

P4SMA5.0A  
THRU  
P4SMA220A



**SURFACE MOUNT SILICON  
UNI-DIRECTIONAL  
GLASS PASSIVATED JUNCTION  
TRANSIENT VOLTAGE SUPPRESSORS  
400 WATT, 5.0 THRU 220 VOLT**



www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR P4SMA5.0A series types are surface mount, uni-directional, glass passivated junction transient voltage suppressors designed to protect sensitive components from high voltage transients.

**MARKING CODE: SEE MARKING CODE ON ELECTRICAL CHARACTERISTICS TABLE**



**SMA CASE**

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$ )  
Peak Power Dissipation (Note 1)  
Peak Forward Surge Current (JEDEC method)  
Operating and Storage Junction Temperature  
Typical Thermal Resistance (Note 2)

SYMBOL		UNITS
$P_{PK}$	400	W
$I_{FSM}$	40	A
$T_J, T_{stg}$	-55 to +150	$^\circ\text{C}$
$\Theta_{JA}$	70	$^\circ\text{C/W}$

**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$ )

TYPE	REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE		TEST CURRENT	MAXIMUM REVERSE LEAKAGE CURRENT	MAXIMUM CLAMPING VOLTAGE	PEAK PULSE CURRENT (Note 1)	MARKING CODE
	$V_{RWM}$	$V_{BR}$	@ $I_T$	$I_T$	$I_R @ V_{RWM}$	$V_C @ I_{PP}$	$I_{PP}$	
	V	MIN V	MAX V	mA	$\mu\text{A}$	V	A	
P4SMA5.0A	5.0	6.40	7.25	10.0	800	9.2	43.5	C4HE
P4SMA6.0A	6.0	6.67	7.67	10.0	800	10.3	38.8	C4HG
P4SMA6.5A	6.5	7.22	8.30	10.0	500	11.2	35.7	C4HK
P4SMA7.0A	7.0	7.78	8.95	10.0	200	12.0	33.3	C4HM
P4SMA7.5A	7.5	8.33	9.58	1.0	100	12.9	31.0	C4HP
P4SMA8.0A	8.0	8.89	10.23	1.0	50	13.6	29.4	C4HR
P4SMA8.5A	8.5	9.44	10.82	1.0	10	14.4	27.7	C4HT
P4SMA9.0A	9.0	10.0	11.5	1.0	5.0	15.4	26.0	C4HV
P4SMA10A	10	11.1	12.8	1.0	5.0	17.0	23.5	C4HX
P4SMA11A	11	12.2	14.0	1.0	1.0	18.2	22.0	C4HZ
P4SMA12A	12	13.3	15.3	1.0	1.0	19.9	20.1	C4IE
P4SMA13A	13	14.4	16.5	1.0	1.0	21.5	18.6	C4IG
P4SMA14A	14	15.6	17.9	1.0	1.0	23.2	17.2	C4IK
P4SMA15A	15	16.7	19.2	1.0	1.0	24.4	16.4	C4IM
P4SMA16A	16	17.8	20.5	1.0	1.0	26.0	15.3	C4IP
P4SMA17A	17	18.9	21.7	1.0	1.0	27.6	14.5	C4IR
P4SMA18A	18	20.0	23.3	1.0	1.0	29.2	13.7	C4IT
P4SMA20A	20	22.2	25.5	1.0	1.0	32.4	12.3	C4IV
P4SMA22A	22	24.4	28.0	1.0	1.0	35.5	11.2	C4IX
P4SMA24A	24	26.7	30.7	1.0	1.0	38.9	10.3	C4IZ
P4SMA26A	26	28.9	33.2	1.0	1.0	42.1	9.5	C4JE
P4SMA28A	28	31.1	35.8	1.0	1.0	45.4	8.8	C4JG
P4SMA30A	30	33.3	38.3	1.0	1.0	48.4	8.3	C4JK
P4SMA33A	33	36.7	42.2	1.0	1.0	53.3	7.5	C4JM
P4SMA36A	36	40.0	46.0	1.0	1.0	58.1	6.9	C4JP
P4SMA40A	40	44.4	51.1	1.0	1.0	64.5	6.2	C4JR

Notes: (1) Non-repetitive 10x1,000 $\mu\text{s}$  pulse.  
(2) FR-4 epoxy PCB with copper mounting pad area of 5mm<sup>2</sup>.

