

SMCJ1.5KE6.8A~SMCJ1.5KE550CA

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR POWER 1500 Watt

BREAK DOWN VOLTAGE 6.8 to 550 Volt

SMC / DO-214AB

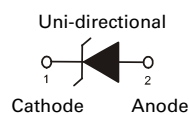
Unit:mm

FEATURES

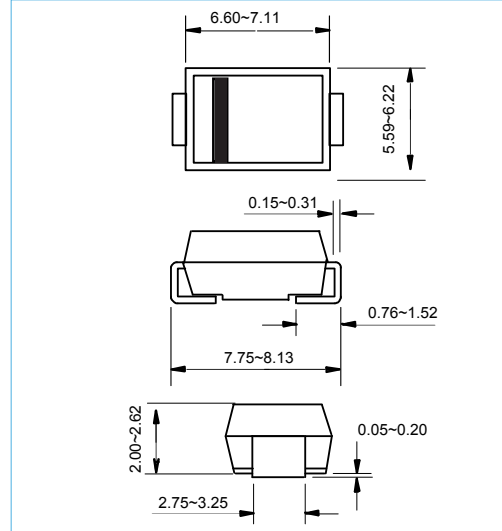
- Glass passivated junction
- Low inductance
- Plastic Material has UL Flammability Classification 94V-O
- Fast response time: typically less than 1.0ps from 0V to BV min
- High temperature soldering : 260°C /10 seconds at terminals
- ESD IEC-61000-4-2 Air ±30kV, Contact ±30kV
- Lead free in compliance with EU RoHS 2.0

MECHANICAL DATA

- Case: Molded plastic over passivated junction.
- Polarity: Color band denotes cathode end



For Uni-directional use A Suffix for types SMCJ1.5KE6.8A thru types SMCJ1.5KE550A.
For Bi-directional use CA Suffix for types SMCJ1.5KE6.8CA thru types SMCJ1.5KE550CA.



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Units
Peak Pulse Power Dissipation on $T_A = 25^\circ\text{C}$ (Notes 1,2,4, Fig.1)	P_{PP}	1500	Watts
Steady State Power Dissipation	$P_{M(AV)}$	6.5	W
Peak Forward Surge Current per Fig.5 (Notes 3)	I_{FSM}	200	Amps
Peak Pulse Current on $t_p=10/1000\mu\text{s}$ waveform (Notes 1)Fig.3	I_{PPM}	see Table 1	Amps
Typical Thermal Resistance Junction to Air (Notes 2)	$R_{\theta JA}$	75	$^\circ\text{C} / \text{W}$
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

NOTES :

1. Non-repetitive current pulse, per Fig.3 and derated above $T_A = 25^\circ\text{C}$ per Fig. 2.
2. Mounted on 5mm² copper pads to each terminal.
3. 8.3ms single half sine-wave, or equivalent square wave, duty cycle = 4 pulses per minutes maximum.
4. Peak pulse power waveform is 10/1000μs.
5. A transient suppressor is selected according to the working peak reverse voltage (V_{RWM}), which should be equal to or greater than the DC or continuous peak operating voltage level.

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ELECTRICAL CHARACTERISTICS @25°C

