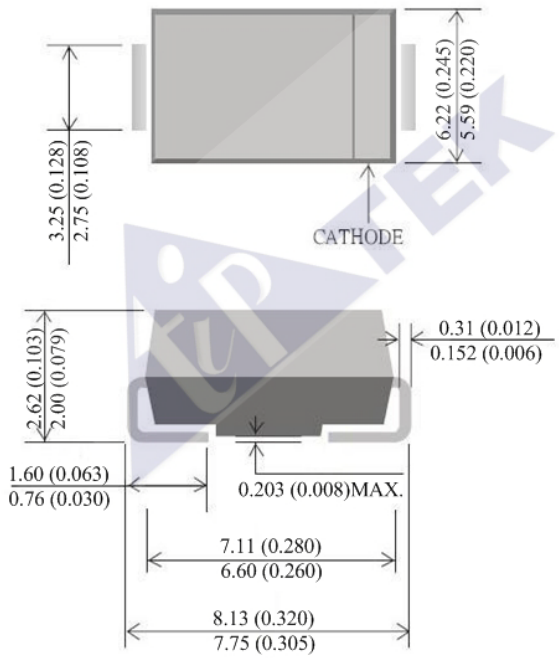
1500W SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR



CASE：DO-214AB(SMC)

DIMENSIONS IN MILLIMETERS AND (INCHES)

FEATURES

- PLASTIC PACKAGE HAS UNDERWRITERS LABORATORY FLAMMABILITY CLASSIFICATION 94V-0
- Glass passivated chip
- 1500 W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle):0.01 %
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time

MECHANICAL DATA

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Axial leads, solderable per MIL-STD-202, method 208 guranteed
- Polarity: Color band denotes cathode en except Bipolar
- Mounting position: Any
- WEIGHT：0.24 GRAMS
- Pb Free:1.5SMCJ5.0~1.5SMCJ440CA
  Halogen Free: 1.5SMCJ5.0-H~1.5SMCJ440CA -H

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED

PARAMETER	SYMBOL	VALUE	UNITS
Peak power dissipation with a 10/1000μs waveform	P_{PP}	Minimum 1500	Watts
Peak pulse current wih a 10/1000μs waveform	I_{PP}	See Next Table	Amps.
Power dissipation on infinite heatsink at TL = 75 °C	P_D	6.5	Watts
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only(1)	I_{FSM}	200	Amps.
Maximum instantaneous forward voltage at 25 A forunidirectional only(2)	V_F	3.5/5.0	Volts
Operating junction and storage temperature range	T_J, T_{STG}	–55 to +150	°C

NOTE：(1) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

(2) V_F= 3.5V on 3.0SMCJ5.0 thru 3.0SMCJ90A devices and V_F= 5.0V on 3.0SMCJ100 thru 3.0SMCJ440A devices.

Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
		V_{RWM}	V_{BR} @ I_T		I_T	I_R @ V_{RWM}	Vc @ Ipp	Ipp
			Min	Max				
UNI	BI	V	V	V	m A	μA	V	A
1.5SMCJ5.0	1.5SMCJ5.0C	5.0	6.40	7.30	10.0	1000.0	9.6	156
1.5SMCJ5.0A	1.5SMCJ5.0CA	5.0	6.40	7.00	10.0	1000.0	9.2	163
1.5SMCJ6.0	1.5SMCJ6.0C	6.0	6.67	8.15	10.0	1000.0	11.4	132
1.5SMCJ6.0A	1.5SMCJ6.0CA	6.0	6.67	7.37	10.0	1000.0	10.3	146
1.5SMCJ6.5	1.5SMCJ6.5C	6.5	7.22	8.82	10.0	500.0	12.3	122
1.5SMCJ6.5A	1.5SMCJ6.5CA	6.5	7.22	7.98	10.0	500.0	11.2	134
1.5SMCJ7.0	1.5SMCJ7.0C	7.0	7.78	9.51	10.0	200.0	13.3	113
1.5SMCJ7.0A	1.5SMCJ7.0CA	7.0	7.78	8.60	10.0	200.0	12	125
1.5SMCJ7.5	1.5SMCJ7.5C	7.5	8.33	10.20	1.0	100.0	14.3	105
1.5SMCJ7.5A	1.5SMCJ7.5CA	7.5	8.33	9.21	1.0	100.0	12.9	116
1.5SMCJ8.0	1.5SMCJ8.0C	8.0	8.89	10.90	1.0	50.0	15	100
1.5SMCJ8.0A	1.5SMCJ8.0AC	8.0	8.89	9.83	1.0	50.0	13.6	110
1.5SMCJ8.5	1.5SMCJ8.5C	8.5	9.44	11.50	1.0	20.0	15.9	94.3
1.5SMCJ8.5A	1.5SMCJ8.5CA	8.5	9.44	10.40	1.0	20.0	14.4	104
1.5SMCJ9.0	1.5SMCJ9.0C	9.0	10.00	12.20	1.0	10.0	16.9	88.8
1.5SMCJ9.0A	1.5SMCJ9.0CA	9.0	10.00	11.10	1.0	10.0	15.4	97.4
1.5SMCJ10	1.5SMCJ10C	10.0	11.10	13.60	1.0	5.0	18.8	79.8
1.5SMCJ10A	1.5SMCJ10CA	10.0	11.10	12.30	1.0	5.0	17	88.2
1.5SMCJ11	1.5SMCJ11C	11.0	12.20	14.90	1.0	5.0	20.1	74.6
1.5SMCJ11A	1.5SMCJ11CA	11.0	12.20	13.50	1.0	5.0	18.2	82.4
1.5SMCJ12	1.5SMCJ12C	12.0	13.30	16.30	1.0	5.0	22	68.2
1.5SMCJ12A	1.5SMCJ12CA	12.0	13.30	14.70	1.0	5.0	19.9	75.4
1.5SMCJ13	1.5SMCJ13C	13.0	14.40	17.60	1.0	5.0	23.8	63
1.5SMCJ13A	1.5SMCJ13CA	13.0	14.40	15.90	1.0	5.0	21.5	69.8
1.5SMCJ14	1.5SMCJ14C	14.0	15.60	19.10	1.0	5.0	25.8	58.1
1.5SMCJ14A	1.5SMCJ14CA	14.0	15.60	17.20	1.0	5.0	23.2	64.7
1.5SMCJ15	1.5SMCJ15C	15.0	16.70	20.40	1.0	5.0	26.9	55.8
1.5SMCJ15A	1.5SMCJ15CA	15.0	16.70	18.50	1.0	5.0	24.4	61.5
1.5SMCJ16	1.5SMCJ16C	16.0	17.80	21.80	1.0	5.0	28.8	52.1
1.5SMCJ16A	1.5SMCJ16CA	16.0	17.80	19.70	1.0	5.0	26	57.7
1.5SMCJ17	1.5SMCJ17C	17.0	18.90	23.10	1.0	5.0	30.5	49.2
1.5SMCJ17A	1.5SMCJ17CA	17.0	18.90	20.90	1.0	5.0	27.6	54.3
1.5SMCJ18	1.5SMCJ18C	18.0	20.00	24.40	1.0	5.0	32.2	46.6
1.5SMCJ18A	1.5SMCJ18CA	18.0	20.00	22.10	1.0	5.0	29.2	51.4
1.5SMCJ19	1.5SMCJ19C	19.0	21.10	25.80	1.0	5.0	34	44.1
1.5SMCJ19A	1.5SMCJ19CA	19.0	21.10	23.30	1.0	5.0	30.8	48.7
1.5SMCJ20	1.5SMCJ20C	20.0	22.20	27.10	1.0	5.0	35.8	41.9
1.5SMCJ20A	1.5SMCJ20CA	20.0	22.20	24.50	1.0	5.0	32.4	46.3

Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
		V_{RWM}	V_{BR} @ I_T		I_T	I_R @ V_{RWM}	Vc @ Ipp	Ipp
			Min	Max				
UNI	BI	V	V	m A	μA	V	V	A
1.5SMCJ22	1.5SMCJ22C	22.0	24.40	29.80	1.0	5.0	39.4	38.1
1.5SMCJ22A	1.5SMCJ22CA	22.0	24.40	26.90	1.0	5.0	35.5	42.3
1.5SMCJ24	1.5SMCJ24C	24.0	26.70	32.60	1.0	5.0	43	34.9
1.5SMCJ24A	1.5SMCJ24CA	24.0	26.70	29.50	1.0	5.0	38.9	38.6
1.5SMCJ26	1.5SMCJ26C	26.0	28.90	35.30	1.0	5.0	46.6	32.2
1.5SMCJ26A	1.5SMCJ26CA	26.0	28.90	31.90	1.0	5.0	42.1	35.6
1.5SMCJ28	1.5SMCJ28C	28.0	31.10	38.00	1.0	5.0	50	30
1.5SMCJ28A	1.5SMCJ28CA	28.0	31.10	34.40	1.0	5.0	45.4	33
1.5SMCJ30	1.5SMCJ30C	30.0	33.30	40.70	1.0	5.0	53.5	28
1.5SMCJ30A	1.5SMCJ30CA	30.0	33.30	36.80	1.0	5.0	48.4	31
1.5SMCJ33	1.5SMCJ33C	33.0	36.70	44.90	1.0	5.0	59	25.4
1.5SMCJ33A	1.5SMCJ33CA	33.0	36.70	40.60	1.0	5.0	53.3	28.1
1.5SMCJ36	1.5SMCJ36C	36.0	40.00	48.90	1.0	5.0	64.3	23.3
1.5SMCJ36A	1.5SMCJ36CA	36.0	40.00	44.20	1.0	5.0	58.1	25.8
1.5SMCJ40	1.5SMCJ40C	40.0	44.40	54.30	1.0	5.0	71.4	21
1.5SMCJ40A	1.5SMCJ40CA	40.0	44.40	49.10	1.0	5.0	64.5	23.3
1.5SMCJ43	1.5SMCJ43C	43.0	47.80	58.40	1.0	5.0	76.7	19.6
1.5SMCJ43A	1.5SMCJ43CA	43.0	47.80	52.80	1.0	5.0	69.4	21.6
1.5SMCJ45	1.5SMCJ45C	45.0	50.00	61.10	1.0	5.0	80.3	18.7
1.5SMCJ45A	1.5SMCJ45CA	45.0	50.00	55.30	1.0	5.0	72.7	20.6
1.5SMCJ48	1.5SMCJ48C	48.0	53.30	65.10	1.0	5.0	85.5	17.5
1.5SMCJ48A	1.5SMCJ48CA	48.0	53.30	58.90	1.0	5.0	77.4	19.4
1.5SMCJ51	1.5SMCJ51C	51.0	56.70	69.30	1.0	5.0	91.1	16.5
1.5SMCJ51A	1.5SMCJ51CA	51.0	56.70	62.70	1.0	5.0	82.4	18.2
1.5SMCJ54	1.5SMCJ54C	54.0	60.00	73.30	1.0	5.0	96.3	15.6
1.5SMCJ54A	1.5SMCJ54CA	54.0	60.00	66.30	1.0	5.0	87.1	17.2
1.5SMCJ58	1.5SMCJ58C	58.0	64.40	78.70	1.0	5.0	103	14.6
1.5SMCJ58A	1.5SMCJ58CA	58.0	64.40	71.20	1.0	5.0	93.6	16
1.5SMCJ60	1.5SMCJ60C	60.0	66.70	81.50	1.0	5.0	107	14
1.5SMCJ60A	1.5SMCJ60CA	60.0	66.70	73.70	1.0	5.0	96.8	15.5
1.5SMCJ64	1.5SMCJ64C	64.0	71.10	86.90	1.0	5.0	114	13.2
1.5SMCJ64A	1.5SMCJ64CA	64.0	71.10	78.60	1.0	5.0	103	14.6
1.5SMCJ70	1.5SMCJ70C	70.0	77.80	95.10	1.0	5.0	125	12
1.5SMCJ70A	1.5SMCJ70CA	70.0	77.80	86.00	1.0	5.0	113	13.3
1.5SMCJ75	1.5SMCJ75C	75.0	83.30	102.00	1.0	5.0	134	11.2
1.5SMCJ75A	1.5SMCJ75CA	75.0	83.30	92.10	1.0	5.0	121	12.4
1.5SMCJ78	1.5SMCJ78C	78.0	86.70	106.00	1.0	5.0	139	10.8
1.5SMCJ78A	1.5SMCJ78CA	78.0	86.70	95.80	1.0	5.0	126	11.9

Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
		V_{RWM}	V_{BR} @ I_T		I_T	I_R @ V_{RWM}	Vc @ Ipp	Ipp
			Min	Max				
UNI	BI	V	m A	μA	V	V	V	A
1.5SMCJ80	1.5SMCJ80C	80.0	89.00	109.00	1.0	5.0	143	10.5
1.5SMCJ80A	1.5SMCJ80CA	80.0	88.80	97.60	1.0	5.0	130	11.6
1.5SMCJ85	1.5SMCJ85C	85.0	94.40	115.00	1.0	5.0	151	9.93
1.5SMCJ85A	1.5SMCJ85CA	85.0	94.40	104.00	1.0	5.0	137	10.9
1.5SMCJ90	1.5SMCJ90C	90.0	100.00	122.00	1.0	5.0	160	9.38
1.5SMCJ90A	1.5SMCJ90CA	90.0	100.00	111.00	1.0	5.0	146	10.3
1.5SMCJ100	1.5SMCJ100C	100.0	111.00	136.00	1.0	5.0	179	8.38
1.5SMCJ100A	1.5SMCJ100CA	100.0	111.00	123.00	1.0	5.0	162	9.26
1.5SMCJ110	1.5SMCJ110C	110.0	122.00	149.00	1.0	5.0	196	7.65
1.5SMCJ110A	1.5SMCJ110CA	110.0	122.00	135.00	1.0	5.0	177	8.47
1.5SMCJ120	1.5SMCJ120C	120.0	133.00	163.00	1.0	5.0	214	7.01
1.5SMCJ120A	1.5SMCJ120CA	120.0	133.00	147.00	1.0	5.0	193	7.77
1.5SMCJ130	1.5SMCJ130C	130.0	144.00	176.00	1.0	5.0	231	6.49
1.5SMCJ130A	1.5SMCJ130CA	130.0	144.00	159.00	1.0	5.0	209	7.18
1.5SMCJ140	1.5SMCJ140C	140.0	156.00	190.00	1.0	5.0	251	5.99
1.5SMCJ140A	1.5SMCJ140A	140.0	155.00	171.00	1.0	5.0	227	6.61
1.5SMCJ150	1.5SMCJ150C	150.0	167.00	204.00	1.0	5.0	268	5.6
1.5SMCJ150A	1.5SMCJ150CA	150.0	167.00	185.00	1.0	5.0	243	6.17
1.5SMCJ160	1.5SMCJ160C	160.0	178.00	218.00	1.0	5.0	287	5.23
1.5SMCJ160A	1.5SMCJ160CA	160.0	178.00	197.00	1.0	5.0	259	5.79
1.5SMCJ170	1.5SMCJ170C	170.0	189.00	231.00	1.0	5.0	304	4.93
1.5SMCJ170A	1.5SMCJ170CA	170.0	189.00	209.00	1.0	5.0	275	5.45
1.5SMCJ180	1.5SMCJ180C	180.0	200.00	245.00	1.0	5.0	322	4.66
1.5SMCJ180A	1.5SMCJ180CA	180.0	200.00	220.00	1.0	5.0	292	5.14
1.5SMCJ190	1.5SMCJ190C	190.0	211.00	258.00	1.0	5.0	340	4.41
1.5SMCJ190A	1.5SMCJ190CA	190.0	211.00	232.00	1.0	5.0	308	4.87
1.5SMCJ200A	1.5SMCJ200CA	200.0	224.00	247.00	1.0	5.0	324	4.63
1.5SMCJ220A	1.5SMCJ220CA	220.0	246.00	272.00	1.0	5.0	356	4.21
1.5SMCJ250A	1.5SMCJ250CA	250.0	279.00	309.00	1.0	5.0	405	3.7
1.5SMCJ300A	1.5SMCJ300CA	300.0	335.00	371.00	1.0	5.0	486	3.09
1.5SMCJ350A	1.5SMCJ350CA	350.0	391.00	432.00	1.0	5.0	567	2.65
1.5SMCJ400A	1.5SMCJ400CA	400.0	447.00	494.00	1.0	5.0	648	2.31
1.5SMCJ440A	1.5SMCJ440CA	440.0	492.00	543.00	1.0	5.0	713	2.1

Note:

1. Suffix 'A ' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device.
2. Add suffix 'C 'or ' CA ' after part number to specify Bi-directional devices.
3. For Bi-Directional devices having V_R of 10 volts and under, the IR limit is double .