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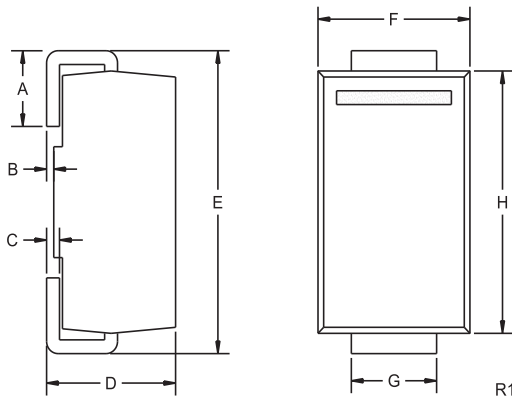
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**ELECTRICAL CHARACTERISTICS - Continued: ( $T_A=25^\circ\text{C}$ )**

TYPE	REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE		TEST CURRENT	MAXIMUM REVERSE LEAKAGE CURRENT	MAXIMUM CLAMPING VOLTAGE	PEAK PULSE CURRENT (Note 1)	MARKING CODE
	$V_{RWM}$	$V_{BR}$	@ $I_T$	$I_T$	$I_R @ V_{RWM}$	$V_C @ I_{PP}$	$I_{PP}$	
	V	MIN V	MAX V	mA	$\mu\text{A}$	V	A	
P4SMA43A	43	47.8	54.9	1.0	5.0	69.4	5.7	C4JT
P4SMA45A	45	50.0	57.5	1.0	5.0	72.7	5.5	C4JV
P4SMA48A	48	53.3	61.3	1.0	5.0	77.4	5.2	C4JX
P4SMA51A	51	56.7	65.2	1.0	5.0	82.4	4.9	C4JZ
P4SMA54A	54	60.0	69.0	1.0	5.0	87.1	4.6	C4RE
P4SMA58A	58	64.4	74.1	1.0	5.0	93.6	4.3	C4RG
P4SMA60A	60	66.7	76.7	1.0	5.0	96.8	4.1	C4RK
P4SMA64A	64	71.1	81.8	1.0	5.0	103	3.9	C4RM
P4SMA70A	70	77.8	89.5	1.0	5.0	113	3.5	C4RP
P4SMA75A	75	83.3	95.8	1.0	5.0	121	3.3	C4RR
P4SMA78A	78	86.7	99.7	1.0	5.0	126	2.2	C4RT
P4SMA85A	85	94.4	108.2	1.0	5.0	137	2.9	C4RV
P4SMA90A	90	100.0	115.5	1.0	5.0	146	2.7	C4RX
P4SMA100A	100	111.0	128.0	1.0	5.0	162	2.5	C4RZ
P4SMA110A	110	122.0	140.5	1.0	5.0	177	2.3	C4SE
P4SMA120A	120	133.0	153.0	1.0	5.0	193	2.0	C4SG
P4SMA130A	130	144.0	165.5	1.0	5.0	209	1.9	C4SK
P4SMA150A	150	167.0	192.5	1.0	5.0	243	1.6	C4SM
P4SMA160A	160	178.0	205.0	1.0	5.0	259	1.5	C4SP
P4SMA170A	170	189.0	217.5	1.0	5.0	275	1.4	C4SR
P4SMA180A	180	198.0	230.4	1.0	5.0	292	1.3	C4ST
P4SMA190A	190	209.0	243.2	1.0	5.0	308	1.3	C4SV
P4SMA200A	200	220.0	256.0	1.0	5.0	324	1.2	C4SX
P4SMA210A	210	231.0	268.8	1.0	5.0	340	1.2	C4SZ
P4SMA220A	220	242.0	281.6	1.0	5.0	356	1.1	C4GE

