

## STANDARD CAPACITANCE TVS ARRAY

### APPLICATIONS

- ✓ RS-232, RS-422 & RS-423 Data Lines
- ✓ Cellular Phones
- ✓ Audio/Video Inputs
- ✓ Portable Electronics
- ✓ Wireless Network Systems
- ✓ Medical Sensors

### IEC COMPATIBILITY (EN61000-4)

- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 12A, 8/20 $\mu$ s - Level 1(Line-Gnd) & Level 2(Line-Line)

### FEATURES

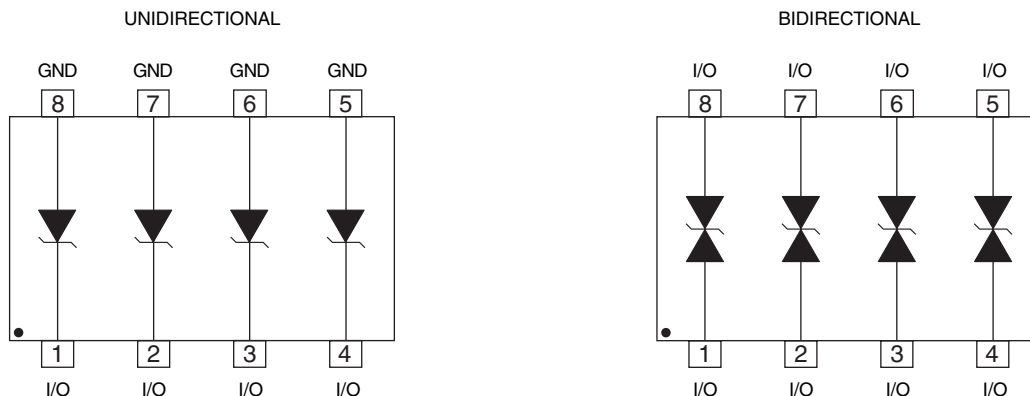
- ✓ 500 Watts Peak Pulse Power per Line ( $t_p=8/20\mu$ s)
- ✓ Unidirectional & Bidirectional Configurations
- ✓ Available in Voltage Types Ranging From: 3V to 36V
- ✓ Protects Up to Four (4) Lines
- ✓ ESD Protection > 40 kilovolts
- ✓ RoHS Compliant in Lead-Free Versions

### MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC SO-8 Package
- ✓ Weight 70 milligrams (Approximate)
- ✓ Available in Tin-Lead or Lead-Free Pure-Tin Plating(Annealed)
- ✓ Solder Reflow Temperature:
  - Tin-Lead - Sn/Pb, 85/15: 240-245°C
  - Pure-Tin - Sn, 100: 260-270°C
- ✓ Flammability Rating UL 94V-0
- ✓ 12mm Tape and Reel Per EIA Standard 481
- ✓ Marking: Logo, Marking Code, Date Code & Pin One Defined By Dot on Top of Package



## PIN CONFIGURATIONS



DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power ( $t_p = 8/20\mu s$ ) - See Figure 1	$P_{PP}$	500	Watts
Operating Temperature	$T_J$	-55°C to 150°C	°C
Storage Temperature	$T_{STG}$	-55°C to 150°C	°C
Forward Voltage @ 100mA, 300μs - Square Wave (Note 1)	$V_F$	1.5	Volts

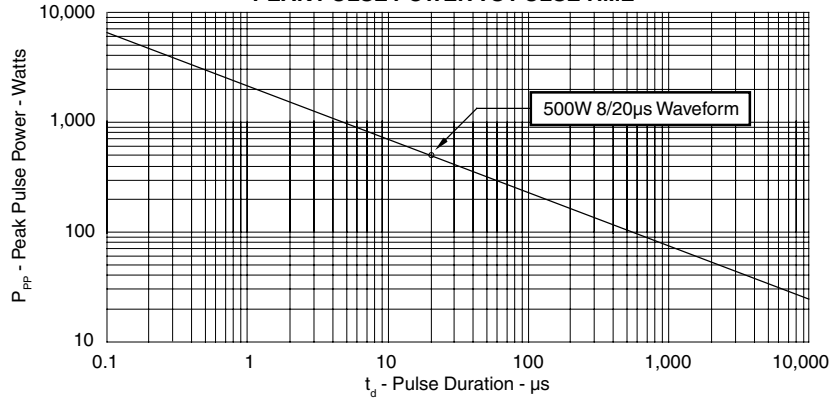
**Note 1:** Only applies to unidirectional devices.

