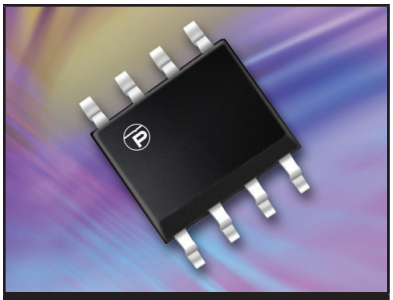
500 WATT MULTI-LINE TVS ARRAY



SO-8 PACKAGE

DESCRIPTION

The SMDAxx and SMDAxxC Series are multi-line transient voltage suppressor arrays that provides board level protection for standard TTL and MOS bus line applications against the damaging effects of ESD, tertiary lightning and switching transients.

The SMDA Series has a peak pulse power rating of 500 Watts for an 8/20µs waveshape. This device series meets the IEC 61000-4-2, IEC 61000-4-4 and IEC 61000-4-5 requirements.

FEATURES

- Compatible with IEC 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- Compatible with IEC 61000-4-4 (EFT): 40A - 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 12A, 8/20µs - Level 1(Line-Gnd) & Level 2(Line-Line)
- 500 Watts Peak Pulse Power per Line (tp = 8/20µs)
- Unidirectional and Bidirectional Configurations
- Available in Multiple Voltages Ranging from 3V to 36V
- Protects up to Four Lines
- RoHS Compliant
- REACH Compliant

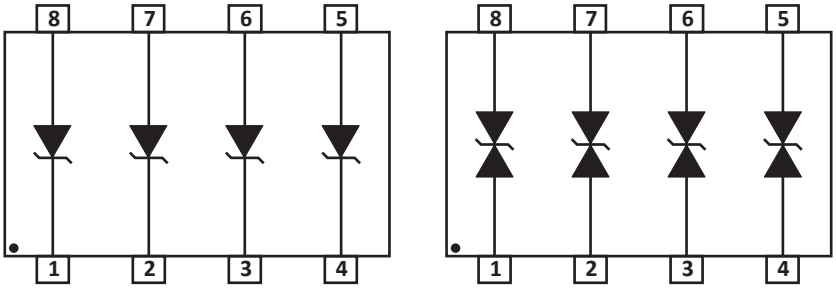
APPLICATIONS

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

MECHANICAL CHARACTERISTICS

- Molded JEDEC SO-8 Package
- Approximate Weight: 70 milligrams
- Lead-Free Pure-Tin Plating (Annealed)
- Solder Reflow Temperature:
  Pure-Tin - Sn, 100: 260-270°C
- 12mm Tape and Reel Per EIA Standard 481
- Flammability Rating UL 94V-0

