



**THE DATASHEET OF  
3SMC43A TR13 PBFREE**



3SMC5.0A  
THRU  
3SMC170A



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



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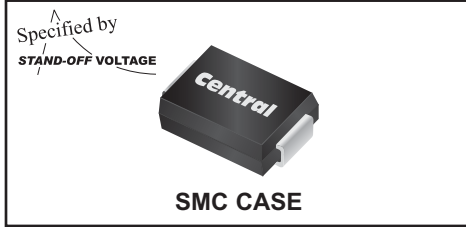
**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 3SMC5.0A series devices are surface mount uni-directional glass passivated junction Transient Voltage Suppressors designed to protect voltage sensitive components from high voltage transients.

**THIS DEVICE IS MANUFACTURED WITH A GLASS PASSIVATED CHIP FOR OPTIMUM RELIABILITY.**

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

**MARKING CODE: SEE ELECTRICAL CHARACTERISTICS TABLE**



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

Peak Power Dissipation (Note 1)  
Peak Forward Surge Current (JEDEC Method)  
Operating and Storage Junction Temperature

SYMBOL		UNITS
$P_{PK}$	3000	W
$I_{FSM}$	200	A
$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$

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

TYPE	REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE		TEST CURRENT $I_T$ mA	MAXIMUM REVERSE LEAKAGE CURRENT $I_R @ V_{RWM}$ $\mu\text{A}$	MAXIMUM CLAMPING VOLTAGE $V_C @ I_{PP}$ V	PEAK PULSE CURRENT (Note 1) $I_{PP}$ A	MARKING CODE
	$V_{RWM}$	$V_{BR} @ I_T$						
	V	MIN V	MAX V					
3SMC5.0A	5.0	6.40	7.25	10	1000	9.2	326.0	CHDE
3SMC6.0A	6.0	6.67	7.67	10	1000	10.3	291.3	CHDG
3SMC6.5A	6.5	7.22	8.30	10	500	11.2	267.9	CHDK
3SMC7.0A	7.0	7.78	8.95	10	200	12.0	250.0	CHDM
3SMC7.5A	7.5	8.33	9.58	1.0	100	12.9	232.6	CHDP
3SMC8.0A	8.0	8.89	10.23	1.0	50	13.6	220.6	CHDR
3SMC8.5A	8.5	9.44	10.82	1.0	25	14.4	208.4	CHDT
3SMC9.0A	9.0	10.0	11.5	1.0	10	15.4	194.8	CHDV
3SMC10A	10	11.1	12.8	1.0	5.0	17.0	176.4	CHDX
3SMC11A	11	12.2	14.0	1.0	5.0	18.2	184.8	CHDZ
3SMC12A	12	13.3	15.3	1.0	5.0	19.9	150.6	CHEE
3SMC13A	13	14.4	16.5	1.0	5.0	21.5	139.4	CHEG
3SMC14A	14	15.6	17.9	1.0	5.0	23.2	129.4	CHEK
3SMC15A	15	16.7	19.2	1.0	5.0	24.4	123.0	CHEM
3SMC16A	16	17.8	20.5	1.0	5.0	26.0	115.4	CHEP
3SMC17A	17	18.9	21.7	1.0	5.0	27.6	106.6	CHER
3SMC18A	18	20.0	23.3	1.0	5.0	29.2	102.8	CHET
3SMC20A	20	22.2	25.5	1.0	5.0	32.4	92.6	CHEV
3SMC22A	22	24.4	28.0	1.0	5.0	35.5	84.4	CHEX
3SMC24A	24	26.7	30.7	1.0	5.0	38.9	77.2	CHEZ
3SMC26A	26	28.9	33.2	1.0	5.0	42.1	71.2	CHFE
3SMC28A	28	31.1	35.8	1.0	5.0	45.4	66.0	CHFG
3SMC30A	30	33.3	38.3	1.0	5.0	48.4	62.0	CHFK

Notes: (1) Non-repetitive 10x1,000 $\mu\text{s}$  pulse

**3SMC5.0A  
THRU  
3SMC170A**

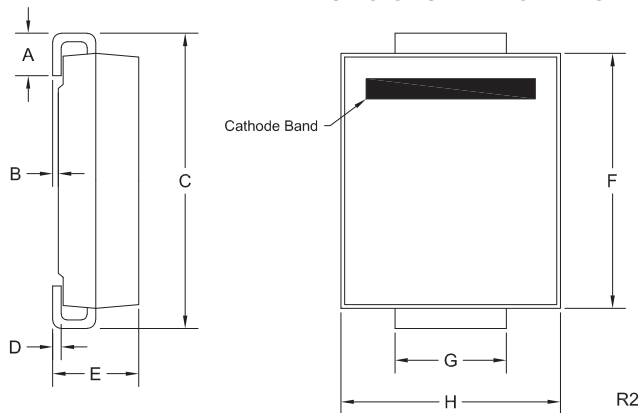
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**ELECTRICAL CHARACTERISTICS - Continued:** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

