

UNIDIRECTIONAL MONOLITHIC TVS DIODE ARRAY

APPLICATIONS

- Multiple I/O Port Protection
- Board Level Interface Connection
- RS-232, RS-422 & RS-423 Data Lines
- Portable Electronics

FEATURES

- IEC 1000-4-2 & -4 Industry Requirements
- 175 Watts Peak Pulse Power Dissipation (8/20 μ s)
- ESD Protection > 25 kilovolts
- Protects 5.0 Volt IC Components up to 18 Lines
- Unidirectional Monolithic Design
- Low Clamping Voltage
- UL 94V-0 Flammability Classification

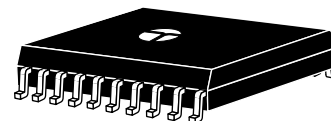
DESCRIPTION

The PSMDA05-18 is a 5.0 Volt unidirectional, eighteen (18) line, monolithic transient voltage suppressor (TVS) array designed to provide power line applications protection against ESD, tertiary lightning, and switching (logic level) transients. This device protects against the Electromagnetic Compatibility (EMC) transient immunity standards IEC 1000-4-2, -4 and European standard EN50082 and EN61000-4.

This device is offered in an SO-20L wide body surface mount package with a peak pulse power (P_{PP}) rating of 175 Watts for an 8/20 μ s pulse. This array offers low clamping voltage and can be used to protect sensitive IC components up to eighteen unidirectional (18) lines.

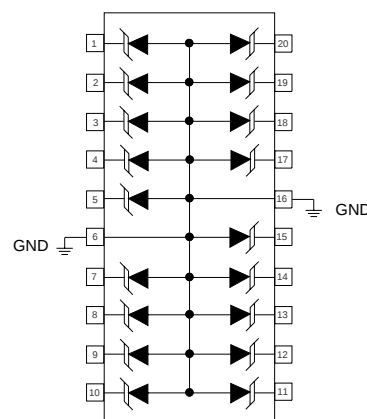
MAXIMUM RATINGS	
P_{PP} @ 25°C (See Figure 1)	175 Watts, 8/20 μ s Waveshape
Operating & Storage Temperature	-55° to +150°C
Repetition Rate (Duty Cycle)	0.01%
$t_{Clamping}$ (0 Volts to $V_{(BR)}$ Min.)	Unidirectional: < 1 x 10 ⁻¹² seconds
MECHANICAL CHARACTERISTICS	
Package	Molded SO-20L Wide Body Surface Mount Package
Packaging	Tube or 24mm Tape per EIA 481
Common Ground Pins	Pin Nos. 6 & 16
Approximate Weight	0.6 grams
Device Markings	Logo & Marking Code
Miscellaneous	Pin No. 1 Indicated by Dot on Top of Package

