

3SMC5.0CAQ  
THRU  
3SMC170CAQ



**SURFACE MOUNT SILICON  
AUTOMOTIVE BI-DIRECTIONAL  
GLASS PASSIVATED JUNCTION  
TRANSIENT VOLTAGE SUPPRESSORS  
3000 WATT, 5.0 THRU 170 VOLT**



www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 3SMC5.0CA series devices are surface mount bi-directional glass passivated junction Transient Voltage Suppressors designed to protect voltage sensitive components from high voltage transients. Manufactured and qualified to AEC-Q101.

Note: For uni-directional devices, please refer to the 3SMC5.0AQ series data sheet.

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

Specified by  
STAND-OFF VOLTAGE



**SMC CASE**

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

Peak Power Dissipation (Note 1)  
Operating and Storage Junction Temperature

**SYMBOL**

$P_{PK}$  3000  
 $T_J, T_{stg}$  -65 to +150

**UNITS**

W  
 $^\circ\text{C}$

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

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	
3SMC5.0CAQ	5.0	6.40	7.25	10	2000	9.2	326.0	CIDE
3SMC6.0CAQ	6.0	6.67	7.67	10	2000	10.3	291.3	CIDG
3SMC6.5CAQ	6.5	7.22	8.30	10	1000	11.2	267.9	CIDK
3SMC7.0CAQ	7.0	7.78	8.95	10	400	12.0	250.0	CIDM
3SMC7.5CAQ	7.5	8.33	9.58	1.0	200	12.9	232.6	CIDP
3SMC8.0CAQ	8.0	8.89	10.23	1.0	100	13.6	220.6	CIDR
3SMC8.5CAQ	8.5	9.44	10.82	1.0	50	14.4	208.4	CIDT
3SMC9.0CAQ	9.0	10.0	11.5	1.0	20	15.4	194.8	CIDV
3SMC10CAQ	10	11.1	12.8	1.0	5.0	17.0	176.4	CIDXS
3SMC11CAQ	11	12.2	14.0	1.0	5.0	18.2	184.8	CIDZ
3SMC12CAQ	12	13.3	15.3	1.0	5.0	19.9	150.6	CIEE
3SMC13CAQ	13	14.4	16.5	1.0	5.0	21.5	139.4	CIEG
3SMC14CAQ	14	15.6	17.9	1.0	5.0	23.2	129.4	CIEK
3SMC15CAQ	15	16.7	19.2	1.0	5.0	24.4	123.0	CIEM
3SMC16CAQ	16	17.8	20.5	1.0	5.0	26.0	115.4	CIEP
3SMC17CAQ	17	18.9	21.7	1.0	5.0	27.6	106.6	CIER
3SMC18CAQ	18	20.0	23.3	1.0	5.0	29.2	102.8	CIET
3SMC20CAQ	20	22.2	25.5	1.0	5.0	32.4	92.6	CIEV
3SMC22CAQ	22	24.4	28.0	1.0	5.0	35.5	84.4	CIEX
3SMC24CAQ	24	26.7	30.7	1.0	5.0	38.9	77.2	CIEZ
3SMC26CAQ	26	28.9	33.2	1.0	5.0	42.1	71.2	CIFE
3SMC28CAQ	28	31.1	35.8	1.0	5.0	45.4	66.0	CIFG
3SMC30CAQ	30	33.3	38.3	1.0	5.0	48.4	62.0	CIFK

Note 1: Non-repetitive 10x1,000 $\mu\text{s}$  pulse.

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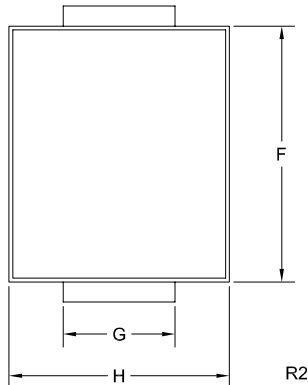
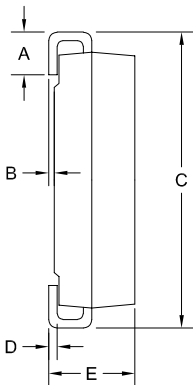
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**ELECTRICAL CHARACTERISTICS - Continued:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