Part Number (Uni)	Part Number (Bi)	Marking		Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts) @ I_T		Test Current I_T (mA)	Maximum Clamping Voltage V_C @ I_{PP} (V)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage I_R @ V_R (μA)
		UNI	BI		MIN	MAX				
SMCJ1.5KE6.8A	SMCJ1.5KE6.8CA	6V8A	6V8C	5.80	6.45	7.14	10	10.5	144.8	1000
SMCJ1.5KE75A	SMCJ1.5KE75CA	7V5A	7V5C	6.40	7.13	7.88	10	11.3	134.5	500
SMCJ1.5KE8.2A	SMCJ1.5KE8.2CA	8V2A	8V2C	7.02	7.79	8.61	10	12.1	125.6	200
SMCJ1.5KE9.1A	SMCJ1.5KE9.1CA	9V1A	9V1C	7.78	8.65	9.50	1	13.4	113.4	50
SMCJ1.5KE10A	SMCJ1.5KE10CA	10A	10C	8.55	9.50	10.50	1	14.5	104.8	10
SMCJ1.5KE11A	SMCJ1.5KE11CA	11A	11C	9.40	10.50	11.60	1	15.6	97.4	5
SMCJ1.5KE12A	SMCJ1.5KE12CA	12A	12C	10.20	11.40	12.60	1	16.7	91.0	5
SMCJ1.5KE13A	SMCJ1.5KE13CA	13A	13C	11.10	12.40	13.70	1	18.2	83.5	1
SMCJ1.5KE15A	SMCJ1.5KE15CA	15A	15C	12.80	14.30	15.80	1	21.2	71.7	1
SMCJ1.5KE16A	SMCJ1.5KE16CA	16A	16C	13.60	15.20	16.80	1	22.5	67.6	1
SMCJ1.5KE18A	SMCJ1.5KE18CA	18A	18C	15.30	17.10	18.90	1	25.2	60.3	1
SMCJ1.5KE20A	SMCJ1.5KE20CA	20A	20C	17.10	19.00	21.00	1	27.7	54.9	1
SMCJ1.5KE22A	SMCJ1.5KE22CA	22A	22C	18.80	20.90	23.10	1	30.6	49.7	1
SMCJ1.5KE24A	SMCJ1.5KE24CA	24A	24C	20.50	22.80	25.20	1	33.2	45.8	1
SMCJ1.5KE27A	SMCJ1.5KE27CA	27A	27C	23.10	25.70	28.40	1	37.5	40.5	1
SMCJ1.5KE30A	SMCJ1.5KE30CA	30A	30C	25.60	28.50	31.50	1	41.4	36.7	1
SMCJ1.5KE33A	SMCJ1.5KE33CA	33A	33C	28.20	31.40	34.70	1	45.7	33.3	1
SMCJ1.5KE36A	SMCJ1.5KE36CA	36A	36C	30.80	34.20	37.80	1	49.9	30.5	1
SMCJ1.5KE39A	SMCJ1.5KE39CA	39A	39C	33.30	37.10	41.00	1	53.9	28.2	1
SMCJ1.5KE43A	SMCJ1.5KE43CA	43A	43C	36.80	40.90	45.20	1	59.3	25.6	1
SMCJ1.5KE47A	SMCJ1.5KE47CA	47A	47C	40.20	44.70	49.40	1	64.8	23.5	1
SMCJ1.5KE51A	SMCJ1.5KE51CA	51A	51C	43.60	48.50	53.60	1	70.1	21.7	1
SMCJ1.5KE56A	SMCJ1.5KE56CA	56A	56C	47.80	53.20	58.80	1	77.0	19.7	1
