

TRANSIENT VOLTAGE SUPPRESSOR

SMDJ5.0A--SMDJ170CA

FEATURES

- Halogen-Free
- ROHS compliant
- Low profile package
- For surface mounted applications in order to optimize board space
- Typical maximum temperature coefficient $\Delta VBR = 0.1\% \times VBR@25^{\circ}\text{C} \times \Delta T$
- Glass passivated chip junction
- 3000W peak pulse power capability at 10×1000μs waveform, repetition rate (duty cycles):0.01%
- Fast response time: typically less than 1.0ps from 0V to BV min
- Excellent clamping capability
- Low incremental surge resistance
- Typical IR less than 2μA above 12V
- soldering guaranteed:
- High Temperature 260°C/40 seconds at terminals
- Plastic package has Underwriters Laboratory Flammability 94V-O

Maximum Ratings and Thermal Characteristics (T_A=25°C unless otherwise noted)

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation at T _A =25°C by 10×1000μs waveform (Fig.1)(Note 1), (Note 2)	P _{PPM}	3000	W
Power Dissipation on infinite heat sink at T _A =500°C	P _{M(AV)}	6.5	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 3) only	I _{FSM}	300	A
Maximum Instantaneous Forward Voltage at 100A for Unidirectional	V _F	3.5	V
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-65 to 150	°C
Typical Thermal Resistance Junction to Lead	R _{uJL}	15	°C/W
Typical Thermal Resistance Junction to Ambient	R _{uJA}	75	°C/W

Notes:

1. Non-repetitive current pulse, per Fig. 3 and derated above T_A = 25°C per Fig. 2.
2. Mounted on copper pad area of 0.31×0.31" (8.0 × 8.0mm) to each terminal.
3. Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional device only, duty cycle=4 per minute maximum.



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ELECTRICAL CHARACTERISTICS (T_A=25°C)

Part Number (Uni)	Part Number (Bi)	Reverse Stand off Voltage VR (Volts)	Breakdown Voltage VBR (Volts) @ IT		Test Current IT (mA)	Maximum Clamping Voltage VC @ Ipp (V)	Maximum Peak Pulse Current Ipp (A)	Maximum Reverse Leakage IR @ VR (μA)	Agency Approval
			MIN	MAX					
SMDJ5.0A	SMDJ5.0CA	5	6.4	7	10	9.2	326.1	800	X
SMDJ6.0A	SMDJ6.0CA	6	6.67	7.37	10	10.3	291.3	800	X
SMDJ6.5A	SMDJ6.5CA	6.5	7.22	7.98	10	11.2	267.9	500	X
SMDJ7.0A	SMDJ7.0CA	7	7.78	8.6	10	12	250	200	X
SMDJ7.5A	SMDJ7.5CA	7.5	8.33	9.21	1	12.9	232.6	100	X
SMDJ8.0A	SMDJ8.0CA	8	8.89	9.83	1	13.6	220.6	50	X
SMDJ8.5A	SMDJ8.5CA	8.5	9.44	10.4	1	14.4	208.3	20	X
SMDJ9.0A	SMDJ9.0CA	9	10	11.1	1	15.4	194.8	10	X
SMDJ10A	SMDJ10CA	10	11.1	12.3	1	17	176.5	5	X
SMDJ11A	SMDJ11CA	11	12.2	13.5	1	18.2	164.8	2	X
SMDJ12A	SMDJ12CA	12	13.3	14.7	1	19.9	150.8	2	X
SMDJ13A	SMDJ13CA	13	14.4	15.9	1	21.5	139.5	2	X
SMDJ14A	SMDJ14CA	14	15.6	17.2	1	23.2	129.3	2	X
SMDJ15A	SMDJ15CA	15	16.7	18.5	1	24.4	123	2	X
SMDJ16A	SMDJ16CA	16	17.8	19.7	1	26	115.4	2	X
SMDJ17A	SMDJ17CA	17	18.9	20.9	1	27.6	108.7	2	X
SMDJ18A	SMDJ18CA	18	20	22.1	1	29.2	102.7	2	X
SMDJ20A	SMDJ20CA	20	22.2	24.5	1	32.4	92.6	2	X
SMDJ22A	SMDJ22CA	22	24.4	26.9	1	35.5	84.5	2	X
SMDJ24A	SMDJ24CA	24	26.7	29.5	1	38.9	77.1	2	X
SMDJ26A	SMDJ26CA	26	28.9	31.9	1	42.1	71.3	2	X
SMDJ28A	SMDJ28CA	28	31.1	34.4	1	45.4	66.1	2	X
SMDJ30A	SMDJ30CA	30	33.3	36.8	1	48.4	62	2	X
SMDJ33A	SMDJ33CA	33	36.7	40.6	1	53.3	56.3	2	X
SMDJ36A	SMDJ36CA	36	40	44.2	1	58.1	51.6	2	X



