



**Transient Voltage Suppressors**

Peak power dissipation 400W  
Breakdown Voltage 5.0~ 190V

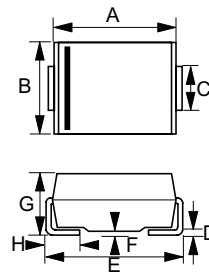
**FEATURES**

- Constructed with Glass Passivated Die
- Low inductance
- Excellent clamping capability
- Uni and bidirectional unit
- Very fast response time
- Component in accordance to RoHS 2002/95/EC

**MECHANICAL DATA**

- Case : JEDEC SMA molded plastic
- Polarity : Color band denotes cathode
- Weight : 0.062 grams
- Mounting position : Any

**SMA**



SMA		
DIM.	MIN.	MAX.
A	3.99	4.50
B	2.54	2.79
C	1.32	1.47
D	0.15	0.31
E	4.93	5.28
F	0.05	0.127
G	1.98	2.29
H	0.76	1.52

All Dimensions in millimeter

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%

PARAMETER	SYMBOL	Value	UNIT
Peak Power Dissipation with a 10/1000us waveform	P <sub>PP</sub>	minimum 400	W
Power dissipation on infinite heatsink at TL=75°C	P <sub>D</sub>	1	W
Peak forward surge current , 8.3ms single half sine-wave unidirectional only(note1)		40	A
Operating Temperature Range	T <sub>J</sub>	-55 to +150	V
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	V

note1. Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.



Part Number		Marking Code		Reverse Stand-off Voltage	Break-down Voltage Min@I <sub>T</sub>	Break-down Voltage Max@I <sub>T</sub>	Test Current	Max Clamping Voltage V <sub>C</sub> @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage I <sub>R</sub> @V <sub>RRM</sub>
DIRECTIONAL		DIRECTIONAL		V <sub>RRM</sub>	V <sub>BR</sub>	V <sub>BR</sub>	I <sub>T</sub>	V <sub>C</sub>	I <sub>PP</sub>	I <sub>R</sub>
UNI	BI	UNI	BI	V	V	V	mA	V	A	uA
SMA5.0A	SMA5.0CA	A5.0A	A5.0CA	5.0	6.40	7.00	10.0	9.2	43.50	800
SMA6.0A	SMA6.0CA	A6.0A	A6.0CA	6.0	6.67	7.37	10.0	10.3	38.80	800
SMA6.5A	SMA6.5CA	A6.5A	A6.5CA	6.5	7.22	7.98	10.0	11.2	35.70	500
SMA7.0A	SMA7.0CA	A7.0A	A7.0CA	7.0	7.78	8.60	10.0	12.0	33.30	200
SMA7.5A	SMA7.5CA	A7.5A	A7.5CA	7.5	8.33	9.21	1.0	12.9	31.00	100
SMA8.0A	SMA8.0CA	A8.0A	A8.0CA	8.0	8.89	9.83	1.0	13.6	29.40	50
SMA8.5A	SMA8.5CA	A8.5A	A8.5CA	8.5	9.44	10.40	1.0	14.4	27.80	10
SMA9.0A	SMA9.0CA	A9.0A	A9.0CA	9.0	10.00	11.10	1.0	15.4	26.00	5
SMA10A	SMA10CA	A10A	A10CA	10.0	11.10	12.30	1.0	17.0	23.50	5
SMA11A	SMA11CA	A11A	A11CA	11.0	12.20	13.50	1.0	18.2	22.00	5
SMA12A	SMA12CA	A12A	A12CA	12.0	13.30	14.70	1.0	19.9	20.10	5
SMA13A	SMA13CA	A13A	A13CA	13.0	14.40	15.90	1.0	21.5	18.60	5
SMA14A	SMA14CA	A14A	A14CA	14.0	15.60	17.20	1.0	23.2	17.20	5
SMA15A	SMA15CA	A15A	A15CA	15.0	16.70	18.50	1.0	24.4	16.40	5
SMA16A	SMA16CA	A16A	A16CA	16.0	17.80	19.70	1.0	26.0	15.40	5
SMA17A	SMA17CA	A17A	A17CA	17.0	18.90	20.90	1.0	27.6	14.50	5
SMA18A	SMA18CA	A18A	A18CA	18.0	20.00	22.10	1.0	29.2	13.70	5
SMA19A	SMA19CA	A19A	A19CA	19.0	21.10	23.30	1.0	30.8	13.00	5
SMA20A	SMA20CA	A20A	A20CA	20.0	22.20	24.50	1.0	32.4	12.30	5
SMA22A	SMA22CA	A22A	A22CA	22.0	24.40	26.90	1.0	35.5	11.30	5
SMA24A	SMA24CA	A24A	A24CA	24.0	26.70	29.50	1.0	38.9	10.30	5
SMA26A	SMA26CA	A26A	A26CA	26.0	28.90	31.90	1.0	42.1	9.50	5
SMA28A	SMA28CA	A28A	A28CA	28.0	31.10	34.40	1.0	45.4	8.81	5
SMA30A	SMA30CA	A30A	A30CA	30.0	33.30	36.80	1.0	48.4	8.26	5
SMA33A	SMA33CA	A33A	A33CA	33.0	36.70	40.60	1.0	53.3	7.50	5
SMA36A	SMA36CA	A36A	A36CA	36.0	40.00	44.20	1.0	58.1	6.88	5
SMA40A	SMA40CA	A40A	A40CA	40.0	44.40	49.10	1.0	64.5	6.20	5
SMA43A	SMA43CA	A43A	A43CA	43.0	47.80	52.80	1.0	69.4	5.76	5
SMA45A	SMA45CA	A45A	A45CA	45.0	50.00	55.30	1.0	72.7	5.50	5
SMA48A	SMA48CA	A48A	A48CA	48.0	53.30	58.90	1.0	77.4	5.17	5
SMA51A	SMA51CA	A51A	A51CA	51.0	56.70	62.70	1.0	82.4	4.85	5
SMA54A	SMA54CA	A54A	A54CA	54.0	60.00	66.30	1.0	87.1	4.59	5
SMA58A	SMA58CA	A58A	A58CA	58.0	64.40	71.20	1.0	93.6	4.27	5
SMA60A	SMA60CA	A60A	A60CA	60.0	66.70	73.70	1.0	96.8	4.13	5
SMA64A	SMA64CA	A64A	A64CA	64.0	71.10	78.60	1.0	103.0	3.88	5
SMA70A	SMA70CA	A70A	A70CA	70.0	77.80	86.00	1.0	113.0	3.54	5
SMA75A	SMA75CA	A75A	A75CA	75.0	83.30	92.10	1.0	121.0	3.31	5
SMA78A	SMA78CA	A78A	A78CA	78.0	86.70	95.80	1.0	126.0	3.17	5
SMA80A	SMA80CA	A80A	A80CA	80.0	88.80	97.60	1.0	130.0	3.09	5
SMA85A	SMA85CA	A85A	A85CA	85.0	94.40	104.00	1.0	137.0	2.92	5
SMA90A	SMA90CA	A90A	A90CA	90.0	100.00	111.00	1.0	146.0	2.74	5



