

SMAJP4KE6.8A~SMAJP4KE550CA

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR POWER 400 Watt

BREAK DOWN VOLTAGE 6.8 to 550 Volt

SMA / DO-214AC

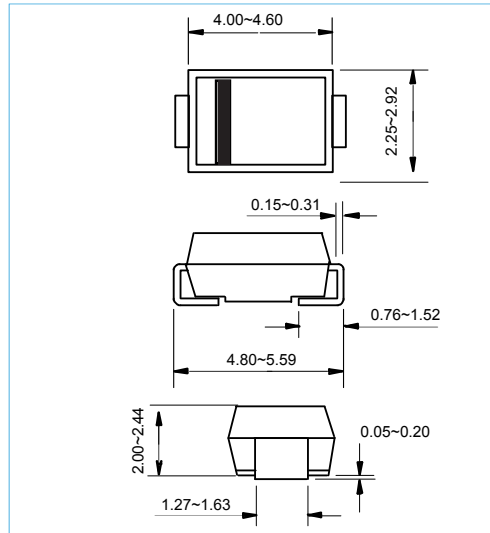
Unit:mm

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



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 1,2,5, Fig.1)	P_{PP}	400	Watts
ESD IEC-61000-4-2 (Air) ESD IEC-61000-4-2 (Contact)	V_{ESD}	± 30 ± 30	kV
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 3)	I_{FSM}	40	Amps
Peak Pulse Current on $t_p=10/1000\mu\text{s}$ waveform (Notes 1)	I_{PPM}	see Table 1	Amps
Typical Thermal Resistance Junction to Air (Notes 2)	$R_{\theta JA}$	120	$^\circ\text{C} / \text{W}$
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. Lead temperature at 75°C = T_L .
5. Peak pulse power waveform is 10/1000μs.
6. 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)	Maximum Temperature Coefficient of V_{BR} (%/°C)
		UNI	BI		MIN	MAX					
SMAJP4KE6.8A	SMAJP4KE6.8CA	6V8A	6V8C	5.80	6.45	7.14	10	10.5	39.0	1000	0.041
SMAJP4KE7.5A	SMAJP4KE7.5CA	7V5A	7V5C	6.40	7.13	7.88	10	11.3	36.3	500	0.052
SMAJP4KE8.2A	SMAJP4KE8.2CA	8V2A	8V2C	7.02	7.79	8.61	10	12.1	33.9	200	0.058
SMAJP4KE9.1A	SMAJP4KE9.1CA	9V1A	9V1C	7.78	8.65	9.55	1	13.4	30.6	50	0.063
SMAJP4KE10A	SMAJP4KE10CA	10A	10C	8.55	9.50	10.50	1	14.5	28.3	10	0.066
SMAJP4KE11A	SMAJP4KE11CA	11A	11C	9.40	10.50	11.60	1	15.6	26.3	5	0.069
SMAJP4KE12A	SMAJP4KE12CA	12A	12C	10.20	11.40	12.60	1	16.7	24.6	5	0.071
SMAJP4KE13A	SMAJP4KE13CA	13A	13C	11.10	12.40	13.70	1	18.2	22.5	1	0.074
SMAJP4KE15A	SMAJP4KE15CA	15A	15C	12.80	14.30	15.80	1	21.2	19.3	1	0.076
SMAJP4KE16A	SMAJP4KE16CA	16A	16C	13.60	15.20	16.80	1	22.5	18.2	1	0.080
SMAJP4KE18A	SMAJP4KE18CA	18A	18C	15.30	17.10	18.90	1	25.5	16.1	1	0.083
SMAJP4KE20A	SMAJP4KE20CA	20A	20C	17.10	19.00	21.00	1	27.7	14.8	1	0.085
SMAJP4KE22A	SMAJP4KE22CA	22A	22C	18.80	20.90	23.10	1	30.6	13.4	1	0.088
SMAJP4KE24A	SMAJP4KE24CA	24A	24C	20.50	22.80	25.20	1	33.2	12.3	1	0.091
SMAJP4KE27A	SMAJP4KE27CA	27A	27C	23.10	25.70	28.40	1	37.5	10.9	1	0.092
SMAJP4KE30A	SMAJP4KE30CA	30A	30C	25.60	28.50	31.50	1	41.4	9.9	1	0.093
SMAJP4KE33A	SMAJP4KE33CA	33A	33C	28.20	31.40	34.70	1	45.7	9.0	1	0.094
SMAJP4KE36A	SMAJP4KE36CA	36A	36C	30.80	34.20	37.80	1	49.9	8.2	1	0.096
SMAJP4KE39A	SMAJP4KE39CA	39A	39C	33.30	37.10	41.00	1	53.9	7.6	1	0.097