IEC 1000-4 COMPATIBLE

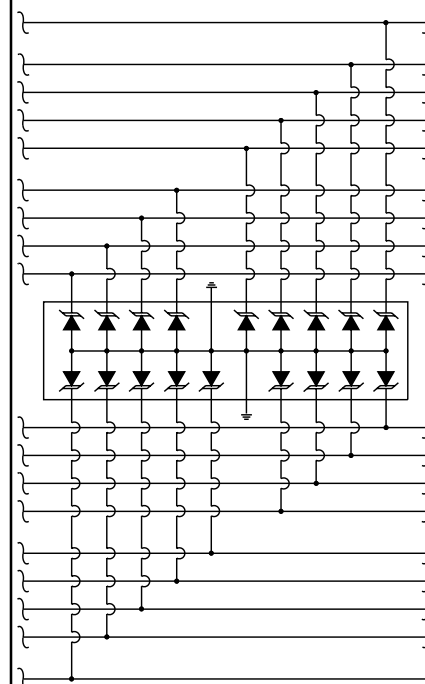


SO-20L PACKAGE

CIRCUIT DIAGRAM



DC DATALINE APPLICATION



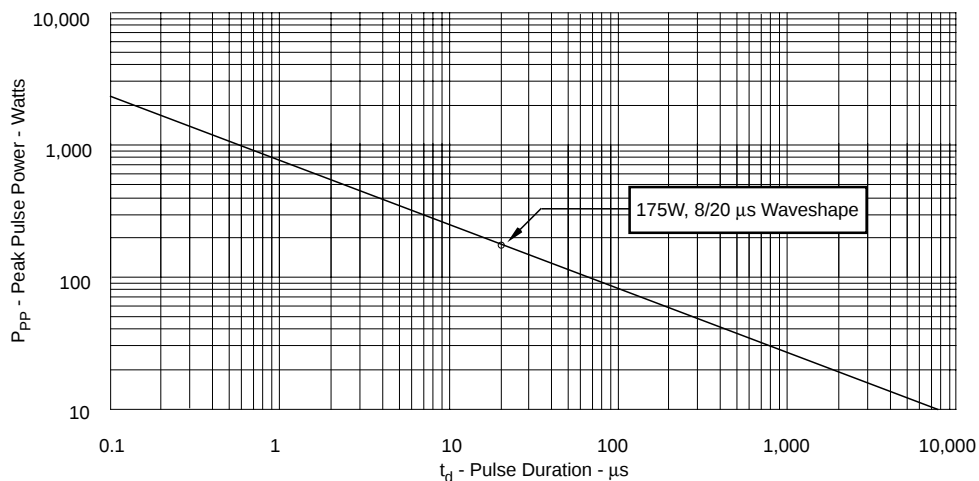
ELECTRICAL CHARACTERISTICS @ 25° C Ambient Temperature

PROTEK PART NUMBER (See Note 1)	DEVICE MARKING CODE	RATED STAND-OFF VOLTAGE (See Note 2) V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1 mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ $I_P = 1$ A V_C VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ $I_P = 5$ A V_C VOLTS	MAXIMUM LEAKAGE CURRENT @ V_{WM} I_D μA	MAXIMUM FORWARD CURRENT @ 200 mA V_F VOLTS	MAXIMUM CAPACITANCE @ 0V, 1 MHz C pF
PSMDA05-18	VEB	5.0	6.0	9.8	11	20	1.25	120

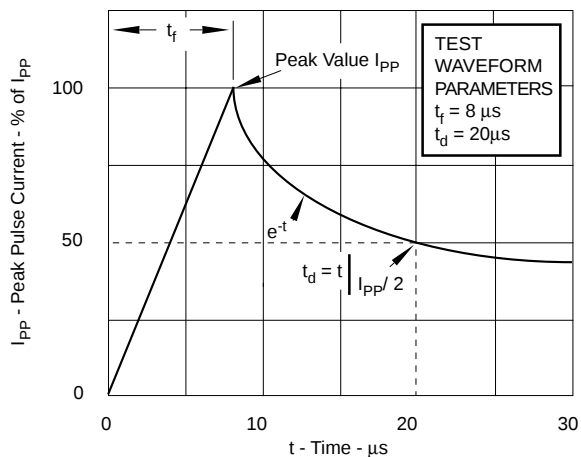
Note 1: Tested between pins 1, 2, 3, 4, 5, 8, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19 & 20 and common pins 6 & 16 (unidirectional only).

Note 2: $V_F = 1.5V$ @ 50mA, 300 μs (Square wave).

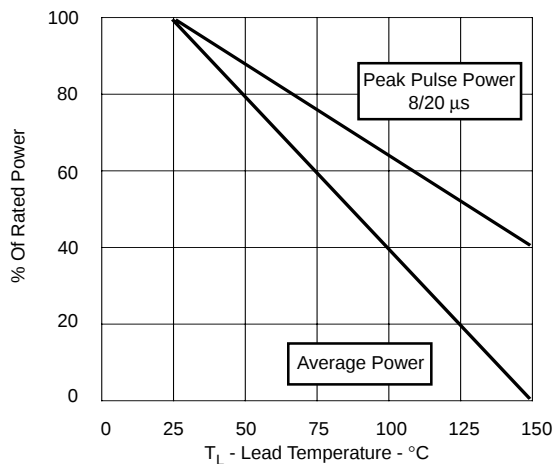
**FIGURE 1
PEAK PULSE POWER VS PULSE TIME**



