

1500W Transient Voltage Suppressors


TVS Diodes - 1500W > SMCJ Series



Description

The SMCJ series is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

Features

- For surface mounted applications in order to optimize board space
- Reliable low cost construction utilizing molded plastic technique
- Plastic material has UL flammability classification 94V-0
- Typical IR less than 1uA above 10V
- Fast response time: typically less than 1.0ps from 0 Volts to VBR min
- Glass passivated junction
- Low inductance
- Agency recognition: 



Package: DO-214AB/ SMC

Applications

- I/O interface • AC/DC power supply
- Low frequency signal transmission line (RS232, RS485, etc.)

Electrical Characteristics

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at TA=25°C by 10x1000µs waveform (Fig.1)(Note 1), (Note 2)	PPPM	1500	Watts
Peak pulse current of at 10/1000µs waveform (Note 1, Fig.3)	IPPM	See Table	Amps
Steady state power dissipation at TA=50°C (Fig.5)	PM(AV)	6.5	Watts
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load, (JEDEC Method) (Note3, Fig.6)	IFSM	200	Amps
Operating Junction and Storage Temperature Range	TJ, TSTG	-65 to 150	°C
Typical Thermal Resistance Junction to Lead	RθJL	15	°C/W
Typical Thermal Resistance Junction to Ambient	RθJA	75	°C/W

Notes:

1. Non-repetitive current pulse, per Fig.3 and derated above TA=25°C per Fig. 2.
2. Mounted on 8.0x8.0mm copper pad to each terminal.
3. 8.3ms single half sine-wave, or equivalent square wave, duty cycle=4 pulses per minutes maximum.

Electrical Characteristics (TA=25°C)

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage V _{BR} (Volts)@IT		Test Current	Maximum Clamping Voltage@I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}	Safety Certification	Delivery Time
Uni-Polar	Bi-polar	V _{RWM} (V)	Min	Max	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (μA)	UL	days
SMCJ5.0A	SMCJ5.0CA	5.0	6.40	7.00	10	9.2	163.0	800	√	7days
SMCJ6.0A	SMCJ6.0CA	6.0	6.67	7.37	10	10.3	145.7	800	√	7days
SMCJ6.5A	SMCJ6.5CA	6.5	7.22	7.98	10	11.2	134.0	500	√	7days
SMCJ7.0A	SMCJ7.0CA	7.0	7.78	8.60	10	12.0	125.0	200	√	7days
SMCJ7.5A	SMCJ7.5CA	7.5	8.33	9.21	1	12.9	116.3	100	√	7days
SMCJ8.0A	SMCJ8.0CA	8.0	8.89	9.83	1	13.6	110.3	50	√	7days
SMCJ8.5A	SMCJ8.5CA	8.5	9.44	10.40	1	14.4	104.2	20	√	7days
SMCJ9.0A	SMCJ9.0CA	9.0	10.0	11.10	1	15.4	97.4	10	√	7days
SMCJ10A	SMCJ10CA	10.0	11.1	12.3	1	17.0	88.3	5	√	7days
SMCJ11A	SMCJ11CA	11.0	12.2	13.5	1	18.2	82.5	1	√	7days
SMCJ12A	SMCJ12CA	12.0	13.3	14.7	1	19.9	75.4	1	√	7days
SMCJ13A	SMCJ13CA	13.0	14.4	15.9	1	21.5	69.8	1	√	7days
SMCJ14A	SMCJ14CA	14.0	15.6	17.2	1	23.2	64.7	1	√	7days
SMCJ15A	SMCJ15CA	15.0	16.7	18.5	1	24.4	61.5	1	√	7days
SMCJ16A	SMCJ16CA	16.0	17.8	19.7	1	26.0	57.7	1	√	7days
SMCJ17A	SMCJ17CA	17.0	18.9	20.9	1	27.6	54.4	1	√	7days
SMCJ18A	SMCJ18CA	18.0	20.0	22.1	1	29.2	51.4	1	√	7days
SMCJ20A	SMCJ20CA	20.0	22.2	24.5	1	32.4	46.3	1	√	7days
SMCJ22A	SMCJ22CA	22.0	24.4	26.9	1	35.5	42.3	1	√	7days
SMCJ24A	SMCJ24CA	24.0	26.7	29.5	1	38.9	38.6	1	√	7days
SMCJ26A	SMCJ26CA	26.0	28.9	31.9	1	42.1	35.7	1	√	7days
SMCJ28A	SMCJ28CA	28.0	31.1	34.4	1	45.4	33.1	1	√	7days
SMCJ30A	SMCJ30CA	30.0	33.3	36.8	1	48.4	31.0	1	√	7days
SMCJ33A	SMCJ33CA	33.0	36.7	40.6	1	53.3	28.2	1	√	7days