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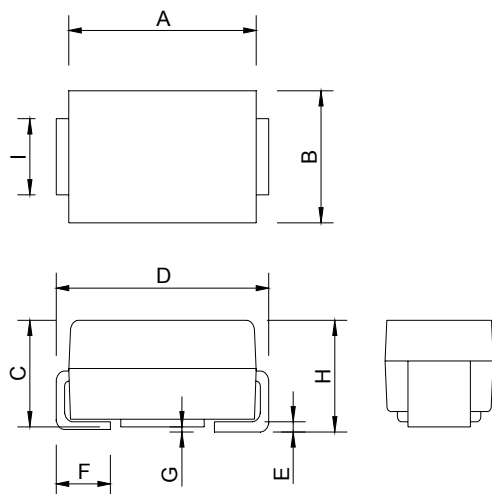
Part Number (Uni)	Part Number (Bi)	Reverse Stand off Voltage VR (Volts)	Breakdown Voltage VBR (Volts) @ IT		Test Current IT (mA)	Maximum Clamping Voltage VC @ Ipp (V)	Maximum Peak Pulse Current Ipp (A)	Maximum Reverse Leakage IR @ VR (μA)	Agency Approval
			MIN	MAX					
SMDJ40A	SMDJ40CA	40	44.4	49.1	1	64.5	46.5	2	X
SMDJ43A	SMDJ43CA	43	47.8	52.8	1	69.4	43.2	2	X
SMDJ45A	SMDJ45CA	45	50	55.3	1	72.7	41.3	2	X
SMDJ48A	SMDJ48CA	48	53.3	58.9	1	77.4	38.8	2	X
SMDJ51A	SMDJ51CA	51	56.7	62.7	1	82.4	36.4	2	X
SMDJ54A	SMDJ54CA	54	60	66.3	1	87.1	34.4	2	X
SMDJ58A	SMDJ58CA	58	64.4	71.2	1	93.6	32.1	2	X
SMDJ60A	SMDJ60CA	60	66.7	73.7	1	96.8	31	2	X
SMDJ64A	SMDJ64CA	64	71.1	78.6	1	103	29.1	2	X
SMDJ70A	SMDJ70CA	70	77.8	86	1	113	26.5	2	X
SMDJ75A	SMDJ75CA	75	83.3	92.1	1	121	24.8	2	X
SMDJ78A	SMDJ78CA	78	86.7	95.8	1	126	23.8	2	X
SMDJ85A	SMDJ85CA	85	94.4	104	1	137	21.9	2	X
SMDJ90A	SMDJ90CA	90	100	111	1	146	20.5	2	X
SMDJ100A	SMDJ100CA	100	111	123	1	162	18.5	2	X
SMDJ110A	SMDJ110CA	110	122	135	1	177	16.9	2	X
SMDJ120A	SMDJ120CA	120	133	147	1	193	15.5	2	X
SMDJ130A	SMDJ130CA	130	144	159	1	209	14.4	2	X
SMDJ150A	SMDJ150CA	150	167	185	1	243	12.3	2	X
SMDJ160A	SMDJ160CA	160	178	197	1	259	11.6	2	X
SMDJ170A	SMDJ170CA	170	189	209	1	275	10.9	2	X



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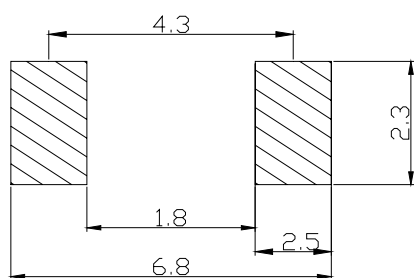
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PACKAGE OUTLINE DIMENSIONS



DO-214AB(SMC)		
Dim	Min	Max
A	6.70	7.10
B	5.70	6.10
C	2.10	2.40
D	7.55	8.05
E	0.15	0.35
F	1.00	1.60
G	0.20MAX	
H	2.15	2.45
I	2.85	3.15
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
SMDJ5.0A-SMDJ170CA	DO-214AB(SMC)	3000/Tape&Reel

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