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DIRECTIONAL		DIRECTIONAL		V <sub>RRM</sub>	V <sub>BR</sub>	V <sub>BR</sub>	I <sub>T</sub>	V <sub>C</sub>	I <sub>PP</sub>	I <sub>R</sub>
UNI	BI	UNI	BI	V	V	V	mA	V	A	uA
SMA100A	SMA100CA	A100A	A100CA	100.0	111.00	123.00	1.0	162.0	2.47	5
SMA110A	SMA110CA	A110A	A110CA	110.0	122.00	135.00	1.0	177.0	2.26	5
SMA120A	SMA120CA	A120A	A120CA	120.0	133.00	147.00	1.0	193.0	2.07	5
SMA130A	SMA130CA	A130A	A130CA	130.0	144.00	159.00	1.0	209.0	1.91	5
SMA140A	SMA140CA	A140A	A140CA	140.0	155.00	171.00	1.0	227.0	1.76	5
SMA150A	SMA150CA	A150A	A150CA	150.0	167.00	185.00	1.0	243.0	1.65	5
SMA160A	SMA160CA	A160A	A160CA	160.0	178.00	197.00	1.0	259.0	1.54	5
SMA170A	SMA170CA	A170A	A170CA	170.0	189.00	209.00	1.0	275.0	1.45	5
SMA180A	SMA180CA	A180A	A180CA	180.0	200.00	220.00	1.0	292.0	1.37	5
SMA190A	SMA190CA	A190A	A190CA	190.0	211.00	232.00	1.0	308.0	1.30	5

## Note:

1. Suffix 'A ' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device.
2. Add suffix 'C ' or ' CA ' after part number to specify Bi-directional devices.
3. For Bi-Directional devices having VR of 10 volts and under, the IR limit is double .