



Micro Commercial Components
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P4SMAJ6.8(C)A THRU P4SMAJ550(C)A

Features

- For surface mount applications in order to optimize board space
- Low profile package
- Fast response time: typical less than 1.0ps from 0 volts to V_{BR} minimum
- Low inductance
- Excellent clamping capability

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: 250°C for 10 seconds

Maximum Ratings @ 25°C Unless Otherwise Specified

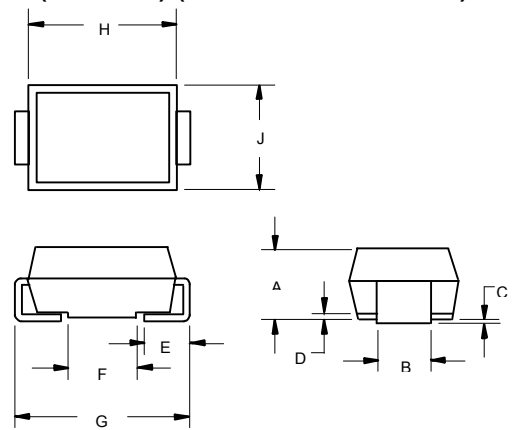
Peak Pulse Current on 10/1000us waveform	I_{PP}	See Table 1	Note: 1
Peak Pulse Power Dissipation	P_{PP}	400W	Note: 1,
Peak Forward Surge Current	I_{FSM}	40A	Note: 3
Operation And Storage Temperature Range	T_J, T_{STG}	-55°C to +150°C	

NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^\circ\text{C}$ per Fig.2.
2. Mounted on 5.0mm² copper pads to each terminal.
3. 8.3ms, single half sine wave duty cycle=4 pulses per. Minute maximum.

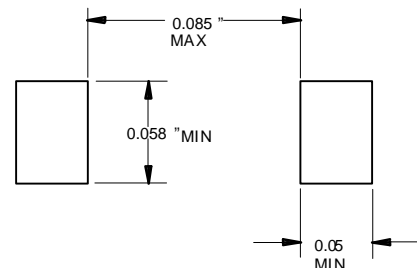
Transient Voltage Suppressor 6.8 to 550 Volts 400 Watt

