



Micro Commercial Components

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# P4SMAJ5.0 THRU P4SMAJ440CA

## Features

- For Surface Mount Applications
- Unidirectional And Bidirectional
- Low Inductance
- High Temp Soldering: 250°C for 10 Seconds At Terminals
- For Bidirectional Devices Add "C" To The Suffix Of The Part Number: i.e.SMAJ5.0C or P4SMAJ5.0CA for 5% Tolerance
- P4SMAJ5.0~P4SMAJ440CA also can be named as SMAJ5.0~SMAJ440CA and have the same electrical spec
- UL Recognized File # E222849

## Mechanical Data

- Case: JEDEC DO-214AC
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Indicated by cathode band except bi-directional types

## Maximum Rating:

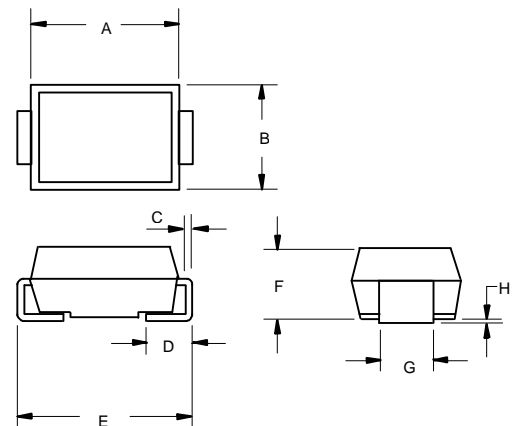
- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Typical Thermal Resistance: 25°C/W Junction to Ambient

Peak Pulse Current on 10/1000µs Waveform	I <sub>PPM</sub>	See Table 1	Note 1
Peak Pulse Power Dissipation	P <sub>PPM</sub>	Min 400 W	Note 1, 5
Steady State Power Dissipation	P <sub>M(AV)</sub>	1.0 W	Note 2, 4
Peak Forward Surge Current	I <sub>FSM</sub>	40A	Note:4

- Notes: 1. Non-repetitive current pulse, per Fig.3 and derated above T<sub>A</sub>=25°C per Fig.2.  
 2. Mounted on 5.0mm<sup>2</sup> copper pads to each terminal.  
 3. 8.3ms, single half sine wave duty cycle = 4 pulses per Minutes maximum.  
 4. Lead temperature at T<sub>L</sub> = 75°C.  
 5. Peak pulse power waveform is 10/1000µs.

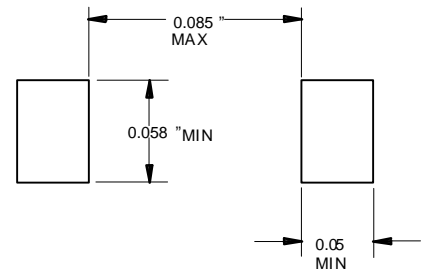
## 400 Watt Transient Voltage Suppressors 5.0 to 440 Volts

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



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.157	.181	4.00	4.60	
B	.098	.114	2.50	2.90	
C	.006	.012	0.152	0.305	
D	.030	.060	0.76	1.52	
E	.188	.208	4.80	5.28	
F	.078	.096	2.00	2.44	
G	.055	.062	1.40	1.60	
H	.002	.008	0.051	0.203	

