

HIGH POWERED 2400W TVS ARRAY



SOT-23 PACKAGE

DESCRIPTION

The PSM36A is a transient voltage suppressor (TVS) array, designed for power or data line applications. This device provides protection against ESD, tertiary lightning and switching transients. The PSM36A offers low clamping voltage for the protection of sensitive interfaces.

The PSM36A has a peak pulse power of 2400 Watts for an 8/20 μ s waveshape and is available in a unidirectional configuration. This series meets the IEC 61000-4-2, 61000-4-4 and IEC 61000-4-5 Class 2 (1kV, Req = 42 Ohms) requirements.

FEATURES

- Compatible with IEC 61000-4-2 (ESD): Air \pm 30kV, Contact \pm 30kV
- Compatible with IEC 61000-4-4 (EFT): 40A, 5/50ns
- Compatible with IEC 61000-4-5 (Surge): Class 2, 1kV, Req = 42 Ohms
- 2400 Watts Peak Pulse Power per Line($t_p = 8/20\mu$ s)
- Low Clamping Voltage: Less than 60V @ 40Apk 8/20 μ s Surge
- Unidirectional Configuration
- Low Leakage: 200nA @ 36V
- Lead-Free Component
- RoHS Compliant
- REACH Compliant

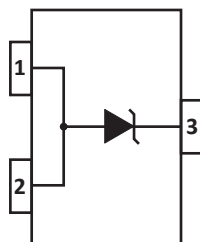
APPLICATIONS

- IO-Link Sensor Transceiver Interface
- 2-Wire Sensors
- 3-Wire DC Proximity Switch

MECHANICAL CHARACTERISTICS

- Molded JEDEC SOT-23 Package
- Approximate Weight: 8 milligrams
- Lead-Free Pure-Tin Plating (Annealed)
- Solder Reflow Temperature:
Pure-Tin - Sn, 100: 260-270°C
- Flammability Rating UL 94V-0
- 8mm Tape and Reel per EIA Standard 481

PIN CONFIGURATION



TYPICAL DEVICE CHARACTERISTICS
MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

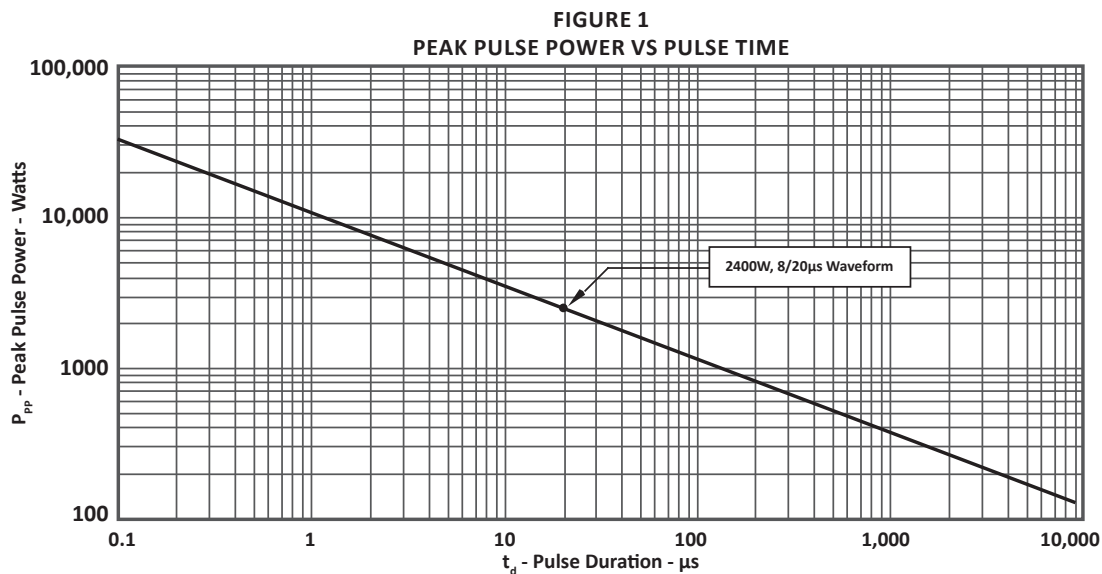
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power ($t_p = 8/20\mu s$) (Fig. 1) - Pin 1 and pin 2 must be connected together.	P_{PP}	2400	Watts
Operating Temperature	T_L	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C
ESD Voltage Level per IEC 61000-4-2 (Air & Contact)	V_{ESD}	±30	kV