**SMA CASE - MECHANICAL OUTLINE**



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.030	0.060	0.76	1.52
B	0.004	0.008	0.10	0.20
C	0.006	0.012	0.15	0.30
D	0.078	0.103	1.98	2.62
E	0.188	0.220	4.78	5.59
F	0.090	0.115	2.29	2.92
G	0.050	0.070	1.27	1.78
H	0.157	0.181	3.99	4.60

SMA (REV: R1)

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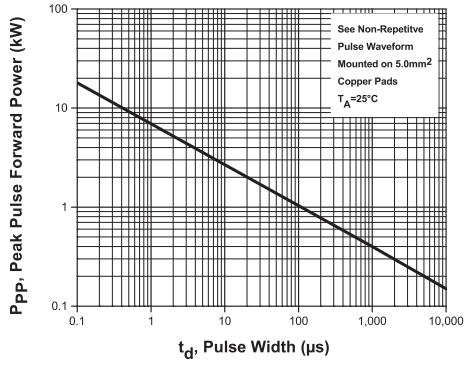
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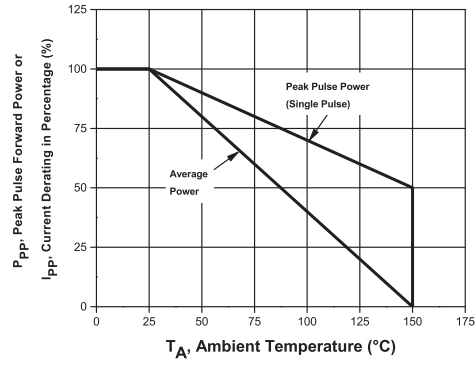
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**TYPICAL ELECTRICAL CHARACTERISTICS**

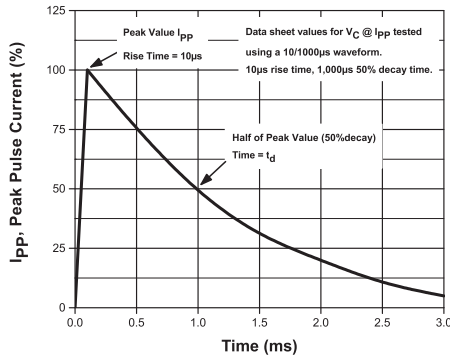
**Peak Pulse Forward Power**



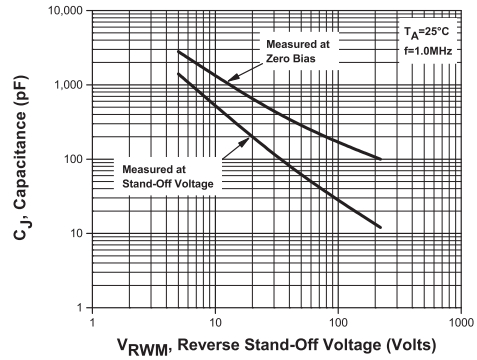
**Power & Current Derating**



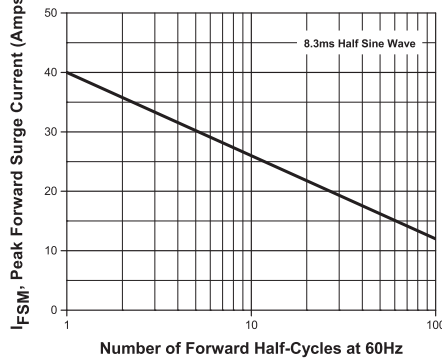
**Non-Repetitive Pulse Waveform**



**Capacitance**



**Peak Forward Surge Current**



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