

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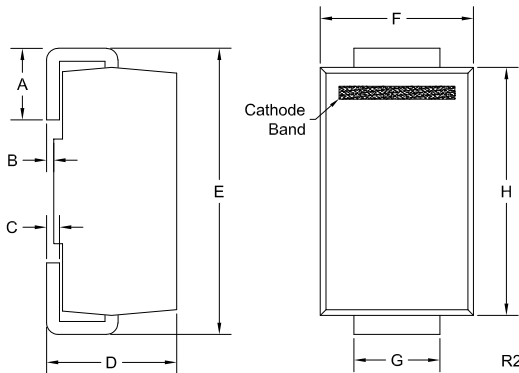
**SURFACE MOUNT SILICON  
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GLASS PASSIVATED JUNCTION  
TRANSIENT VOLTAGE SUPPRESSORS  
400 WATT, 5.0 THRU 220 VOLT**



**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: R2)

R2 (29-April 2015)

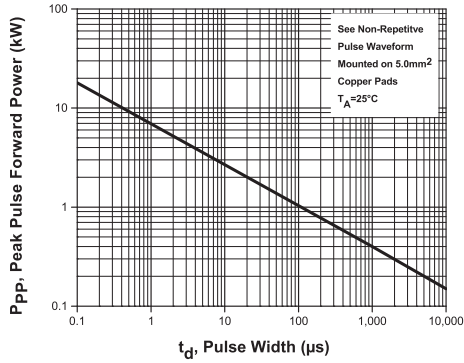
P4SMA5.0A  
THRU  
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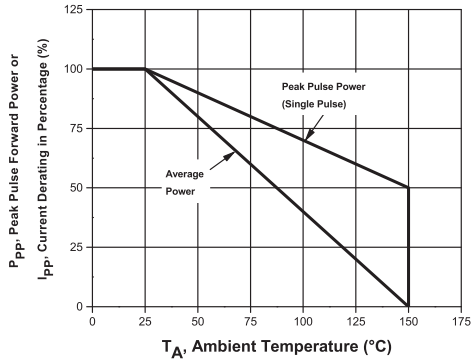
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TYPICAL ELECTRICAL CHARACTERISTICS

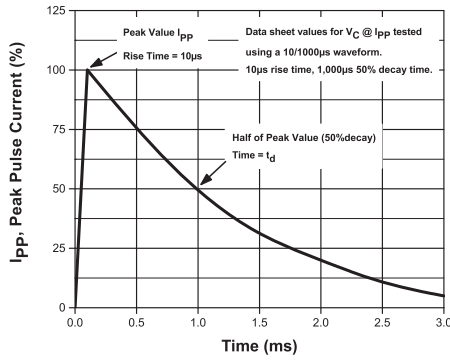
Peak Pulse Forward Power



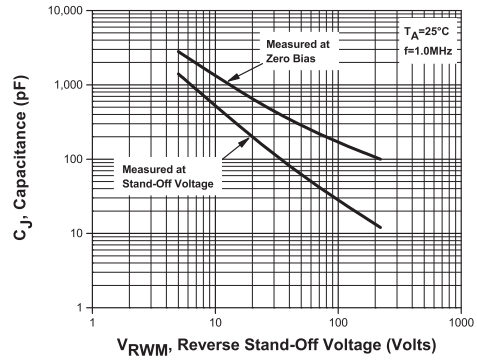
Power & Current Derating



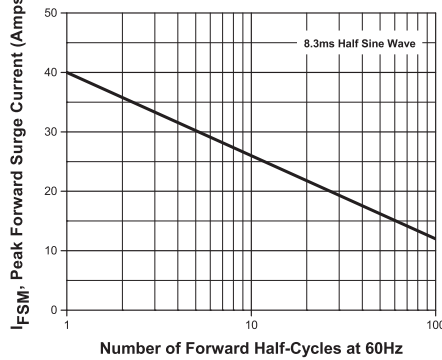
Non-Repetitive Pulse Waveform



Capacitance



Peak Forward Surge Current



R2 (29-April 2015)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

#### Corporate Headquarters & Customer Support Team

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Hauppauge, NY 11788 USA  
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[www.centalsemi.com/wwreps](http://www.centalsemi.com/wwreps)

**Worldwide Distributors:**  
[www.centalsemi.com/wwdistributors](http://www.centalsemi.com/wwdistributors)

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# Product End of Life Notification

<b>PDN ID:</b>	PDN01085
<b>Notification Date:</b>	5/31/18
<b>Last Buy Date:</b>	11/30/18
<b>Last Shipment Date</b>	5/31/19

Summary: All extreme low and high voltage 400mW Transient Voltage Suppressors in the SMA package are discontinued and now classified as End of Life (EOL).

Although Central Semiconductor Corp. makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by other manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's ongoing Product Management Process. Any replacement products are noted below. The effective date for placing last purchase orders will be six (6) months from the date of this notice and twelve (12) months from the notice date for final shipments, and minimum order quantities may apply. The last purchase and shipment dates may be extended if inventory is available.