Electrical Characteristics (TA=25°C)

continued

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Uni-Polar	Bi-polar	V _{RWM} (V)	Min	Max	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (μA)	UL	days
SMCJ36A	SMCJ36CA	36.0	40.0	44.2	1	58.1	25.9	1	√	7days
SMCJ40A	SMCJ40CA	40.0	44.4	49.1	1	64.5	23.3	1	√	7days
SMCJ43A	SMCJ43CA	43.0	47.8	52.8	1	69.4	21.7	1	√	7days
SMCJ45A	SMCJ45CA	45.0	50.0	55.3	1	72.7	20.6	1	√	7days
SMCJ48A	SMCJ48CA	48.0	53.3	58.9	1	77.4	19.4	1	√	7days
SMCJ51A	SMCJ51CA	51.0	56.7	62.7	1	82.4	18.2	1	√	7days
SMCJ54A	SMCJ54CA	54.0	60.0	66.3	1	87.1	17.3	1	√	7days
SMCJ58A	SMCJ58CA	58.0	64.4	71.2	1	93.6	16.1	1	√	7days
SMCJ60A	SMCJ60CA	60.0	66.7	73.7	1	96.8	15.5	1	√	7days
SMCJ64A	SMCJ64CA	64.0	71.1	78.6	1	103.0	14.6	1	√	7days
SMCJ70A	SMCJ70CA	70.0	77.8	86.0	1	113.0	13.3	1	√	7days
SMCJ75A	SMCJ75CA	75.0	83.3	92.1	1	121.0	12.4	1	√	7days
SMCJ78A	SMCJ78CA	78.0	86.7	95.8	1	126.0	11.9	1	√	7days
SMCJ85A	SMCJ85CA	85.0	94.4	104.0	1	137.0	11.0	1	√	7days
SMCJ90A	SMCJ90CA	90.0	100	111.0	1	146.0	10.3	1	√	7days
SMCJ100A	SMCJ100CA	100.0	111	123.0	1	162.0	9.3	1	√	7days
SMCJ110A	SMCJ110CA	110.0	122	135.0	1	177.0	8.5	1	√	7days
SMCJ120A	SMCJ120CA	120.0	133	147.0	1	193.0	7.8	1	√	7days
SMCJ130A	SMCJ130CA	130.0	144	159.0	1	209.0	7.2	1	√	7days
SMCJ150A	SMCJ150CA	150.0	167	185.0	1	243.0	6.2	1	√	7days
SMCJ160A	SMCJ160CA	160.0	178	197.0	1	259.0	5.8	1	√	7days
SMCJ170A	SMCJ170CA	170.0	189	209.0	1	275.0	5.5	1	√	7days

Notes: For bidirectional type having V_{RWM} of 10 volts and less, the I_R limit is double.

Electrical Characteristics (TA=25°C)

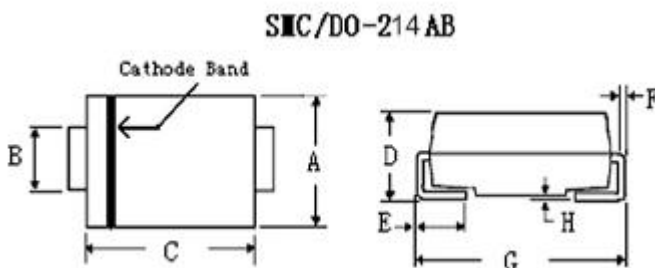
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Part Number		Reverse Stand-Off Voltage	Breakdown Voltage V _{BR} (Volts)@I _T		Test Current	Maximum Clamping Voltage@I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}	Safety Certification	Delivery Time
Uni-Polar	Bi-polar	V _{RWM} (V)	Min	Max	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (μA)	UL	days
SMCJ180A	SMCJ180CA	180.0	201.0	222.0	1	292.0	5.1	1	√	7days
SMCJ190A	SMCJ190CA	190.0	211.0	233.0	1	308.0	4.8	1	√	7days
SMCJ200A	SMCJ200CA	200.0	224.0	247.0	1	324.0	4.6	1	√	7days
SMCJ210A	SMCJ210CA	210.0	237.0	263.0	1	340.0	4.4	1	√	7days
SMCJ220A	SMCJ220CA	220.0	246.0	272.0	1	356.0	4.2	1	√	7days
SMCJ250A	SMCJ250CA	250.0	279.0	309.0	1	405.0	3.7	1	√	7days
SMCJ300A	SMCJ300CA	300.0	335.0	371.0	1	486.0	3.1	1	√	7days
SMCJ350A	SMCJ350CA	350.0	391.0	432.0	1	567.0	2.6	1	√	7days
SMCJ400A	SMCJ400CA	400.0	447.0	494.0	1	648.0	2.3	1	√	7days
SMCJ440A	SMCJ440CA	440.0	492.0	543.0	1	713.0	2.1	1	√	7days

Packing Options

Package Type	Description	Packing Quantity	Industry Standard
DO-214AB	Embossed Carrier Reel Pack	3000PCS	EIA-481-1

Dimensions - DO-214AB



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.220	0.236	5.6	6.0
B	0.112	0.124	2.85	3.15
C	0.258	0.27	6.55	6.85
D	0.083	0.098	2.1	2.5
E	0.031	0.055	0.8	1.4
F	0.006	0.013	0.18	0.32
G	0.309	0.321	7.85	8.15
H		0.008		0.203