

# SMAJP4KE6.8(C)A THRU SMAJP4KE550(C)A

## Features

- For surface mount applications in order to optimize board space
- Halogen free available upon request by adding suffix "-HF"
- Low profile package
- Fast response time: typical less than 1.0ps from 0 volts to  $V_{BR}$  minimum
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- UL Recognized File # E331408
- Unidirectional and bidirectional available, for bidirectional devices add 'C' suffix to the pn#, i.e. SMAJP4KE6.8CA

## Mechanical Data

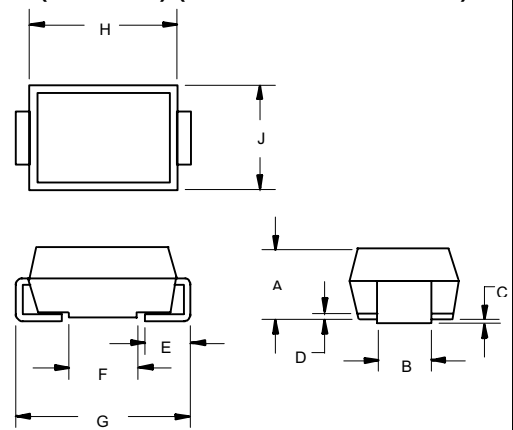
- CASE: JEDEC DO-214AC
- Terminals: solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes positive end (cathode) except Bidirectional
- Maximum soldering temperature: 260°C for 10 seconds
- Typical Thermal Resistance: 100°C/W Junction to Ambient

### Maximum Ratings @ 25°C Unless Otherwise Specified

Peak Pulse Current on 10/1000us waveform	$I_{PP}$	See Table 1	Note: 1
Peak Pulse Power Dissipation	$P_{PP}$	400W	Note: 1,
Operation And Storage Temperature Range	$T_J, T_{STG}$	-55°C to +175°C	

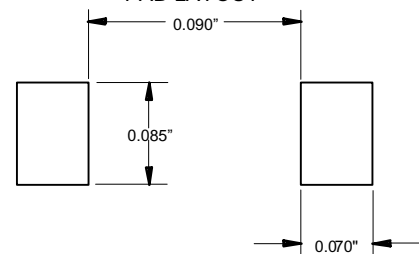
**Transient  
 Voltage Suppressor  
 6.8 to 550 Volts  
 400 Watt**

### DO-214AC (SMAJ)(LEAD FRAME)



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.079	.096	2.00	2.44	
B	.050	.064	1.27	1.63	
C	.002	.008	.05	.20	
D	---	.02	---	.51	
E	.030	.060	.76	1.52	
F	.065	.091	1.65	2.32	
G	.189	.220	4.80	5.59	
H	.157	.181	4.00	4.60	
J	.090	.115	2.25	2.92	

#### SUGGESTED SOLDER PAD LAYOUT



### NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above  $T_A=25^\circ\text{C}$  per Fig.2.
2. Mounted on 5.0mm<sup>2</sup> copper pads to each terminal.

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## ELECTRICAL CHARACTERISTICS @25°C