<u>Central Part Number</u>	<u>Replacement</u>
P4SMA100A BK	N/A
P4SMA100A TR13	N/A
P4SMA100CA BK	N/A
P4SMA100CA TR13	N/A
P4SMA110A BK	N/A
P4SMA110A TR13	N/A
P4SMA110CA BK	N/A
P4SMA110CA TR13	N/A
P4SMA120A BK	N/A
P4SMA120A TR13	N/A
P4SMA120CA BK	N/A
P4SMA120CA TR13	N/A
P4SMA130A BK	N/A
P4SMA130A TR13	N/A
P4SMA130CA BK	N/A
P4SMA130CA TR13	N/A
P4SMA150A BK	N/A
P4SMA150A TR13	N/A
P4SMA150CA BK	N/A
P4SMA150CA TR13	N/A
P4SMA160A BK	N/A
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P4SMA160CA BK	N/A
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P4SMA170A BK	N/A
P4SMA170A TR13	N/A
P4SMA170CA BK	N/A
P4SMA170CA TR13	N/A
P4SMA180A BK	N/A
P4SMA180A TR13	N/A
P4SMA180CA BK	N/A
P4SMA180CA TR13	N/A
P4SMA190A BK	N/A
P4SMA190A TR13	N/A
P4SMA190CA BK	N/A
P4SMA190CA TR13	N/A
P4SMA200A BK	N/A

\*\*\* CONTINUED \*\*\*

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.

# Product End of Life Notification

PDN ID:	PDN01085
Notification Date:	5/31/18
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\*\*\* CONTINUED FROM PRIOR PAGE \*\*\*

<u>Central Part Number</u>	<u>Replacement</u>
P4SMA200A TR13	N/A
P4SMA200CA BK	N/A
P4SMA200CA TR13	N/A
P4SMA210A BK	N/A
P4SMA210A TR13	N/A
P4SMA210CA BK	N/A
P4SMA210CA TR13	N/A
P4SMA22CA BK	N/A
P4SMA220A BK	N/A
P4SMA220A TR13	N/A
P4SMA220CA BK	N/A
P4SMA220CA TR13	N/A
P4SMA5.0A BK	N/A
P4SMA5.0A TR13	N/A
P4SMA5.0CA BK	N/A
P4SMA5.0CA TR13	N/A
P4SMA6.0A BK	N/A
P4SMA6.0A TR13	N/A
P4SMA6.0CA BK	N/A
P4SMA6.0CA TR13	N/A
P4SMA6.5A BK	N/A
P4SMA6.5A TR13	N/A
P4SMA6.5CA BK	N/A
P4SMA6.5CA TR13	N/A
P4SMA64A BK	N/A
P4SMA64A TR13	N/A
P4SMA64CA BK	N/A
P4SMA64CA TR13	N/A
P4SMA7.0A BK	N/A
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P4SMA7.0CA BK	N/A
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P4SMA7.5A BK	N/A
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P4SMA7.5CA BK	N/A
P4SMA7.5CA TR13	N/A
P4SMA70A BK	N/A
P4SMA70A TR13	N/A
P4SMA70CA BK	N/A
P4SMA70CA TR13	N/A
P4SMA75A BK	N/A
P4SMA75A TR13	N/A
P4SMA75CA BK	N/A
P4SMA75CA TR13	N/A
P4SMA78A BK	N/A

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\*\*\* CONTINUED FROM PRIOR PAGE \*\*\*

<u>Central Part Number</u>	<u>Replacement</u>
P4SMA78A TR13	N/A
P4SMA78CA BK	N/A
P4SMA78CA TR13	N/A
P4SMA8.0A BK	N/A
P4SMA8.0A TR13	N/A
P4SMA8.0CA BK	N/A
P4SMA8.0CA TR13	N/A
P4SMA8.5A BK	N/A
P4SMA8.5A TR13	N/A
P4SMA8.5CA BK	N/A
P4SMA8.5CA TR13	N/A
P4SMA85A BK	N/A
P4SMA85A TR13	N/A
P4SMA85CA BK	N/A
P4SMA85CA TR13	N/A
P4SMA9.0A BK	N/A
P4SMA9.0A TR13	N/A
P4SMA9.0CA BK	N/A
P4SMA9.0CA TR13	N/A
P4SMA90A BK	N/A
P4SMA90A TR13	N/A
P4SMA90CA BK	N/A
P4SMA90CA TR13	N/A

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. Please email your requests to [engineering@centrasemi.com](mailto:engineering@centrasemi.com).

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[P4SMA130A TR13](#) [P4SMA13A TR13](#) [P4SMA14A TR13](#) [P4SMA150A TR13](#) [P4SMA15A TR13](#) [P4SMA160A TR13](#)  
[P4SMA16A TR13](#) [P4SMA170A TR13](#) [P4SMA17A TR13](#) [P4SMA180A TR13](#) [P4SMA18A TR13](#) [P4SMA190A TR13](#)  
[P4SMA200A TR13](#) [P4SMA20A TR13](#) [P4SMA210A TR13](#) [P4SMA220A TR13](#) [P4SMA22A TR13](#) [P4SMA24A TR13](#)  
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[P4SMA43A TR13](#) [P4SMA45A TR13](#) [P4SMA48A TR13](#) [P4SMA5.0A TR13](#) [P4SMA51A TR13](#) [P4SMA54A TR13](#)  
[P4SMA58A TR13](#) [P4SMA6.0A TR13](#) [P4SMA6.5A TR13](#) [P4SMA60A TR13](#) [P4SMA64A TR13](#) [P4SMA7.0A TR13](#)  
[P4SMA7.5A TR13](#) [P4SMA70A TR13](#) [P4SMA75A TR13](#) [P4SMA78A TR13](#) [P4SMA8.0A TR13](#) [P4SMA8.5A TR13](#)  
[P4SMA85A TR13](#) [P4SMA9.0A TR13](#) [P4SMA90A TR13](#)