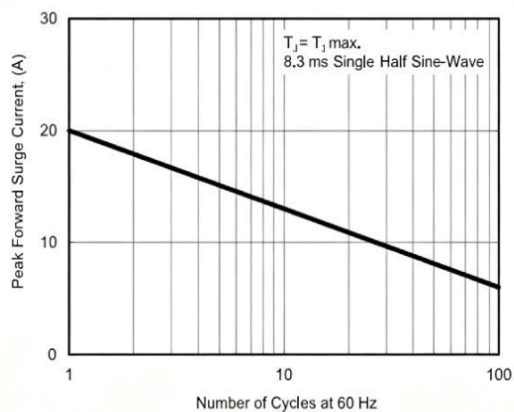
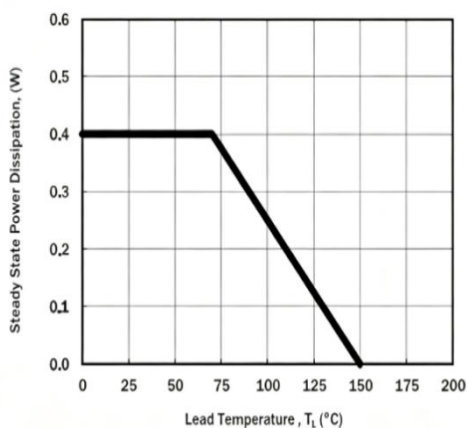
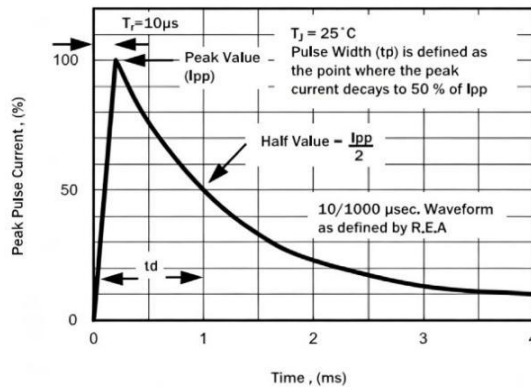
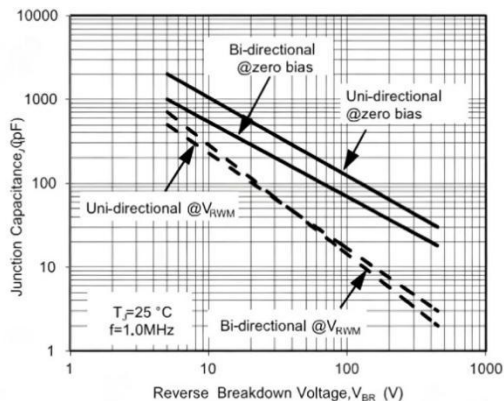
V-I Curve



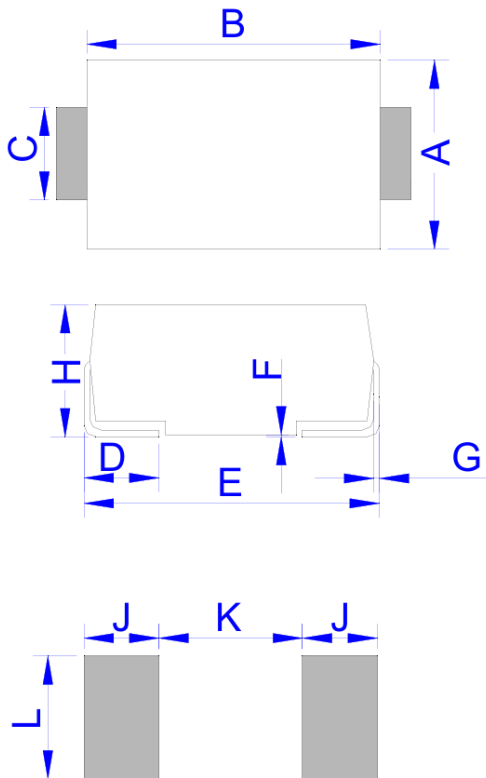
Typical



Performance Characteristics (T_A=25°C unless otherwise Specified)



Product Dimensions And Suggested PAD Layout

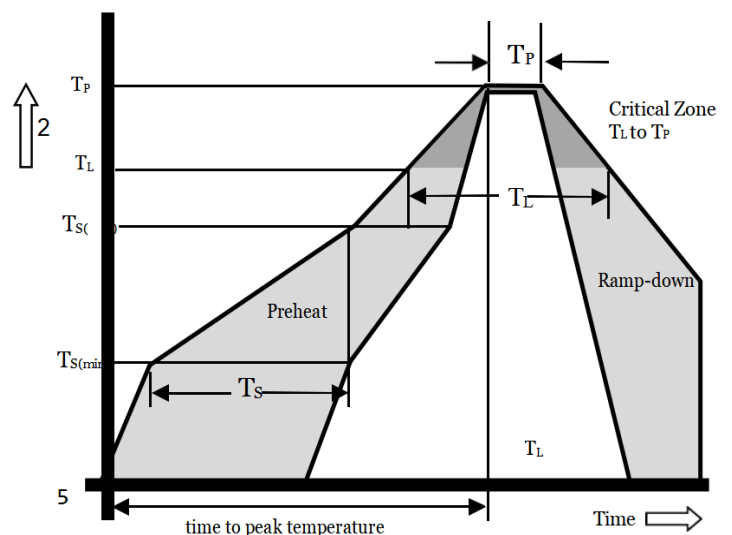


DO-214AB (SMC)

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		4.20		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

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

(1) Series Code

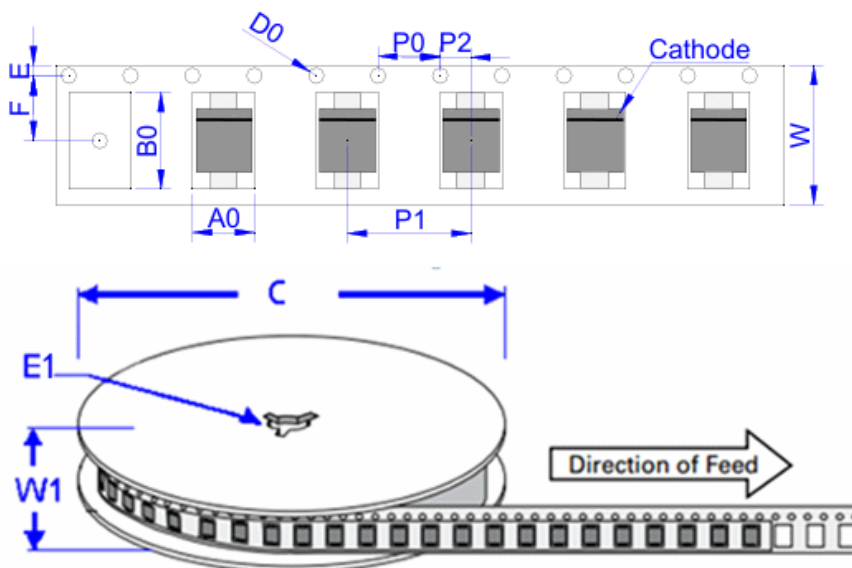
(2) Reverse Stand-Off Voltage (3)BI-directional

(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
SMDJxxA/CA	0.262	SMC(DO-214AB)	3,000	13inch

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