MCC PART NUMBER	REVERSE STAND-OFF VOLTAGE $V_{WM}$ (VOLTS)	BREAKDOWN VOLTAGE $V_{(BR)}$ @ $I_T$ (VOLTS)			MAXIMUM CLAMPING VOLTAGE @ $I_{PP}$ (VOLTS)	PEAK PULSE CURRENT $I_{PP}$ (AMPS)	MAXIMUM REVERSE LEAKAGE @ $V_{WM}$ $I_D$ ( $\mu$ A)	MARKING CODE
		MIN	MAX	$I_T$ (mA)				
SMAJP4KE6.8A	5.80	6.45	7.14	10	10.5	39.0	1000	6V8A
SMAJP4KE7.5A	6.40	7.13	7.88	10	11.3	36.3	500	7V5A
SMAJP4KE8.2A	7.02	7.79	8.61	10	12.1	33.9	200	8V2A
SMAJP4KE9.1A	7.78	8.65	9.55	1	13.4	30.6	50	9V1A
SMAJP4KE10A	8.55	9.50	10.50	1	14.5	28.3	10	10A
SMAJP4KE11A	9.40	10.50	11.60	1	15.6	26.3	5	11A
SMAJP4KE12A	10.20	11.40	12.60	1	16.7	24.6	5	12A
SMAJP4KE13A	11.10	12.40	13.70	1	18.2	22.5	1	13A
SMAJP4KE15A	12.80	14.30	15.80	1	21.2	19.3	1	15A
SMAJP4KE16A	13.60	15.20	16.80	1	22.5	18.2	1	16A
SMAJP4KE18A	15.30	17.10	18.90	1	25.5	16.1	1	18A
SMAJP4KE20A	17.10	19.00	21.00	1	27.7	14.8	1	20A
SMAJP4KE22A	18.80	20.90	23.10	1	30.6	13.4	1	22A
SMAJP4KE24A	20.50	22.80	25.20	1	33.2	12.3	1	24A
SMAJP4KE27A	23.10	25.70	28.40	1	37.5	10.9	1	27A
SMAJP4KE30A	25.60	28.50	31.50	1	41.4	9.9	1	30A
SMAJP4KE33A	28.20	31.40	34.70	1	45.7	9.0	1	33A
SMAJP4KE36A	30.80	34.20	37.80	1	49.9	8.2	1	36A
SMAJP4KE39A	33.30	37.10	41.00	1	53.9	7.6	1	39A
SMAJP4KE43A	36.80	40.90	45.20	1	59.3	6.9	1	43A
SMAJP4KE47A	40.20	44.70	49.40	1	64.8	6.3	1	47A
SMAJP4KE51A	43.60	48.50	53.60	1	70.1	5.8	1	51A
SMAJP4KE56A	47.80	53.20	58.80	1	77.0	5.3	1	56A
SMAJP4KE62A	53.00	58.90	65.10	1	85.0	4.8	1	62A
SMAJP4KE68A	58.10	64.60	71.40	1	92.0	4.5	1	68A
SMAJP4KE75A	64.10	71.30	78.80	1	103.0	4.0	1	75A
SMAJP4KE82A	70.10	77.90	86.10	1	113.0	3.6	1	82A
SMAJP4KE91A	77.80	86.50	95.50	1	125.0	3.3	1	91A
SMAJP4KE100A	85.50	95.00	105.00	1	137.0	3.0	1	100A
SMAJP4KE110A	94.00	105.00	116.00	1	152.0	2.7	1	110A
SMAJP4KE120A	102.00	114.00	126.00	1	165.0	2.5	1	120A
SMAJP4KE130A	111.00	124.00	137.00	1	179.0	2.3	1	130A
SMAJP4KE150A	128.00	143.00	158.00	1	207.0	2.0	1	150A
SMAJP4KE160A	136.00	152.00	168.00	1	219.0	1.9	1	160A
SMAJP4KE170A	145.00	162.00	179.00	1	234.0	1.8	1	170A
SMAJP4KE180A	154.00	171.00	189.00	1	246.0	1.7	1	180A
SMAJP4KE200A	171.00	190.00	210.00	1	274.0	1.5	1	200A
SMAJP4KE220A	185.00	209.00	231.00	1	328.0	1.3	1	220A
SMAJP4KE250A	214.00	237.00	263.00	1	344.0	1.2	1	250A
SMAJP4KE300A	256.00	285.00	315.00	1	414.0	1.0	1	300A
SMAJP4KE350A	300.00	332.00	368.00	1	482.0	0.9	1	350A
SMAJP4KE400A	342.00	380.00	420.00	1	548.0	0.8	1	400A
SMAJP4KE440A	376.00	418.00	462.00	1	602.0	0.7	1	440A
SMAJP4KE480A	408.00	456.00	504.00	1	658.0	0.6	1	480A
SMAJP4KE510A	434.00	485.00	535.00	1	698.0	0.6	1	510A
SMAJP4KE530A	477.00	503.50	556.50	1	725.0	0.6	1	530A
SMAJP4KE540A	459.00	513.00	567.00	1	740.0	0.5	1	540A
SMAJP4KE550A	495.00	522.50	577.50	1	760.0	0.5	1	550A

For bi-directional type having  $V_{rwm}$  of 10 volts and less, the  $I_R$  limit is double.

The available parts are "A" type only, the parts without A ( $V_{BR}$  is  $\pm 10\%$ ) is not available.

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		MIN	MAX	$I_T$ (mA)				
SMAJP4KE6.8CA	5.80	6.45	7.14	10	10.5	39.0	1000	6V8C
SMAJP4KE7.5CA	6.40	7.13	7.88	10	11.3	36.3	500	7V5C
SMAJP4KE8.2CA	7.02	7.79	8.61	10	12.1	33.9	200	8V2C
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SMAJP4KE11CA	9.40	10.50	11.60	1	15.6	26.3	5	11C
SMAJP4KE12CA	10.20	11.40	12.60	1	16.7	24.6	5	12C
SMAJP4KE13CA	11.10	12.40	13.70	1	18.2	22.5	1	13C
SMAJP4KE15CA	12.80	14.30	15.80	1	21.2	19.3	1	15C
SMAJP4KE16CA	13.60	15.20	16.80	1	22.5	18.2	1	16C
SMAJP4KE18CA	15.30	17.10	18.90	1	25.5	16.1	1	18C
SMAJP4KE20CA	17.10	19.00	21.00	1	27.7	14.8	1	20C
SMAJP4KE22CA	18.80	20.90	23.10	1	30.6	13.4	1	22C
SMAJP4KE24CA	20.50	22.80	25.20	1	33.2	12.3	1	24C
SMAJP4KE27CA	23.10	25.70	28.40	1	37.5	10.9	1	27C
SMAJP4KE30CA	25.60	28.50	31.50	1	41.4	9.9	1	30C
SMAJP4KE33CA	28.20	31.40	34.70	1	45.7	9.0	1	33C
SMAJP4KE36CA	30.80	34.20	37.80	1	49.9	8.2	1	36C
SMAJP4KE39CA	33.30	37.10	41.00	1	53.9	7.6	1	39C
SMAJP4KE43CA	36.80	40.90	45.20	1	59.3	6.9	1	43C
SMAJP4KE47CA	40.20	44.70	49.40	1	64.8	6.3	1	47C
SMAJP4KE51CA	43.60	48.50	53.60	1	70.1	5.8	1	51C
SMAJP4KE56CA	47.80	53.20	58.80	1	77.0	5.3	1	56C
SMAJP4KE62CA	53.00	58.90	65.10	1	85.0	4.8	1	62C
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SMAJP4KE75CA	64.10	71.30	78.80	1	103.0	4.0	1	75C
SMAJP4KE82CA	70.10	77.90	86.10	1	113.0	3.6	1	82C
SMAJP4KE91CA	77.80	86.50	95.50	1	125.0	3.3	1	91C
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Fig 1. Peak Pulse Power Rating Curve