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified							
PART NUMBER (See Note 1)	DEVICE MARKING CODE	RATED STAND-OFF VOLTAGE	MINIMUM BREAKDOWN VOLTAGE	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)	MAXIMUM LEAKAGE CURRENT	MAXIMUM CAPACITANCE PER LINE
		$V_{WM}$ VOLTS	@ 1mA $V_{(BR)}$ VOLTS	@ $I_p = 1A$ $V_C$ VOLTS	@ 8/20μs $V_C @ I_{PP}$	@ $V_{WM}$ $I_D$ μA	@ 0V, 1 MHz C pF
SMDA03	SDL	3.3	4.0	6.5	10.9V @ 43.0A	125	800
SMDA03C	SDM	3.3	4.5	7.0	10.9V @ 43.0A	125	450
SMDA05	SDA	5.0	6.0	9.8	13.5V @ 42.0A	20	550
SMDA05C	SDB	5.0	6.0	9.8	13.5V @ 42.0A	20	308
SMDA08	SDJ	8.0	8.5	13.4	16.9V @ 34.0A	10	500
SMDA08C	SDK	8.0	8.5	13.4	16.9V @ 34.0A	10	300
SMDA12	SDC	12.0	13.3	19.0	25.9V @ 27.0A	1	185
SMDA12C	SDD	12.0	13.3	19.0	25.9V @ 27.0A	1	105
SMDA15	SDE	15.0	16.7	24.0	30.0V @ 17.0A	1	140
SMDA15C	SDF	15.0	16.7	24.0	30.0V @ 17.0A	1	80
SMDA24	SDG	24.0	26.7	43.0	49.0V @ 12.0A	1	88
SMDA24C	SDH	24.0	26.7	43.0	49.0V @ 12.0A	1	50
SMDA36	SDN	36.0	40.0	51.0	76.8V @ 9.0A	1	80
SMDA36C	SDP	36.0	40.0	51.0	76.8V @ 9.0A	1	45

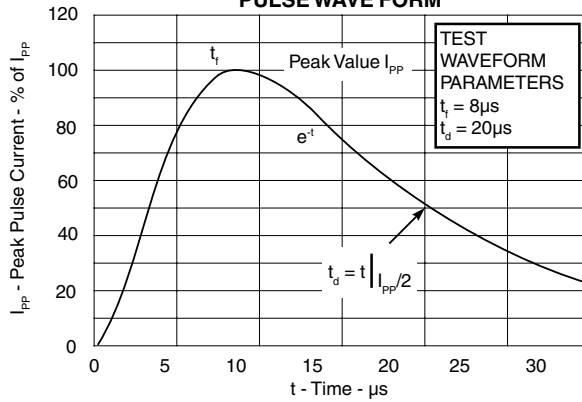
**Note 1:** Part numbers with a "C" suffix are bidirectional devices, i.e., SMDA03C.

GRAPHS

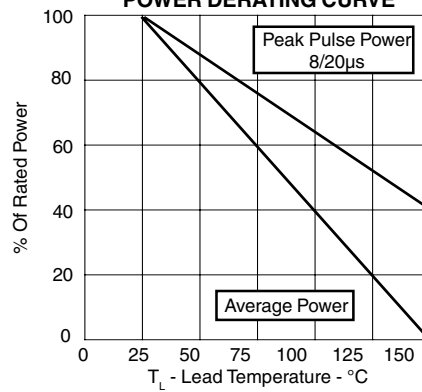
**FIGURE 1**  
**PEAK PULSE POWER VS PULSETIME**



**FIGURE 2**  
**PULSE WAVE FORM**



**FIGURE 3**  
**POWER DERATING CURVE**



PACKAGE OUTLINE & DIMENSIONS

### PACKAGE OUTLINE

**SO-8**

### PACKAGE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.80	5.00	0.189	0.196
B	3.80	4.00	0.150	0.157
C	1.35	1.75	0.054	0.068
D	0.35	0.49	0.014	0.019
F	0.40	1.250	0.016	0.049
G	1.27 BSC	1.27 BSC	0.05 BSC	0.05 BSC
J	0.18	0.25	0.007	0.009
K	0.10	0.25	0.004	0.008
P	5.80	6.20	0.229	0.244
R	0.25	0.50	0.010	0.019

### MOUNTING PAD

### NOTES

- T - = Seating Plane and Datum Surface.
- Dimensions "A" and "B" are Datum.
- Dimensions "A" and "B" do not include mold protrusion.
- Maximum mold protrusion is 0.015" (0.380 mm) per side.
- Dimensioning and tolerances per ANSI Y14.5M, 1982.
- Dimensions are exclusive of mold flash and metal burrs.

### TAPE & REEL/BULK ORDERING NOMENCLATURE

- Surface mount product is taped and reeled in accordance with EIA-481.
- Suffix-T7 = 7 Inch Reel - 1,000 pieces per 12mm tape, i.e., *SMDA05-T7*.
- Suffix-T13 = 13 Inch Reel - 2,500 pieces per 12mm tape, i.e., *SMDA05-T13*.
- Suffix - LF = Lead-Free, Pure-Tin Plating, i.e., *SMDA05C-LF-T7*.
- No Suffix = Product Shipped in Tubes of 98 pcs per Tube.

**Outline & Dimensions: Rev 1 - 11/01, 06009**

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