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



P4SMAJ6.8(C)A THRU P4SMAJ550(C)A



ELECTRICAL CHARACTERISTICS @25°C

MCC PART NUMBER	REVERSE STANDING VOLTAGE V_{RWM} (VOLTS)	BREAKDOWN VOLTAGE V_{BR} @ I_T (VOLTS)			MAXIMUM CLAMPING VOLTAGE @ I_{PP} (VOLTS)	PEAK REVERSE CURRENT I_{PR} (AMPS)	MAXIMUM REVERSE LEAKAGE @ V_{RWM} I_b (μ A)	MARKING CODE
		MIN	MAX	I_T (mA)				
P4SMAJ6.8A	5.80	6.45	7.14	10	10.5	39.0	1000	6V8A
P4SMAJ7.5A	6.40	7.13	7.88	10	11.3	36.3	500	7V5A
P4SMAJ8.2A	7.02	7.79	8.61	10	12.1	33.9	200	8V2A
P4SMAJ9.1A	7.78	8.65	9.55	1	13.4	30.6	50	9V1A
P4SMAJ10A	8.55	9.50	10.50	1	14.5	28.3	10	10A
P4SMAJ11A	9.40	10.50	11.60	1	15.6	26.3	5	11A
P4SMAJ12A	10.20	11.40	12.60	1	16.7	24.6	5	12A
P4SMAJ13A	11.10	12.40	13.70	1	18.2	22.5	5	13A
P4SMAJ15A	12.80	14.30	15.80	1	21.2	19.3	5	15A
P4SMAJ16A	13.60	15.20	16.80	1	22.5	18.2	5	16A
P4SMAJ18A	15.30	17.10	18.90	1	25.5	16.1	5	18A
P4SMAJ20A	17.10	19.00	21.00	1	27.7	14.8	5	20A
P4SMAJ22A	18.80	20.90	23.10	1	30.6	13.4	5	22A
P4SMAJ24A	20.50	22.80	25.20	1	33.2	12.3	5	24A
P4SMAJ27A	23.10	25.70	28.40	1	37.5	10.9	5	27A
P4SMAJ30A	25.60	28.50	31.50	1	41.4	9.9	5	30A
P4SMAJ33A	28.20	31.40	34.70	1	45.7	9.0	5	33A
P4SMAJ36A	30.80	34.20	37.80	1	49.9	8.2	5	36A
P4SMAJ39A	33.30	37.10	41.00	1	53.9	7.6	5	39A
P4SMAJ43A	36.80	40.90	45.20	1	59.3	6.9	5	43A
P4SMAJ47A	40.20	44.70	49.40	1	64.8	6.3	5	47A
P4SMAJ51A	43.60	48.50	53.60	1	70.1	5.8	5	51A
P4SMAJ56A	47.80	53.20	58.80	1	77.0	5.3	5	56A
P4SMAJ62A	53.00	58.90	65.10	1	85.0	4.8	5	62A
P4SMAJ68A	58.10	64.60	71.40	1	92.0	4.5	5	68A
P4SMAJ75A	64.10	71.30	78.80	1	103.0	4.0	5	75A
P4SMAJ82A	70.10	77.90	86.10	1	113.0	3.6	5	82A
P4SMAJ91A	77.80	86.50	95.50	1	125.0	3.3	5	91A
P4SMAJ100A	85.50	95.00	105.00	1	137.0	3.0	5	100A
P4SMAJ110A	94.00	105.00	116.00	1	152.0	2.7	5	110A
P4SMAJ120A	102.00	114.00	126.00	1	165.0	2.5	5	120A
P4SMAJ130A	111.00	124.00	137.00	1	179.0	2.3	5	130A
P4SMAJ150A	128.00	143.00	158.00	1	207.0	2.0	5	150A
P4SMAJ160A	136.00	152.00	168.00	1	219.0	1.9	5	160A
P4SMAJ170A	145.00	162.00	179.00	1	234.0	1.8	5	170A
P4SMAJ180A	154.00	171.00	189.00	1	246.0	1.7	5	180A
P4SMAJ200A	171.00	190.00	210.00	1	274.0	1.5	5	200A
P4SMAJ220A	185.00	209.00	231.00	1	328.0	1.3	5	220A
P4SMAJ250A	214.00	237.00	263.00	1	344.0	1.2	5	250A
P4SMAJ300A	256.00	285.00	315.00	1	414.0	1.0	5	300A
P4SMAJ350A	300.00	332.00	368.00	1	482.0	0.9	5	350A
P4SMAJ400A	342.00	380.00	420.00	1	548.0	0.8	5	400A
P4SMAJ440A	376.00	418.00	462.00	1	602.0	0.7	5	440A
P4SMAJ480A	408.00	456.00	504.00	1	658.0	0.6	5	480A
P4SMAJ510A	434.00	485.00	535.00	1	698.0	0.6	5	510A
P4SMAJ530A	477.00	503.50	556.50	1	725.0	0.6	5	530A
P4SMAJ540A	459.00	513.00	567.00	1	740.0	0.5	5	540A
P4SMAJ550A	495.00	522.50	577.50	1	760.0	0.5	5	550A

For bi-directional type having V_{RWM} of 10 volts and less, the I_T limit is double.
 The available parts are "A" type only, the parts without A (V_{BR} is $\pm 10\%$) is not available.