PIN CONFIGURATIONS



UNIDIRECTIONAL

BIDIRECTIONAL

TYPICAL DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	**SYMBOL**	**VALUE**	**UNITS**
Operating Temperature	T_L	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C
Peak Pulse Power (tp = 8/20µs) - See Figure 1	P_{PP}	500	Watts
Forward Voltage @ 100mA, 300µs - Square Wave (See 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 (Note 1)	**DEVICE MARKING**	**RATED STAND-OFF VOLTAGE** V_{WM} **VOLTS**	**MINIMUM BREAKDOWN VOLTAGE** @1mA $V_{(BR)}$ **VOLTS**	**MAXIMUM CLAMPING VOLTAGE (Fig. 2)** @I_P = 1A V_C **VOLTS**	**MAXIMUM CLAMPING VOLTAGE (Fig. 2)** @I_P = 5A V_C **VOLTS**	**MAXIMUM CURRENT** I_{PP} @ 8/20µs **AMPS**	**MAXIMUM LEAKAGE CURRENT** @V_{WM} I_D **µA**	**MAXIMUM CAPACITANCE** @0V, 1MHz **C pF**
SMDA03	SDL	3.3	4.0	6.5	7.0	43.0	125	800
SMDA03C	SDM	3.3	4.5	7.0	9.0	43.0	125	450
SMDA05	SDA	5.0	6.0	9.8	10.0	40.0	20	550
SMDA05C	SDB	5.0	6.0	9.8	10.0	40.0	20	308
SMDA08	SDJ	8.0	8.5	13.4	14.0	27.0	10	500
SMDA08C	SDK	8.0	8.5	13.4	14.0	27.0	10	300
SMDA12	SDC	12.0	13.3	19.0	22.0	20.0	1	185
SMDA12C	SDD	12.0	13.3	19.0	22.0	20.0	1	105
SMDA15	SDE	15.0	16.7	24.0	27.0	15.0	1	140
SMDA15C	SDF	15.0	16.7	24.0	27.0	15.0	1	80
SMDA24	SDG	24.0	26.7	43.0	45.0	12.0	1	88
SMDA24C	SDH	24.0	26.7	43.0	45.0	12.0	1	50
SMDA36	SDN	36.0	40.0	51.0	65.0	8.0	1	80
SMDA36C	SDP	36.0	40.0	51.0	65.0	8.0	1	45

NOTES
1. Part numbers with a "C" suffix are bidirectional devices, i.e., SMDA03**C**.