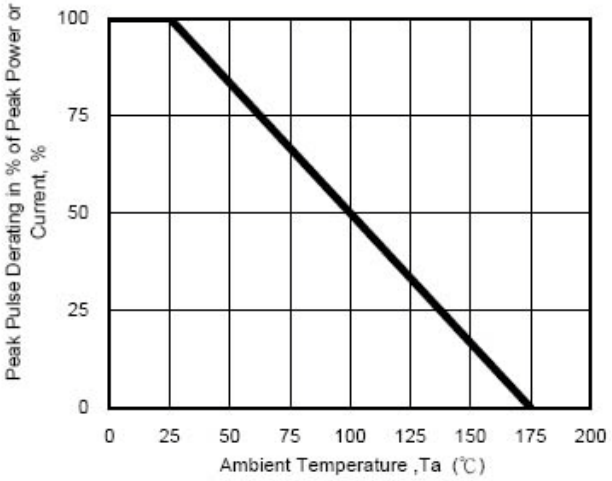


Fig. 1 - Pulse Derating Curve

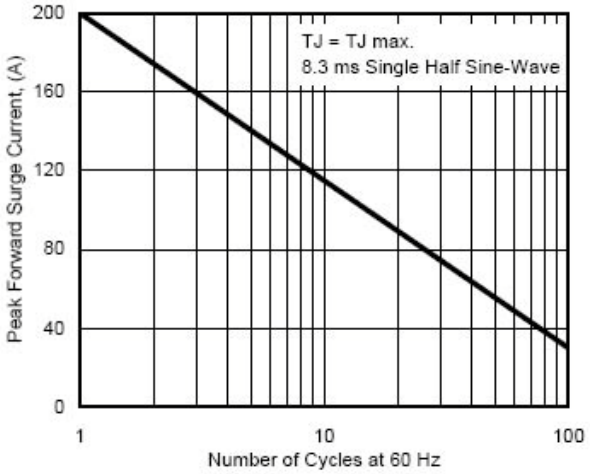


Fig. 2 - Maximum Non-Repetitive Surge Current

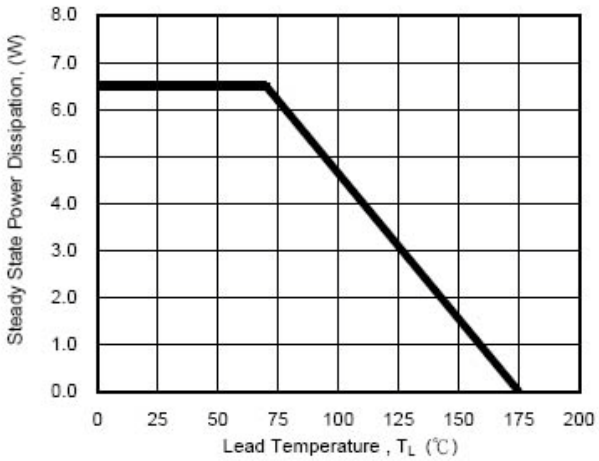


Fig. 3 - Steady State Power Derating Curve

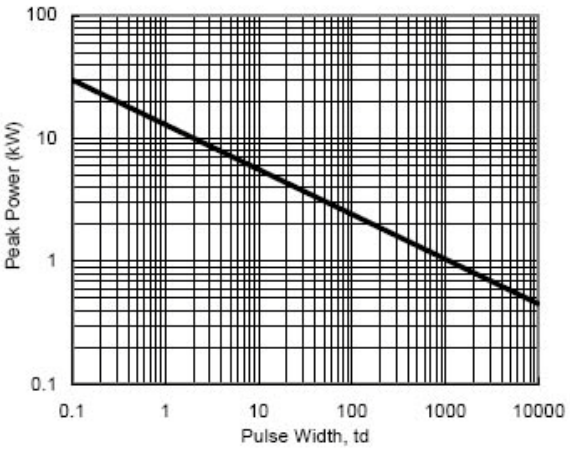


FIG.4 - Peak Pulse Power Rating Curve

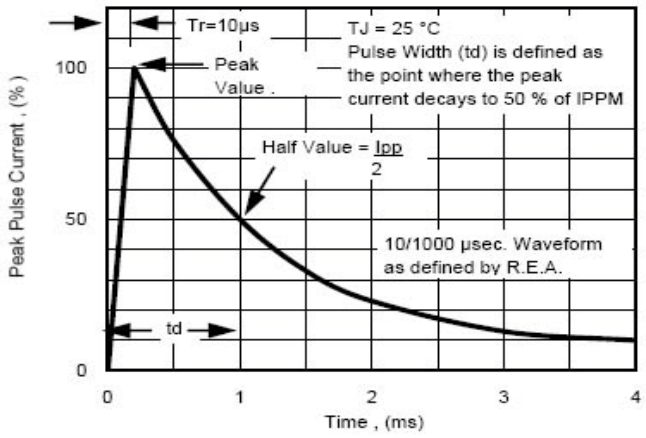


Fig. 5 - Pulse Waveform