P4SMAJ6.8(C)A THRU P4SMAJ550(C)A



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 (μA)	MARKING CODE
		MIN	MAX	I_T (mA)				
P4SMAJ6.8CA	5.80	6.45	7.14	10	10.5	39.0	1000	6V8C
P4SMAJ7.5CA	6.40	7.13	7.88	10	11.3	36.3	500	7V5C
P4SMAJ8.2CA	7.02	7.79	8.61	10	12.1	33.9	200	8V2C
P4SMAJ9.1CA	7.78	8.65	9.55	1	13.4	30.6	50	9V1C
P4SMAJ10CA	8.55	9.50	10.50	1	14.5	28.3	10	10C
P4SMAJ11CA	9.40	10.50	11.60	1	15.6	26.3	5	11C
P4SMAJ12CA	10.20	11.40	12.60	1	16.7	24.6	5	12C
P4SMAJ13CA	11.10	12.40	13.70	1	18.2	22.5	5	13C
P4SMAJ15CA	12.80	14.30	15.80	1	21.2	19.3	5	15C
P4SMAJ16CA	13.60	15.20	16.80	1	22.5	18.2	5	16C
P4SMAJ18CA	15.30	17.10	18.90	1	25.5	16.1	5	18C
P4SMAJ20CA	17.10	19.00	21.00	1	27.7	14.8	5	20C
P4SMAJ22CA	18.80	20.90	23.10	1	30.6	13.4	5	22C
P4SMAJ24CA	20.50	22.80	25.20	1	33.2	12.3	5	24C
P4SMAJ27CA	23.10	25.70	28.40	1	37.5	10.9	5	27C
P4SMAJ30CA	25.60	28.50	31.50	1	41.4	9.9	5	30C
P4SMAJ33CA	28.20	31.40	34.70	1	45.7	9.0	5	33C
P4SMAJ36CA	30.80	34.20	37.80	1	49.9	8.2	5	36C
P4SMAJ39CA	33.30	37.10	41.00	1	53.9	7.6	5	39C
P4SMAJ43CA	36.80	40.90	45.20	1	59.3	6.9	5	43C
P4SMAJ47CA	40.20	44.70	49.40	1	64.8	6.3	5	47C
P4SMAJ51CA	43.60	48.50	53.60	1	70.1	5.8	5	51C
P4SMAJ56CA	47.80	53.20	58.80	1	77.0	5.3	5	56C
P4SMAJ62CA	53.00	58.90	65.10	1	85.0	4.8	5	62C
P4SMAJ68CA	58.10	64.60	71.40	1	92.0	4.5	5	68C
P4SMAJ75CA	64.10	71.30	78.80	1	103.0	4.0	5	75C
P4SMAJ82CA	70.10	77.90	86.10	1	113.0	3.6	5	82C
P4SMAJ91CA	77.80	86.50	95.50	1	125.0	3.3	5	91C
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P4SMAJ150CA	128.00	143.00	158.00	1	207.0	2.0	5	150C
P4SMAJ160CA	136.00	152.00	168.00	1	219.0	1.9	5	160C
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P4SMAJ180CA	154.00	171.00	189.00	1	246.0	1.7	5	180C
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P4SMAJ350CA	300.00	332.00	368.00	1	482.0	0.9	5	350C
P4SMAJ400CA	342.00	380.00	420.00	1	548.0	0.8	5	400C
P4SMAJ440CA	376.00	418.00	462.00	1	602.0	0.7	5	440C
P4SMAJ480CA	408.00	456.00	504.00	1	658.0	0.6	5	480C
P4SMAJ510CA	434.00	485.00	535.00	1	698.0	0.6	5	510C
P4SMAJ530CA	477.00	503.50	556.50	1	725.0	0.6	5	530C
P4SMAJ540CA	459.00	513.00	567.00	1	740.0	0.5	5	540C
P4SMAJ550CA	495.00	522.50	577.50	1	760.0	0.5	5	550C

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Fig. 1 - Peak Pulse Power Rating