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER	DEVICE MARKING	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) (Note 1) @ 8/20 μs $V_C @ I_{PP}$	MAXIMUM CLAMPING VOLTAGE (Fig. 2) (Note 1) @ 8/20 μs $V_C @ I_{PP}$	MAXIMUM LEAKAGE CURRENT @ V_{WM} I_D μA	MAXIMUM LEAKAGE CURRENT @ V_{WM} $T_j = 150^\circ C$ I_D μA	MAXIMUM CAPACITANCE @ 0V, 1MHz C pF
PSM36A	M36	36.0	39.0	44.0	52.0V @ 25A	60.0V @ 40A	0.2	5.0	250

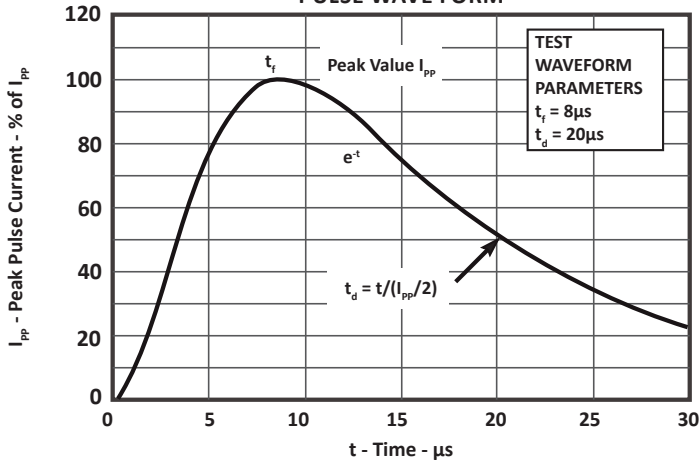
NOTES

1. Pin 1 and pin 2 must be connected together.

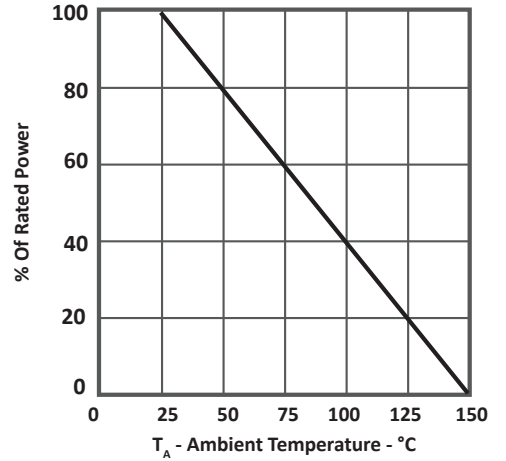


TYPICAL DEVICE CHARACTERISTICS

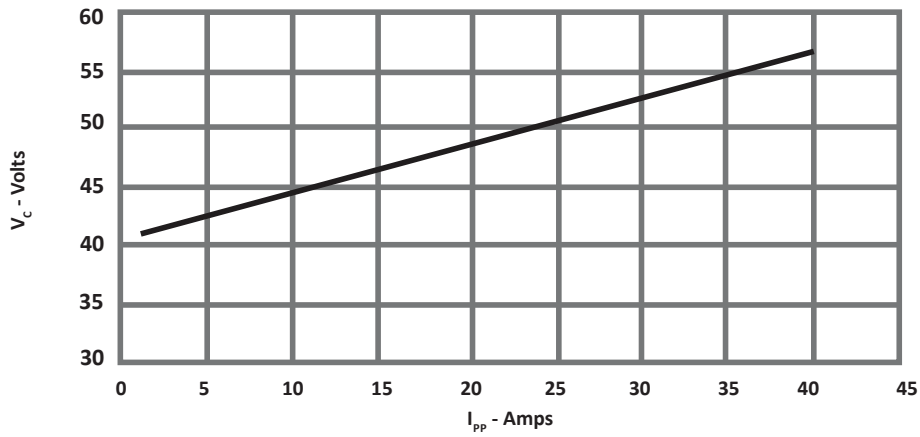
**FIGURE 2
PULSE WAVE FORM**



**FIGURE 3
POWER DERATING CURVE**



**FIGURE 4
VC VS IPP WAVEFORM**



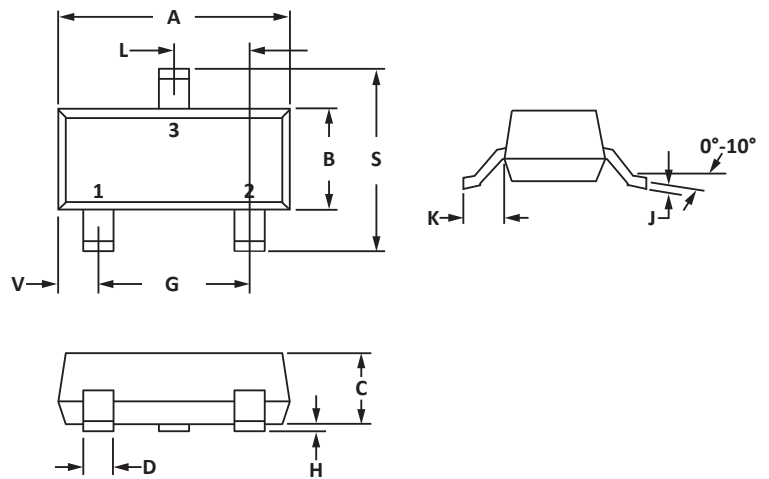
SOT-23 PACKAGE INFORMATION

OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.80	3.04	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.89	1.11	0.035	0.044
D	0.37	0.50	0.015	0.020
G	1.78	2.04	0.070	0.081
H	0.013	0.100	0.001	0.004
J	0.085	0.177	0.003	0.007
K	0.45	0.60	0.018	0.024
L	0.89	1.02	0.035	0.040
S	2.10	2.50	0.083	0.098
V	0.45	0.60	0.018	0.024

NOTES

1. Controlling dimension: inches.
2. Dimensioning and tolerances per ANSI Y14.5M, 1985.
3. Pin 3 is the cathode (Unidirectional Only)
4. Dimensions are exclusive of mold flash and metal burrs.

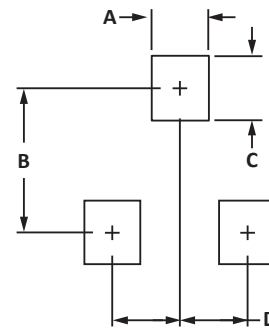


PAD LAYOUT DIMENSIONS

