

# Transient Voltage Suppressor Diode

## **1.5SMC20A**

(1.5SMC6.8 thru 1.5SMC220CA Series)


Breakdown-Voltage 6.8 to 220V

Peak Pulse Power 1500W

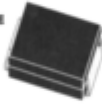
# DATASHEET


*OEM – Central Semiconductor Corp.*

Source: Central Databook 2004

1.5SMC6.8CA  
THRU  
1.5SMC220CA 

**SURFACE MOUNT  
BI-DIRECTIONAL  
GLASS PASSIVATED JUNCTION  
SILICON TRANSIENT  
VOLTAGE SUPPRESSOR  
1500 WATTS, 6.8 THRU 220 VOLTS**

Specified by  
BREAKDOWN VOLTAGE 



**SMC CASE**

• This series is UL listed, UL file number E130224

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

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

SYMBOL		UNITS
$P_{PM}$	1500	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 NO.	BREAKDOWN VOLTAGE				Working Peak Reverse Voltage $V_{RWM}$ VOLTS	Maximum Reverse Leakage @ $V_{RWM}$ $I_R$ $\mu\text{A}$	Maximum Reverse Surge Current $I_{RSM}$ A	Maximum Reverse Voltage @ $I_{RSM}$ $V_{RSM}$ VOLTS	Maximum Temp. Coefficient Of $V_{BR}$ %/ $^{\circ}\text{C}$	Marking Code
	$V_{BR}$			@ $I_T$ mA						
	VOLTS									
	MIN	NOM	MAX							
1.5SMC6.8CA	6.45	6.8	7.14	10	5.8	2000	143	10.5	0.057	C6V8C
1.5SMC7.5CA	7.13	7.5	7.88	10	6.4	1000	132	11.3	0.061	C7V5C
1.5SMC8.2CA	7.79	8.2	8.61	10	7.02	400	124	12.1	0.065	C8V2C
1.5SMC9.1CA	8.65	9.1	9.55	1.0	7.78	100	112	13.4	0.068	C9V1C
1.5SMC10CA	9.5	10	10.5	1.0	8.55	20	103	14.5	0.073	C10C
1.5SMC11CA	10.5	11	11.6	1.0	9.4	5	96	15.6	0.075	C11C
1.5SMC12CA	11.4	12	12.6	1.0	10.2	5	90	16.7	0.078	C12C
1.5SMC13CA	12.4	13	13.7	1.0	11.1	5	82	18.2	0.081	C13C
1.5SMC15CA	14.3	15	15.8	1.0	12.8	5	71	21.2	0.084	C15C
1.5SMC16CA	15.2	16	16.8	1.0	13.6	5	67	22.5	0.086	C16C
1.5SMC18CA	17.1	18	18.9	1.0	15.3	5	59.5	25.2	0.088	C18C
1.5SMC20CA	19.0	20	21.0	1.0	17.1	5	54	27.7	0.090	C20C
1.5SMC22CA	20.9	22	23.1	1.0	18.8	5	49	30.6	0.092	C22C
1.5SMC24CA	22.8	24	25.2	1.0	20.5	5	45	33.2	0.094	C24C
1.5SMC27CA	25.7	27	28.4	1.0	23.1	5	40	37.5	0.096	C27C
1.5SMC30CA	28.5	30	31.5	1.0	25.6	5	36	41.4	0.097	C30C
1.5SMC33CA	31.4	33	34.7	1.0	28.2	5	33	45.7	0.098	C33C
1.5SMC36CA	34.2	36	37.8	1.0	30.8	5	30	49.9	0.099	C36C
1.5SMC39CA	37.1	39	41	1.0	33.3	5	28	53.9	0.100	C39C

R2 (13-November 2002)

# Central<sup>TM</sup> Semiconductor Corp.

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 1.5SMC6.8CA Series types are Surface Mount Bi-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 Uni-directional devices, please refer to the 1.5SMC6.8A Series data sheet.

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



1.5SMC6.8CA  
THRU  
1.5SMC220CA

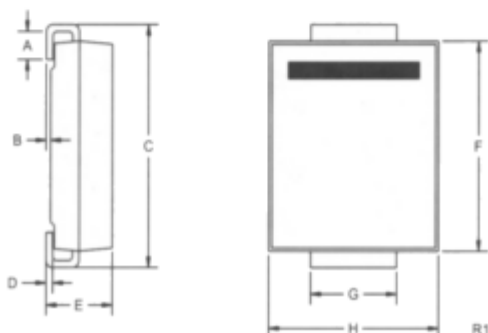
SURFACE MOUNT  
BI-DIRECTIONAL  
GLASS PASSIVATED JUNCTION  
SILICON TRANSIENT  
VOLTAGE SUPPRESSOR  
1500 WATTS, 6.8 THRU 220 VOLTS

ELECTRICAL CHARACTERISTICS CONTINUED:

TYPE NO.	BREAKDOWN VOLTAGE				Working Peak Reverse Voltage @ $I_T$	Maximum Reverse Leakage @ $V_{RWM}$	Maximum Reverse Surge Current	Maximum Reverse Voltage @ $I_{RSM}$	Maximum Temp. Coefficient Of $V_{BR}$	Marking Code
	$V_{BR}$			$I_T$						
	VOLTS									
	MIN	NOM	MAX							
1.5SMC43CA	40.9	43	45.2	1.0	36.8	5	25.3	59.3	0.101	C43C
1.5SMC47CA	44.7	47	49.4	1.0	40.2	5	23.2	64.8	0.101	C47C
1.5SMC51CA	48.5	51	53.6	1.0	43.6	5	21.4	70.1	0.102	C51C
1.5SMC56CA	53.2	56	58.8	1.0	47.8	5	19.5	77	0.103	C56C
1.5SMC62CA	58.9	62	65.1	1.0	53.0	5	17.7	85	0.104	C62C
1.5SMC68CA	64.6	68	71.4	1.0	58.1	5	16.3	92	0.104	C68C
1.5SMC75CA	71.3	75	78.8	1.0	64.1	5	14.6	103	0.105	C75C
1.5SMC82CA	77.9	82	86.1	1.0	70.1	5	13.3	113	0.105	C82C
1.5SMC91CA	86.5	91	95.5	1.0	77.8	5	12	125	0.106	C91C
1.5SMC100CA	95.0	100	105	1.0	85.5	5	11	137	0.106	C100C
1.5SMC110CA	104.5	110	115.5	1.0	94.0	5	9.9	152	0.107	C110C
1.5SMC120CA	114	120	126	1.0	102	5	9.1	165	0.107	C120C
1.5SMC130CA	123.5	130	136.5	1.0	111	5	8.4	179	0.107	C130C
1.5SMC150CA	142.5	150	157.5	1.0	128	5	7.2	207	0.108	C150C
1.5SMC160CA	152	160	168	1.0	136	5	6.8	219	0.108	C160C
1.5SMC170CA	161.5	170	178.5	1.0	145	5	6.4	234	0.108	C170C
1.5SMC180CA	171	180	189	1.0	154	5	6.1	246	0.108	C180C
1.5SMC200CA	190	200	210	1.0	171	5	5.5	274	0.108	C200C
1.5SMC220CA	209	220	231	1.0	185	5	4.6	328	0.108	C220C

DATA SHEETS

SMC CASE - MECHANICAL OUTLINE



SYMBOL	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	0.305	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	0.124	2.75	3.15
H	0.220	0.245	5.59	6.22

SMC (REV: R1)

R2 (13-November 2002)