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	
3SMC33CAQ	33	36.7	42.2	1.0	5.0	53.3	56.2	CIFM
3SMC36CAQ	36	40.0	46.0	1.0	5.0	58.1	51.6	CIFP
3SMC40CAQ	40	44.4	51.1	1.0	5.0	64.5	46.4	CIFR
3SMC43CAQ	43	47.8	54.9	1.0	5.0	69.4	43.2	CIFT
3SMC45CAQ	45	50.0	57.5	1.0	5.0	72.7	41.2	CIFV
3SMC48CAQ	48	53.3	61.3	1.0	5.0	77.4	38.8	CIFX
3SMC51CAQ	51	56.7	65.2	1.0	5.0	82.4	36.4	CIFZ
3SMC54CAQ	54	60.0	69.0	1.0	5.0	87.1	34.4	CIGE
3SMC58CAQ	58	64.4	74.1	1.0	5.0	93.6	32.0	CIGG
3SMC60CAQ	60	66.7	76.7	1.0	5.0	96.8	31.0	CIGK
3SMC64CAQ	64	71.1	81.8	1.0	5.0	103	29.2	CIGM
3SMC70CAQ	70	77.8	89.5	1.0	5.0	113	26.6	CIGP
3SMC75CAQ	75	83.3	95.8	1.0	5.0	121	24.8	CIGR
3SMC78CAQ	78	86.7	99.7	1.0	5.0	126	22.8	CIGT
3SMC85CAQ	85	94.4	108.2	1.0	5.0	137	20.8	CIGV
3SMC90CAQ	90	100.0	115.5	1.0	5.0	146	20.6	CIGX
3SMC100CAQ	100	111.0	128.0	1.0	5.0	162	18.6	CIGZ
3SMC110CAQ	110	122.0	140.5	1.0	5.0	177	16.8	CIHE
3SMC120CAQ	120	133.0	153.0	1.0	5.0	193	15.6	CIHG
3SMC130CAQ	130	144.0	165.5	1.0	5.0	209	14.4	CIHK
3SMC150CAQ	150	167.0	192.5	1.0	5.0	243	12.4	CIHM
3SMC160CAQ	160	178.0	205.0	1.0	5.0	259	11.6	CIHP
3SMC170CAQ	170	189.0	217.5	1.0	5.0	275	11.0	CIHR

**SMC CASE - MECHANICAL OUTLINE**



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.030	0.060	0.76	1.52
B	0.002	0.008	0.05	0.20
C	0.305	0.320	7.75	8.13
D	0.006	0.012	0.15	0.31
E	0.079	0.103	2.00	2.62
F	0.260	0.280	6.60	7.11
G	0.108	0.128	2.75	3.25
H	0.220	0.245	5.59	6.22

SMC (REV: R2)

R1 (11-March 2025)

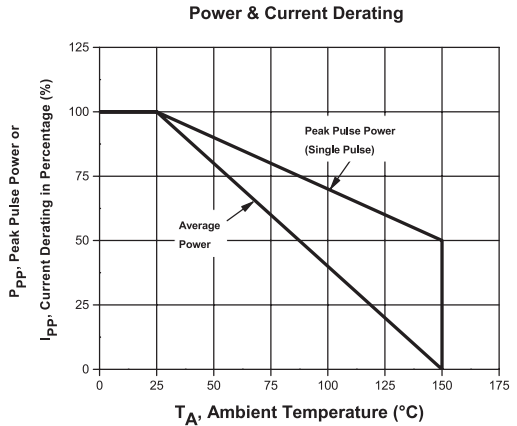
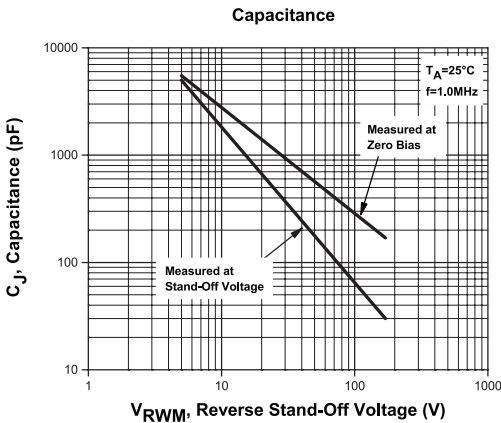
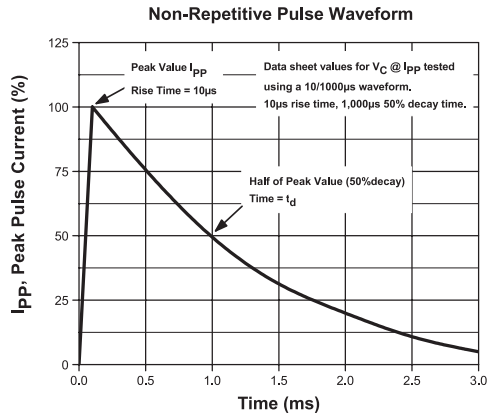
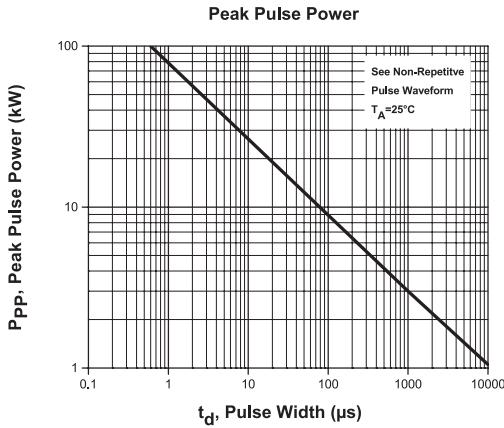
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### TYPICAL ELECTRICAL CHARACTERISTICS



## 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

Central Semiconductor Corp.  
145 Adams Avenue  
Hauppauge, NY 11788 USA  
Main Tel: (631) 435-1110  
Main Fax: (631) 435-1824  
Support Team Fax: (631) 435-3388  
[www.centrasemi.com](http://www.centrasemi.com)

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