### SUGGESTED SOLDER PAD LAYOUT



# P4SMAJ5.0 thru P4SMAJ440CA

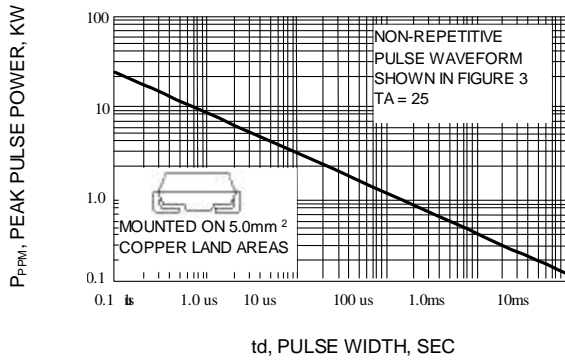


Fig. 1-PEAK PULSE POWER RATING CURVE

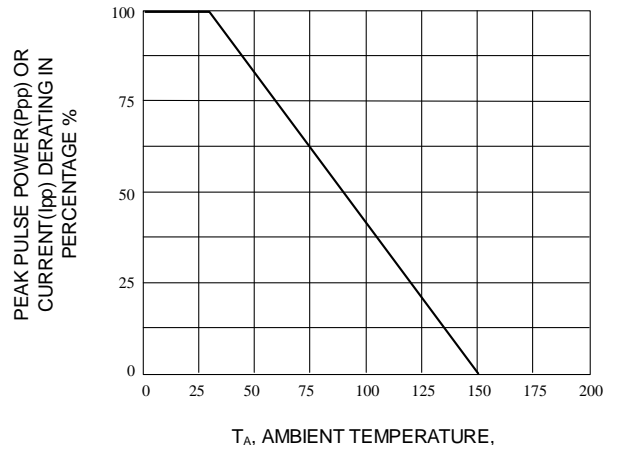


Fig. 2-PULSE RATING CURVE

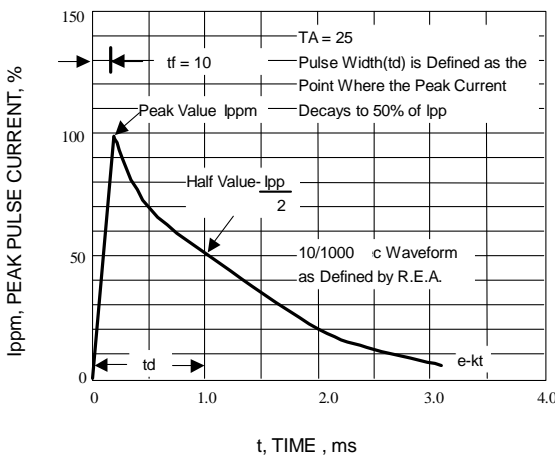


Fig. 3-PULSE WAVEFORM

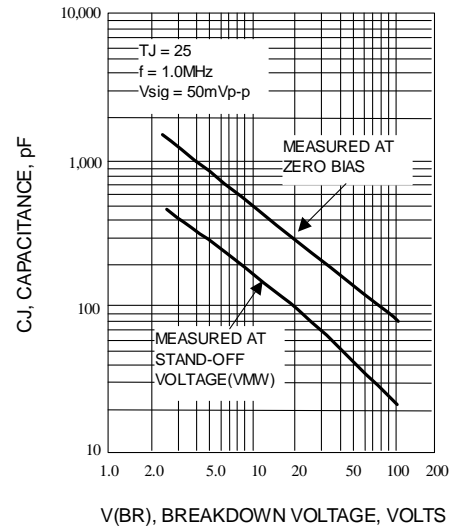


Fig. 4-TYPICAL JUNCTION CAPACITANCE

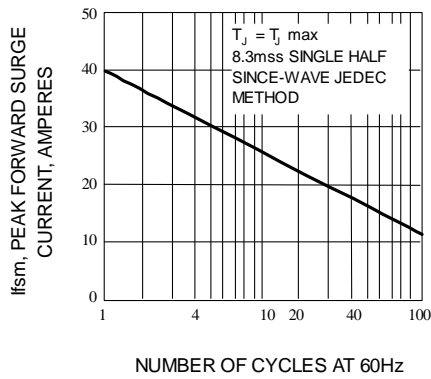


Fig. 5-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

# P4SMAJ5.0 thru P4SMAJ440CA

## ELECTRICAL CHARACTERISTICS @25°C

MCC PART NUMBER		REVERSE STAND-OFF VOLTAGE $V_{WM}$	BREAKDOWN VOLTAGE $V_{(BR)}$ @ $I_T$ (VOLTS)			MAXIMUM CLAMPING VOLTAGE @ $I_{PP}$	PEAK PULSE CURRENT $I_{PP}$	MAXIMUM REVERSE LEAKAGE @ $V_{WM}$ $I_D$	MARKING CODE	
UNI-POLAR	BI-POLAR	(VOLTS)	MIN	MAX	$I_T$ (mA)	(VOLTS)	(AMPS)	( $\mu$ A)	1	2
P4SMAJ5.0A	P4SMAJ5.0CA	5.0	6.40	7.00	10	9.2	43.5	800	AE	WE
P4SMAJ6.0A	P4SMAJ6.0CA	6.0	6.67	7.37	10	10.3	38.8	800	AG	WG
P4SMAJ6.5A	P4SMAJ6.5CA	6.5	7.22	7.98	10	11.2	35.7	500	AK	WK
P4SMAJ7.0A	P4SMAJ7.0CA	7.0	7.78	8.60	10	12.0	33.3	200	AM	WM
P4SMAJ7.5A	P4SMAJ7.5CA	7.5	8.33	9.21	1	12.9	31.0	100	AP	WP
P4SMAJ8.0A	P4SMAJ8.0CA	8.0	8.89	9.83	1	13.6	29.4	50	AR	WR
P4SMAJ8.5A	P4SMAJ8.5CA	8.5	9.44	10.4	1	14.4	27.7	10	AT	WT
P4SMAJ9.0A	P4SMAJ9.0CA	9.0	10.0	11.1	1	15.4	26.0	5	AV	WV
P4SMAJ10A	P4SMAJ10CA	10	11.1	12.3	1	17.0	23.5	5	AX	WX
P4SMAJ11A	P4SMAJ11CA	11	12.2	13.5	1	18.2	22.0	5	AZ	WZ
P4SMAJ12A	P4SMAJ12CA	12	13.3	14.7	1	19.9	20.1	5	BE	XE
P4SMAJ13A	P4SMAJ13CA	13	14.4	15.9	1	21.5	18.6	5	BG	XG
P4SMAJ14A	P4SMAJ14CA	14	15.6	17.2	1	23.2	17.2	5	BK	XK
P4SMAJ15A	P4SMAJ15CA	15	16.7	18.5	1	24.4	16.4	5	BM	XM
P4SMAJ16A	P4SMAJ16CA	16	17.8	19.7	1	26.0	15.3	5	BP	XP
P4SMAJ17A	P4SMAJ17CA	17	18.9	20.9	1	27.6	14.5	5	BR	XR
P4SMAJ18A	P4SMAJ18CA	18	20.0	22.1	1	29.2	13.7	5	BT	XT
P4SMAJ20A	P4SMAJ20CA	20	22.2	24.5	1	32.4	12.3	5	BV	XV
P4SMAJ22A	P4SMAJ22CA	22	24.4	26.9	1	35.5	11.2	5	BX	XY
P4SMAJ24A	P4SMAJ24CA	24	26.7	29.5	1	38.9	10.3	5	BZ	XZ