SMCJ1.5KE62A	SMCJ1.5KE62CA	62A	62C	53.00	58.90	65.10	1	85.0	17.9	1
SMCJ1.5KE68A	SMCJ1.5KE68CA	68A	68C	58.10	64.60	71.40	1	92.0	16.5	1
SMCJ1.5KE75A	SMCJ1.5KE75CA	75A	75C	64.10	71.30	78.80	1	103.0	14.8	1
SMCJ1.5KE82A	SMCJ1.5KE82CA	82A	82C	70.10	77.90	86.10	1	113.0	13.5	1
SMCJ1.5KE91A	SMCJ1.5KE91CA	91A	91C	77.80	86.50	95.50	1	125.0	12.2	1
SMCJ1.5KE100A	SMCJ1.5KE100CA	100A	100C	85.50	95.00	105.00	1	137.0	11.1	1
SMCJ1.5KE110A	SMCJ1.5KE110CA	110A	110C	94.00	105.00	116.00	1	152.0	10.0	1
SMCJ1.5KE120A	SMCJ1.5KE120CA	120A	120C	102.00	114.00	126.00	1	165.0	9.2	1
SMCJ1.5KE130A	SMCJ1.5KE130CA	130A	130C	111.00	124.00	137.00	1	179.0	8.5	1
SMCJ1.5KE150A	SMCJ1.5KE150CA	150A	150C	128.00	143.00	158.00	1	207.0	7.3	1
SMCJ1.5KE160A	SMCJ1.5KE160CA	160A	160C	136.00	152.00	168.00	1	219.0	6.9	1
SMCJ1.5KE170A	SMCJ1.5KE170CA	170A	170C	145.00	162.00	179.00	1	234.0	6.5	1
SMCJ1.5KE180A	SMCJ1.5KE180CA	180A	180C	154.00	171.00	189.00	1	246.0	6.2	1
SMCJ1.5KE200A	SMCJ1.5KE200CA	200A	200C	171.00	190.00	210.00	1	274.0	5.5	1
SMCJ1.5KE220A	SMCJ1.5KE220CA	220A	220C	185.00	209.00	231.00	1	328.0	4.6	1
SMCJ1.5KE250A	SMCJ1.5KE250CA	250A	250C	214.00	237.00	263.00	1	344.0	4.4	1
SMCJ1.5KE300A	SMCJ1.5KE300CA	300A	300C	256.00	285.00	315.00	1	414.0	3.7	1
SMCJ1.5KE350A	SMCJ1.5KE350CA	350A	350C	300.00	332.00	368.00	1	482.0	3.2	1
SMCJ1.5KE400A	SMCJ1.5KE400CA	400A	400C	342.00	380.00	420.00	1	548.0	2.8	1
SMCJ1.5KE440A	SMCJ1.5KE440CA	440A	440C	376.00	418.00	462.00	1	602.0	2.5	1
SMCJ1.5KE480A	SMCJ1.5KE480CA	480A	480C	408.00	456.00	504.00	1	658.0	2.3	1
SMCJ1.5KE510A	SMCJ1.5KE510CA	510A	510C	434.00	485.00	535.00	1	698.0	2.1	1
SMCJ1.5KE530A	SMCJ1.5KE530CA	530A	530C	451.00	503.50	556.50	1	725.0	2.1	1
SMCJ1.5KE540A	SMCJ1.5KE540CA	540A	540C	460.00	513.00	567.00	1	740.0	2.0	1
SMCJ1.5KE550A	SMCJ1.5KE550CA	550A	550C	468.00	522.50	577.50	1	760.0	2.0	1