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

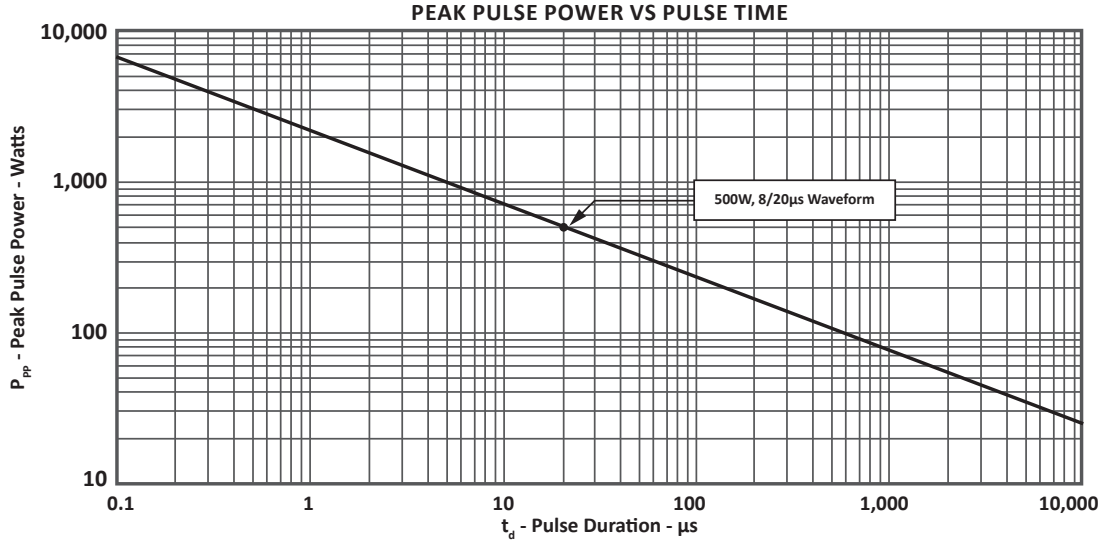


FIGURE 2
PULSE WAVE FORM

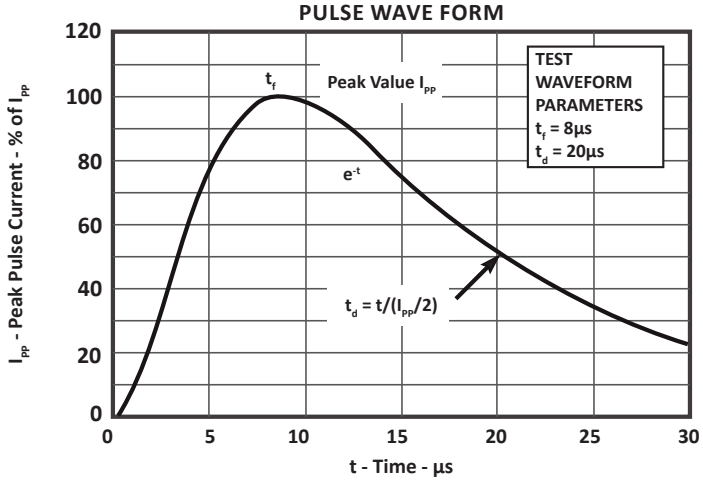
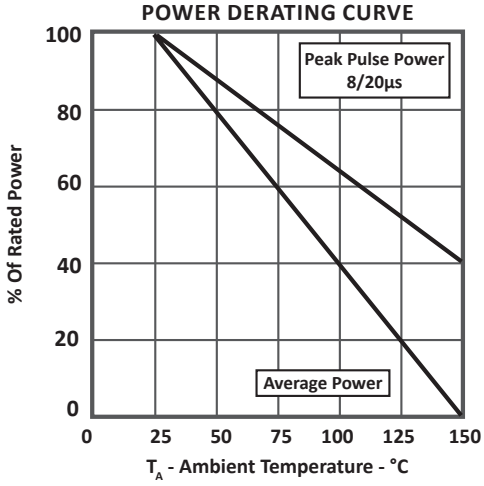


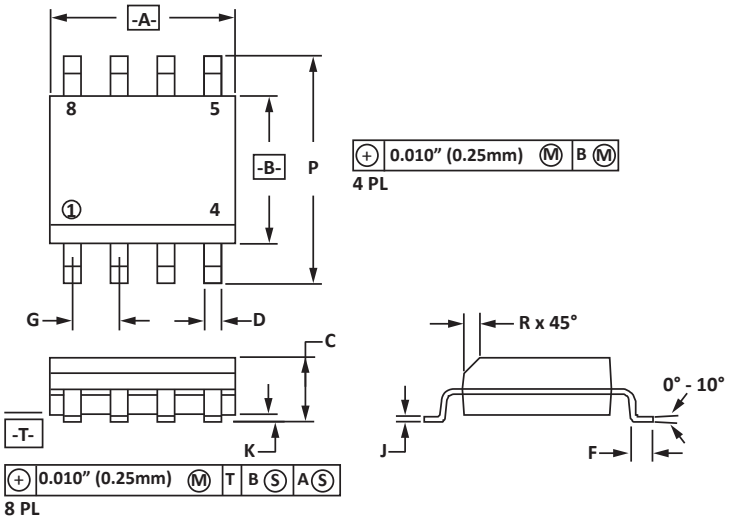
FIGURE 3
POWER DERATING CURVE



SO-8 PACKAGE INFORMATION

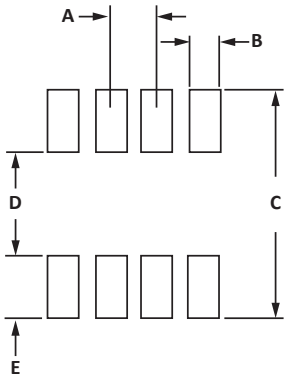
OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.80	5.00	0.189	0.196
B	3.80	4.00	0.150	0.157
C	1.35	1.75	0.054	0.068
D	0.35	0.49	0.014	0.019
F	0.40	1.25	0.016	0.049
G	1.27 BSC		0.05 BSC	
J	0.18	0.25	0.007	0.009
K	0.10	0.25	0.004	0.008
P	5.80	6.20	0.229	0.244
R	0.25	0.50	0.010	0.019

NOTES
1. -T- = Seating plane and datum surface.
2. Dimensions "A" and "B" are datum.
3. Dimensions "A" and "B" do not include mold protrusion.
4. Maximum mold protrusion is 0.015" (0.380mm) per side.
5. Dimensioning and tolerances per ANSI Y14.5M, 1982.
6. Dimensions are exclusive of mold flash and metal burrs.