P4SMAJ26A	P4SMAJ26CA	26	28.9	31.9	1	42.1	9.5	5	CE	YE
P4SMAJ28A	P4SMAJ28CA	28	31.1	34.4	1	45.4	8.8	5	CG	YG
P4SMAJ30A	P4SMAJ30CA	30	33.3	36.8	1	48.4	8.3	5	CK	YK
P4SMAJ33A	P4SMAJ33CA	33	36.7	40.6	1	53.3	7.5	5	CM	YM
P4SMAJ36A	P4SMAJ36CA	36	40.0	44.2	1	58.1	6.9	5	CP	YP
P4SMAJ40A	P4SMAJ40CA	40	44.4	49.1	1	64.5	6.2	5	CR	YR
P4SMAJ43A	P4SMAJ43CA	43	47.8	52.8	1	69.4	5.7	5	CT	YT
P4SMAJ45A	P4SMAJ45CA	45	50.0	55.3	1	72.7	5.5	5	CV	YV
P4SMAJ48A	P4SMAJ48CA	48	53.3	58.9	1	77.4	5.2	5	CX	YX
P4SMAJ51A	P4SMAJ51CA	51	56.7	62.7	1	82.4	4.9	5	CZ	YZ
P4SMAJ54A	P4SMAJ54CA	54	60.0	66.3	1	87.1	4.6	5	RE	ZE
P4SMAJ58A	P4SMAJ58CA	58	64.4	71.2	1	93.6	4.3	5	RG	ZG
P4SMAJ60A	P4SMAJ60CA	60	66.7	73.7	1	96.8	4.1	5	RK	ZK
P4SMAJ64A	P4SMAJ64CA	64	71.1	78.6	1	103	3.9	5	RM	ZM
P4SMAJ70A	P4SMAJ70CA	70	77.8	86.0	1	113	3.5	5	RP	ZP
P4SMAJ75A	P4SMAJ75CA	75	83.3	92.1	1	121	3.3	5	RR	ZR
P4SMAJ78A	P4SMAJ78CA	78	86.7	95.8	1	126	2.2	5	RT	ZT
P4SMAJ85A	P4SMAJ85CA	85	94.4	104	1	137	2.9	5	RV	ZV
P4SMAJ90A	P4SMAJ90CA	90	100	111	1	146	2.7	5	RX	ZX
P4SMAJ100A	P4SMAJ100CA	100	111	123	1	162	2.5	5	RZ	ZZ
P4SMAJ110A	P4SMAJ110CA	110	122	135	1	177	2.3	5	SE	VE
P4SMAJ120A	P4SMAJ120CA	120	133	147	1	193	2.1	5	SG	VG
P4SMAJ130A	P4SMAJ130CA	130	144	159	1	209	1.9	5	SK	VK
P4SMAJ150A	P4SMAJ150CA	150	167	185	1	243	1.6	5	SM	VM
P4SMAJ160A	P4SMAJ160CA	160	178	197	1	259	1.5	5	SP	VP
P4SMAJ170A	P4SMAJ170CA	170	189	209	1	275	1.5	5	SR	VR
P4SMAJ180A	P4SMAJ180CA	180	201	222	1	292	1.4	5	ST	VT
P4SMAJ200A	P4SMAJ200CA	200	224	247	1	324	1.2	5	SV	VV
P4SMAJ220A	P4SMAJ220CA	220	246	272	1	356	1.1	5	SX	VX
P4SMAJ250A	P4SMAJ250CA	250	279	309	1	405	1.0	5	SZ	VZ
P4SMAJ300A	P4SMAJ300CA	300	335	371	1	486	0.8	5	TE	UE
P4SMAJ350A	P4SMAJ350CA	350	391	432	1	567	0.7	5	TG	UG
P4SMAJ400A	P4SMAJ400CA	400	447	494	1	648	0.6	5	TK	UK
P4SMAJ440A	P4SMAJ440CA	440	492	543	1	713	0.6	5	TM	UM

For bi-directional type having  $V_{rwm}$  of 10 Volts and less, the IR limit is double.  
 For parts without A, the VBR is +10%.