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	
3SMC33A	33	36.7	42.2	1.0	5.0	53.3	56.2	CHFM
3SMC36A	36	40.0	46.0	1.0	5.0	58.1	51.6	CHFP
3SMC40A	40	44.4	51.1	1.0	5.0	64.5	46.4	CHFR
3SMC43A	43	47.8	54.9	1.0	5.0	69.4	43.2	CHFT
3SMC45A	45	50.0	57.5	1.0	5.0	72.7	41.2	CHFV
3SMC48A	48	53.3	61.3	1.0	5.0	77.4	38.8	CHFX
3SMC51A	51	56.7	65.2	1.0	5.0	82.4	36.4	CHFZ
3SMC54A	54	60.0	69.0	1.0	5.0	87.1	34.4	CHGE
3SMC58A	58	64.4	74.1	1.0	5.0	93.6	32.0	CHGG
3SMC60A	60	66.7	76.7	1.0	5.0	96.8	31.0	CHGK
3SMC64A	64	71.1	81.8	1.0	5.0	103	29.2	CHGM
3SMC70A	70	77.8	89.5	1.0	5.0	113	26.6	CHGP
3SMC75A	75	83.3	95.8	1.0	5.0	121	24.8	CHGR
3SMC78A	78	86.7	99.7	1.0	5.0	126	22.8	CHGT
3SMC85A	85	94.4	108.2	1.0	5.0	137	20.8	CHGV
3SMC90A	90	100.0	115.5	1.0	5.0	146	20.6	CHGX
3SMC100A	100	111.0	128.0	1.0	5.0	162	18.6	CHGZ
3SMC110A	110	122.0	140.5	1.0	5.0	177	16.8	CHHE
3SMC120A	120	133.0	153.0	1.0	5.0	193	15.6	CHHG
3SMC130A	130	144.0	165.5	1.0	5.0	209	14.4	CHHK
3SMC150A	150	167.0	192.5	1.0	5.0	243	12.4	CHHM
3SMC160A	160	178.0	205.0	1.0	5.0	259	11.6	CHHP
3SMC170A	170	189.0	217.5	1.0	5.0	275	11.0	CHHR

**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)

R10 (22-August 2016)

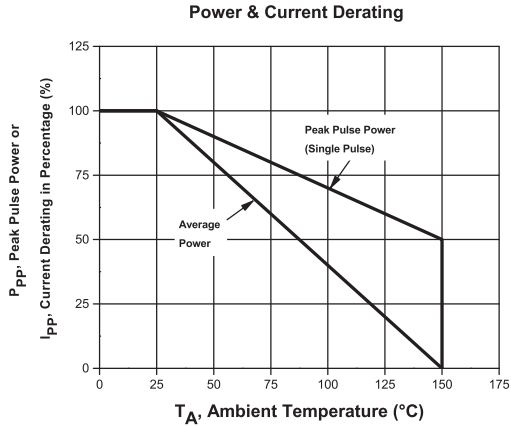
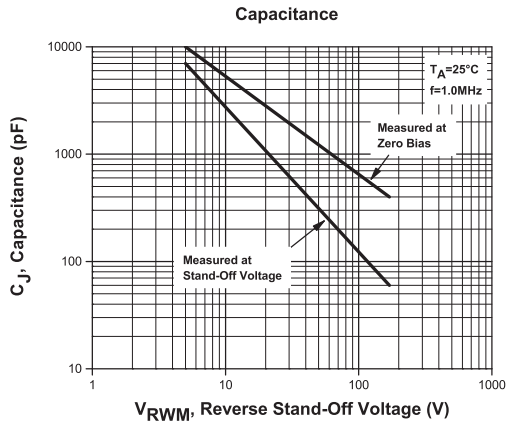
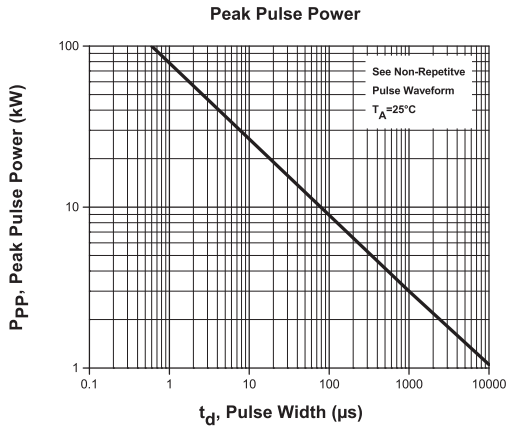
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### TYPICAL ELECTRICAL CHARACTERISTICS



R10 (22-August 2016)

## 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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