SMAJP4KE43A	SMAJP4KE43CA	43A	43C	36.80	40.90	45.20	1	59.3	6.9	1	0.098
SMAJP4KE47A	SMAJP4KE47CA	47A	47C	40.20	44.70	49.40	1	64.8	6.3	1	0.099
SMAJP4KE51A	SMAJP4KE51CA	51A	51C	43.60	48.50	53.60	1	70.1	5.8	1	0.100
SMAJP4KE56A	SMAJP4KE56CA	56A	56C	47.80	53.20	58.80	1	77.0	5.3	1	0.101
SMAJP4KE62A	SMAJP4KE62CA	62A	62C	53.00	58.90	65.10	1	85.0	4.8	1	0.102
SMAJP4KE68A	SMAJP4KE68CA	68A	68C	58.10	64.60	71.40	1	92.0	4.5	1	0.103
SMAJP4KE75A	SMAJP4KE75CA	75A	75C	64.10	71.30	78.80	1	103.0	4.0	1	0.104
SMAJP4KE82A	SMAJP4KE82CA	82A	82C	70.10	77.90	86.10	1	113.0	3.6	1	0.105
SMAJP4KE91A	SMAJP4KE91CA	91A	91C	77.80	86.50	95.50	1	125.0	3.3	1	0.106
SMAJP4KE100A	SMAJP4KE100CA	100A	100C	85.50	95.00	105.00	1	137.0	3.0	1	0.106
SMAJP4KE110A	SMAJP4KE110CA	110A	110C	94.00	105.00	116.00	1	152.0	2.7	1	0.107
SMAJP4KE120A	SMAJP4KE120CA	120A	120C	102.00	114.00	126.00	1	165.0	2.5	1	0.107
SMAJP4KE130A	SMAJP4KE130CA	130A	130C	111.00	124.00	137.00	1	179.0	2.3	1	0.107
SMAJP4KE150A	SMAJP4KE150CA	150A	150C	128.00	143.00	158.00	1	207.0	2.0	1	0.108
SMAJP4KE160A	SMAJP4KE160CA	160A	160C	136.00	152.00	168.00	1	219.0	1.9	1	0.108
SMAJP4KE170A	SMAJP4KE170CA	170A	170C	145.00	162.00	179.00	1	234.0	1.8	1	0.108
SMAJP4KE180A	SMAJP4KE180CA	180A	180C	154.00	171.00	189.00	1	246.0	1.7	1	0.108
SMAJP4KE200A	SMAJP4KE200CA	200A	200C	171.00	190.00	210.00	1	274.0	1.5	1	0.108
SMAJP4KE220A	SMAJP4KE220CA	220A	220C	185.00	209.00	231.00	1	328.0	1.3	1	0.110
SMAJP4KE250A	SMAJP4KE250CA	250A	250C	214.00	237.00	263.00	1	344.0	1.2	1	0.110
SMAJP4KE300A	SMAJP4KE300CA	300A	300C	256.00	285.00	315.00	1	414.0	1.0	1	0.110
SMAJP4KE350A	SMAJP4KE350CA	350A	350C	300.00	332.00	368.00	1	482.0	0.9	1	0.112
SMAJP4KE400A	SMAJP4KE400CA	400A	400C	342.00	380.00	420.00	1	548.0	0.8	1	0.112
SMAJP4KE440A	SMAJP4KE440CA	440A	440C	376.00	418.00	462.00	1	602.0	0.7	1	0.112
SMAJP4KE480A	SMAJP4KE480CA	480A	480C	408.00	456.00	504.00	1	658.0	0.6	1	0.112
SMAJP4KE510A	SMAJP4KE510CA	510A	510C	434.00	485.00	535.00	1	698.0	0.6	1	0.112
SMAJP4KE530A	SMAJP4KE530CA	530A	530C	451.00	503.50	556.50	1	725.0	0.6	1	0.112
SMAJP4KE540A	SMAJP4KE540CA	540A	540C	460.00	513.00	567.00	1	740.0	0.5	1	0.112
SMAJP4KE550A	SMAJP4KE550CA	550A	550C	468.00	522.50	577.50	1	760.0	0.5	1	0.112

For bidirectional type having V_R of 10 volts and less, the I_R limit is double.