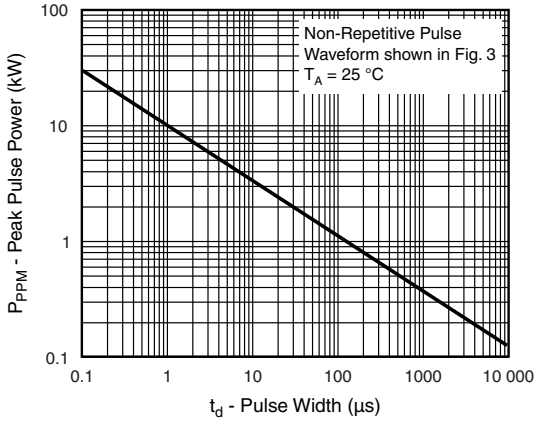


Fig 2. Pulse Power or Current vs. Initial Junction Temperature

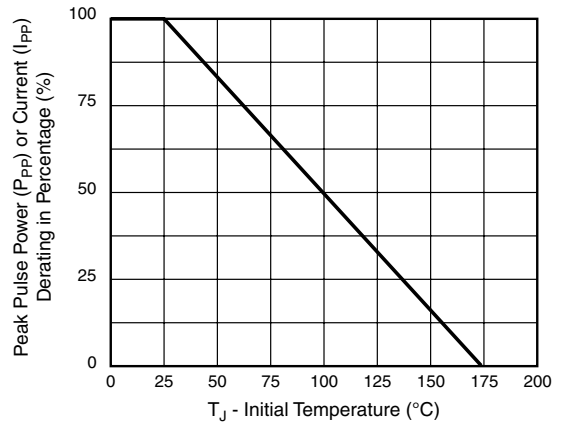


Fig 3. Pulse Waveform

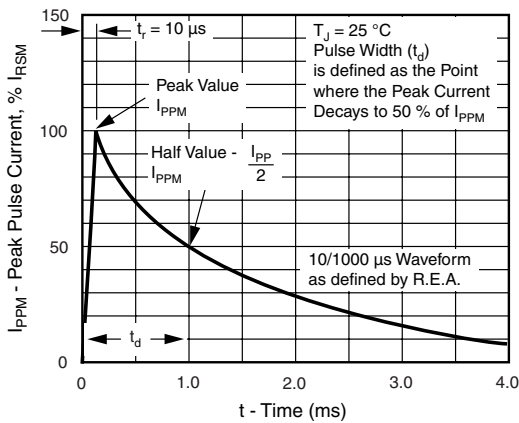


Fig 4. Typical Junction Capacitance Uni-Directional

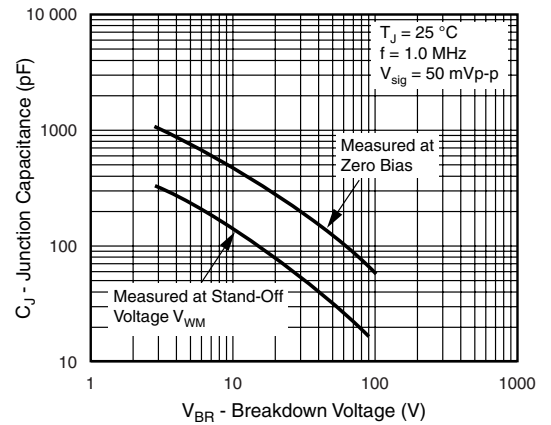
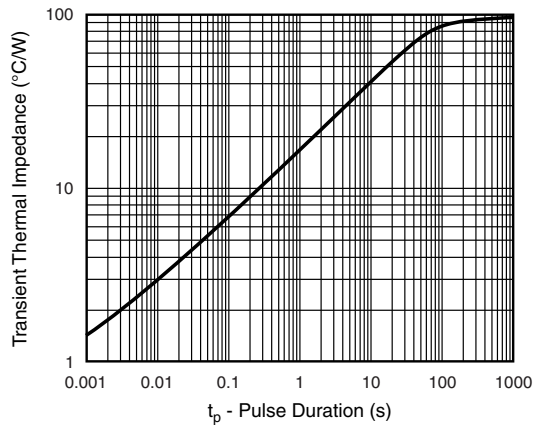


Fig 5. Typical Transient Thermal Impedance





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### Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 5Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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