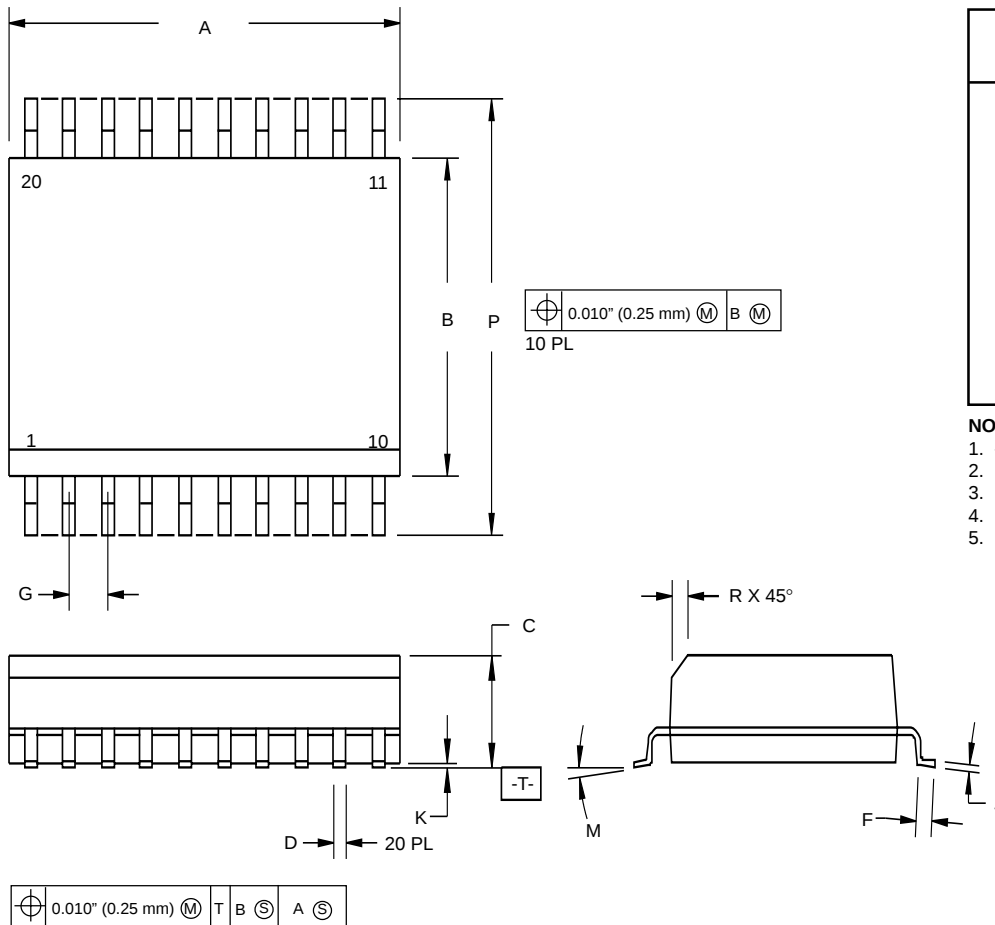
**FIGURE 2
PULSE WAVE FORM**



**FIGURE 3
POWER DERATING CURVE**



SO-20L PACKAGE OUTLINE



SO-20L PACKAGE DIMENSIONS (WIDE BODY)

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	12.65	12.95	0.499	0.510
B	7.40	7.60	0.292	0.299
C	2.35	2.65	0.093	0.104
D	0.35	0.49	0.014	0.019
F	0.50	0.90	0.020	0.035
G	1.27 BSC	1.27 BSC	0.05 BSC	0.05 BSC
J	0.25	0.32	0.010	0.012
K	0.10	0.25	0.004	0.009
M	0°	7°	0°	7°
P	10.05	10.55	0.395	0.415
	0.25	0.75	0.010	0.029

NOTES:

- T - = Seating Plane
- Dimension "A" is Datum
- Dimension "A" and "B" do not include mold protrusion.
- Maximum mold protrusion is 0.15" (0.006 mm).
- Dimensioning and tolerances per ANSI Y14.5M, 1982.