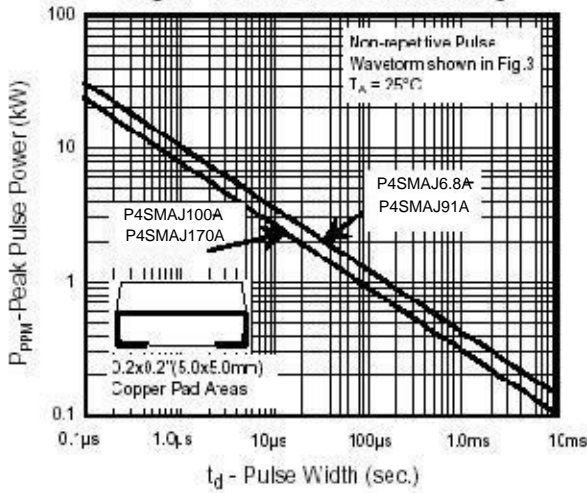


Fig.2 - Pulse Derating Curve

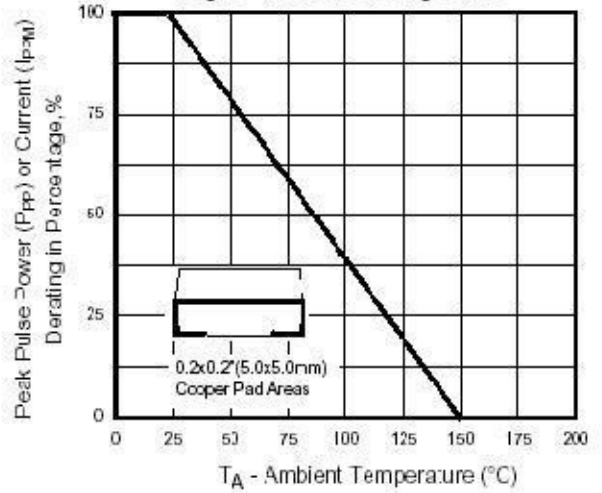


Fig.3 - Pulse Waveform

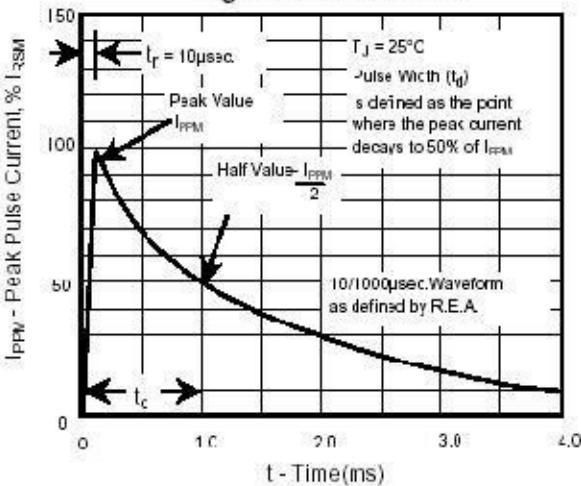


Fig.4 - Typical Junction Capacitance

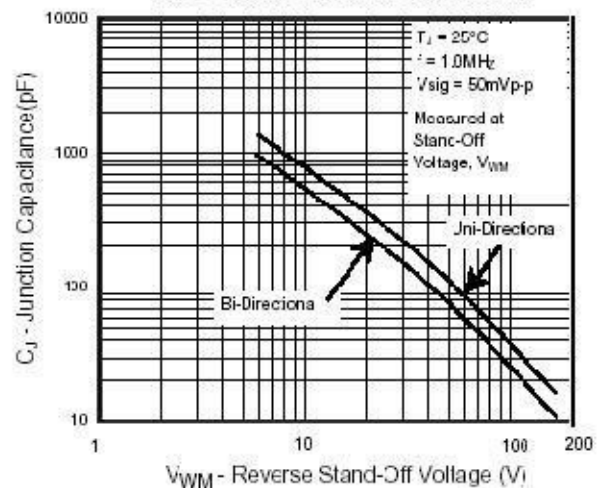


Fig. 5 - Typ. Transient Thermal Impedance

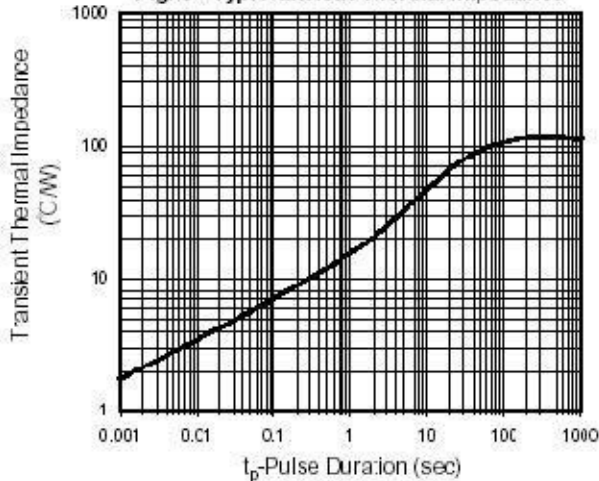


Fig.6 - Maximum Non-Repetitive Peak Forward Surge Current Uni-Directional Only