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RATING AND CHARACTERISTIC CURVES

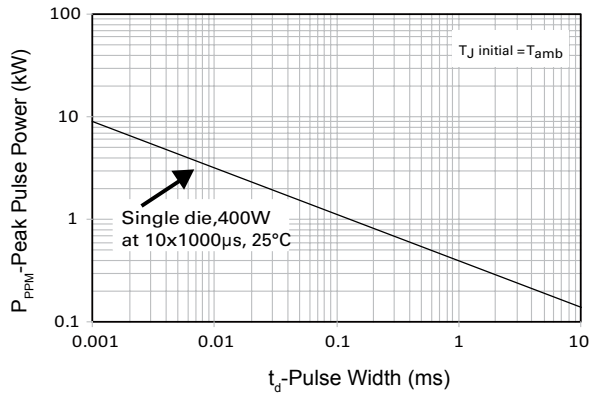


Fig.1 Pulse Power Rating Curve

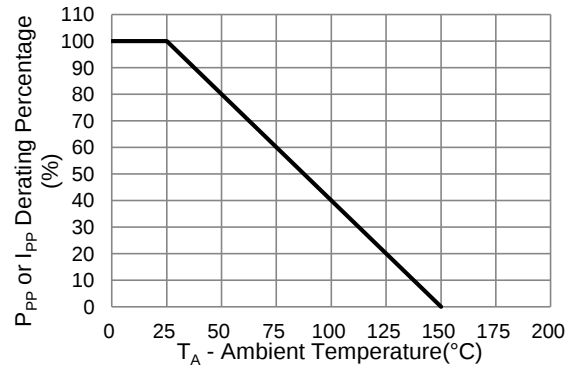


Fig.2 Derating Curve

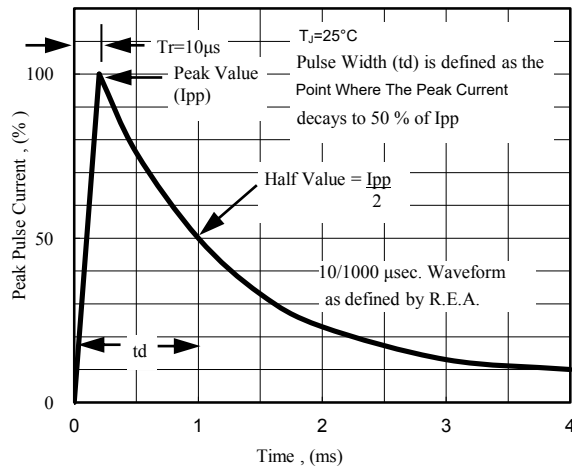


Fig.3 - Pulse Waveform

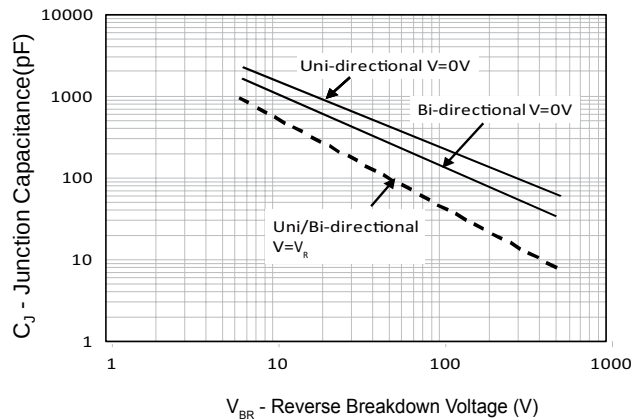


Fig.4 Typical Capacitance

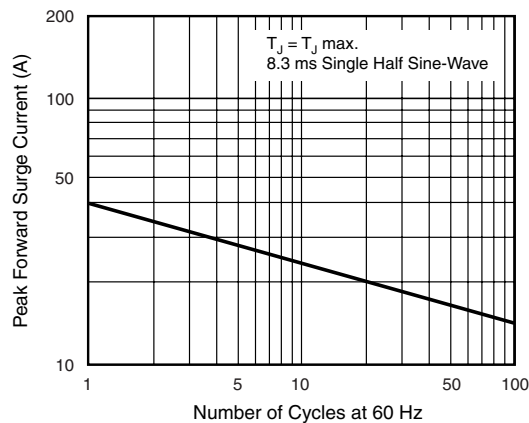


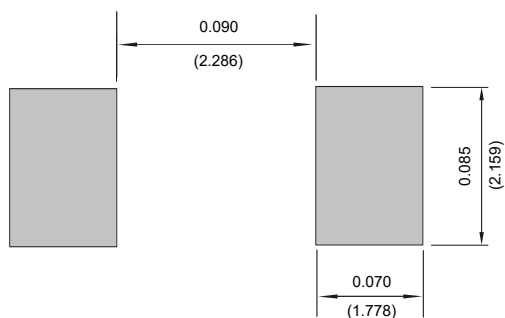
Fig 5. Maximum Non-Repetitive Forward Surge Current Uni-Directional Only

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MOUNTING PAD LAYOUT

SMA / DO-214AC

Unit:Inch(mm)



ORDER INFORMATION

- Packing information

Part Number	Case	Reel Size	QUANTITY
SMAJP4KE6.8A~SMAJP4KE550CA	SMA	13 Inch	5000