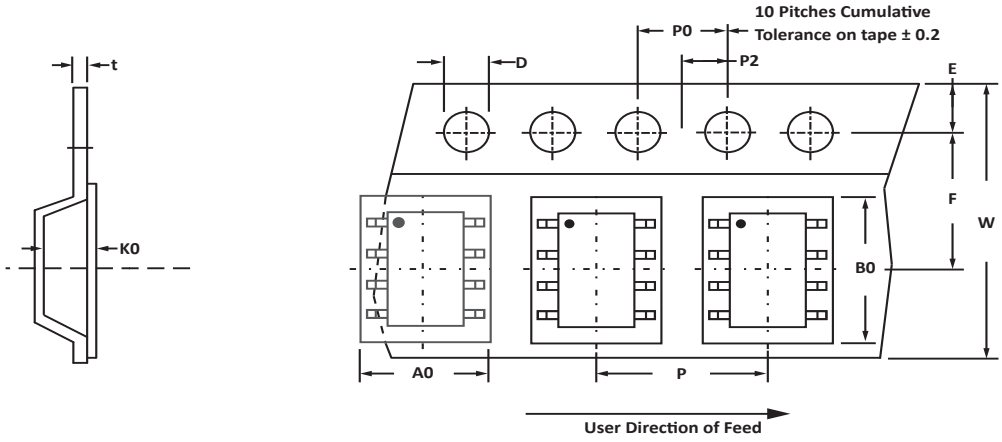


PAD LAYOUT DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.14	1.40	0.045	0.055
B	0.64	0.89	0.025	0.035
C	6.22	-	0.245	-
D	3.94	4.17	0.155	0.165
E	1.02	1.27	0.040	0.050

NOTES
1. Controlling dimension: inches.



TAPE AND REEL



SPECIFICATIONS												
REEL DIA.	TAPE WIDTH	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")	12mm	6.50 ± 0.10	5.40 ± 0.10	2.00 ± 0.10	1.50 ± 0.10	1.75 ± 0.10	5.50 ± 0.05	12.00 ± 0.30	4.00 ± 0.12	2.00 ± 0.10	4.00 ± 0.10	0.25

NOTES
1. Dimensions are in millimeters.
2. Surface mount product is taped and reeled in accordance with EIA-481.
3. Suffix - T7 = 7" Reel - 1,000 pieces per 12mm tape.
4. Suffix - T13 = 13" Reel - 2,500 pieces per 12mm tape.
5. Bulk product shipped in tubes of 98 pieces per tube.
6. Marking on Part - marking code (see page 2), date code, logo and pin one defined by dot on top of package.

Package outline, pad layout and tape specifications per document number 06009.R3 9/10.

ORDERING INFORMATION					
BASE PART NUMBER (xx = Voltage)	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
SMDAxx/SMDAxxC	-LF	-T7	1,000	7"	98
SMDAxx/SMDAxxC	-LF	-T13	2,500	13"	98

This device is only available in a Lead-Free configuration.

COMPANY INFORMATION

COMPANY PROFILE

In business more than 20 years, ProTek Devices™ is a privately-held company located in Tempe, Arizona, that offers a product line of transient voltage suppressors (TVS); avalanche breakdown diodes; steering diode TVS arrays and other surge suppressor component products. These TVS devices protect electronic systems from the effects of lightning, electrostatic discharge (ESD), nuclear electromagnetic pulses (NEMP), inductive switching and EMI / RFI. ProTek Devices also offers high performance interface and linear products that include analog switches; multiplexers; LED drivers; audio control ICs; RF and related high frequency products. The analog devices work in a host of consumer; industrial; automotive and other applications.

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