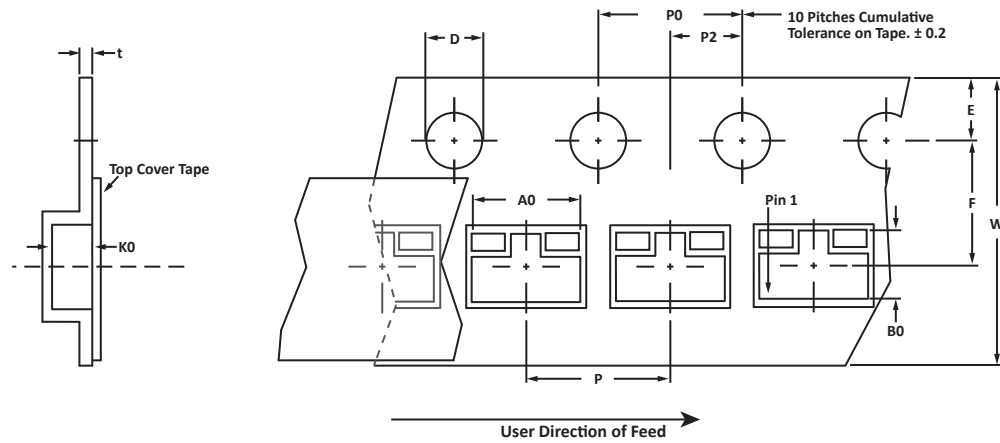
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

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")	8mm	3.15 ± 0.10	2.77 ± 0.10	1.30 ± 0.10	1.55 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.30	4.00 ± 0.10	2.00 ± 0.05	4.00 ± 0.10	0.228

NOTES

- Dimensions are in millimeters.
- Surface mount product is taped and reeled in accordance with EIA-481.
- Marking on Part - marking code (see page 2) and date code.

ORDERING INFORMATION

BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
PSM36A	n/a	-T73	3000	7"	n/a

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

COMPANY INFORMATION

COMPANY PROFILE

In business more than 30 years, ProTek Devices™ is a privately held semiconductor company. The company offers a product line of overvoltage protection that include Transient Voltage Suppressor (TVS) Arrays, Steering Diode Array Hybrids, High-power Components and Modules, as well as Steering Diodes, EMI Filter/TVS Arrays and Thyristor Surge Suppressors. These components deliver circuit protection in electronic systems from numerous overvoltage events. They include lightning; electrostatic discharge (ESD); nuclear electromagnetic pulses (NEMP); inductive switching; and electromagnetic interference (EMI) / radio frequency interference (RFI). ProTek Devices is an ISO 9001 certified company.

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