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RATING AND CHARACTERISTIC CURVES

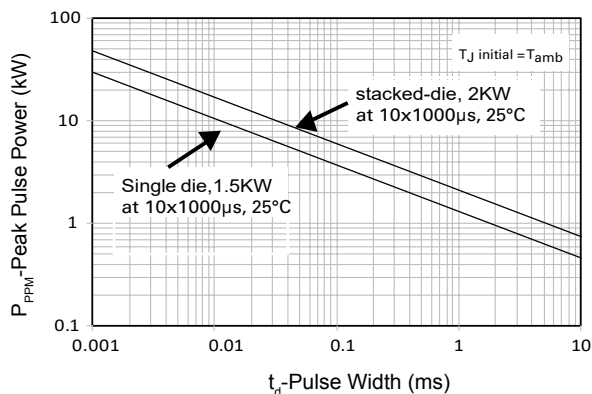


Fig.1 Pulse Power Rating Curve

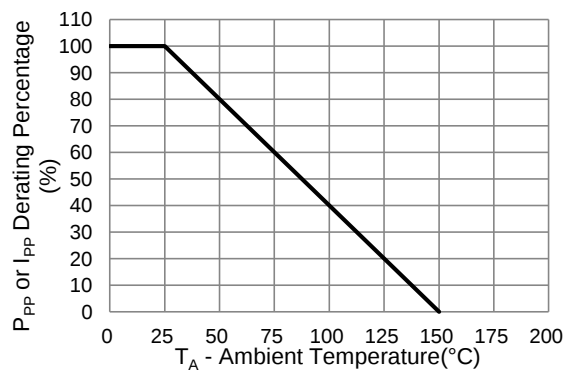


Fig.2 Derating Curve

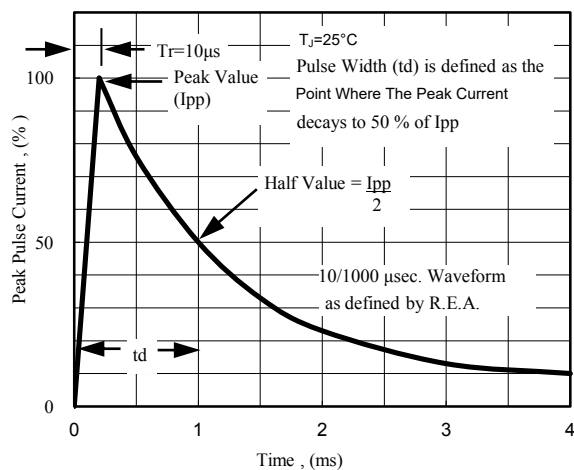


Fig. 3 - Pulse Waveform

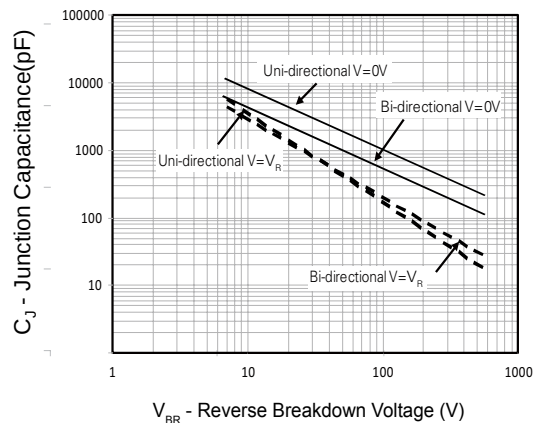


Fig.4 Typical Capacitance

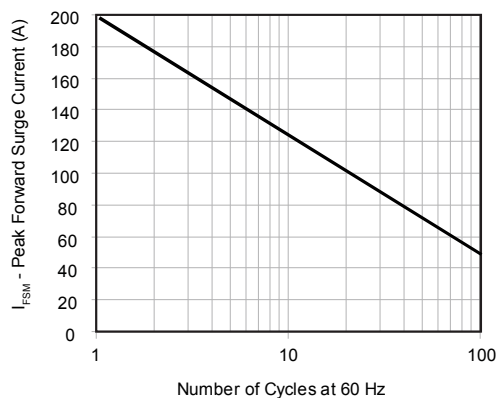


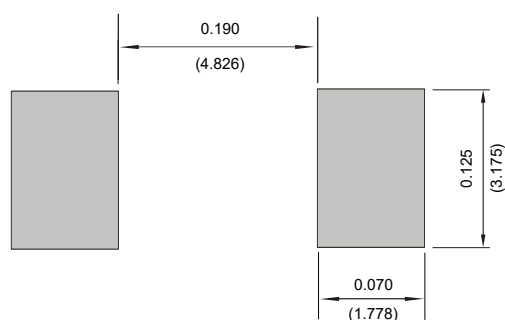
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

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MOUNTING PAD LAYOUT

SMC / DO-214AB

Unit:Inch(mm)



ORDER INFORMATION

- Packing information

Part Number	Case	Reel Size	QUANTITY
SMCJ1.5KE6.8A~SMCJ1.5KE550CA	SMC	13 Inch	3000