

## ULTRA LOW CAPACITANCE TVS ARRAY



### DESCRIPTION

The PAM01SC7905C is an ultra low capacitance transient voltage suppressor array, designed to protect automotive applications. This device is available in a bidirectional configuration and is rated for 200 Watts peak pulse power (8/20 $\mu$ s).

The PAM01SC7905C meets IEC 61000-4-2 (ESD) and IEC 61000-4-4 (EFT) requirements. At higher operating frequencies or faster edge rates, insertion loss and signal integrity are a major concern. This device offers a ultra low capacitance and low leakage current in a miniature SC-79 package.

### FEATURES

- **AEC-Q101 Qualified**
- Compatible with IEC 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- Compatible with IEC 61000-4-4 (EFT): 40A - 5/50ns
- 200 Watts Peak Pulse Power per Line (tp = 8/20 $\mu$ s)
- Replacement for MLV (0803)
- Bidirectional Configuration
- Protects One Power or I/O Port
- Low Clamping Voltage
- Ultra Low Capacitance: 1.5pF (Typical)
- RoHS Compliant
- REACH Compliant

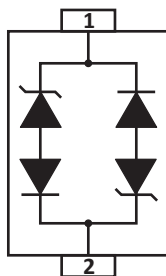
### APPLICATIONS

- Automotive Applications

### MECHANICAL CHARACTERISTICS

- Molded JEDEC SC-79 Package
- Approximate Weight: 2 milligrams
- Lead-Free Pure-Tin Plating (Annealed)
- Solder Reflow Temperature:  
Pure-Tin - Sn, 100: 260-270°C
- 8mm Tape and Reel Per EIA Standard 481
- Flammability Rating UL 94V-0

### PIN CONFIGURATION



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

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 8/20μs) - See Figure 1	P <sub>PP</sub>	200	Watts
Operating Temperature	T <sub>A</sub>	-55 to 150	°C
Storage Temperature	T <sub>STG</sub>	-55 to 150	°C

**ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified**

PART NUMBER (Notes 1)	DEVICE MARKING	RATED STAND-OFF VOLTAGE  V <sub>WM</sub> VOLTS	MINIMUM BREAKDOWN VOLTAGE  @ 1mA V <sub>(BR)</sub> VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2)  @ 8/20μs V <sub>C</sub> @ I <sub>PP</sub>	MAXIMUM LEAKAGE CURRENT  @ V <sub>WM</sub> I <sub>D</sub> μA	TYPICAL CAPACITANCE  @ 0V, 1MHz C <sub>T</sub> pF
PAM01SC7905C	O	5.0	6.0	16.0V @ 10.0A	1.0	1.5

**NOTE**

1. For Bidirectional Devices Only: Electrical characteristics apply in both directions.

## TYPICAL DEVICE CHARACTERISTICS

FIGURE 1  
PEAK PULSE POWER VS PULSE TIME

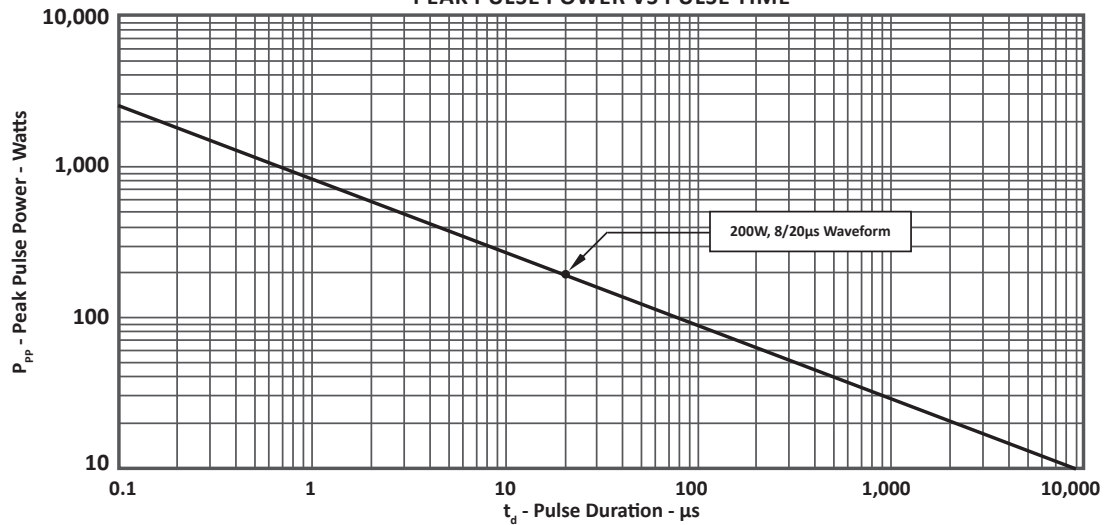
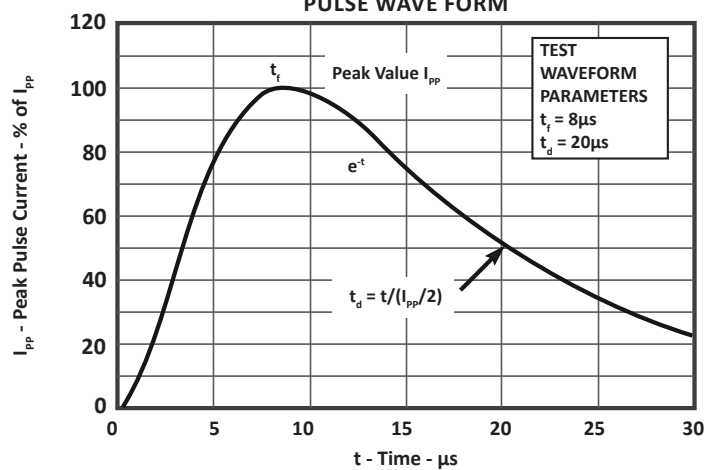


FIGURE 2  
PULSE WAVE FORM



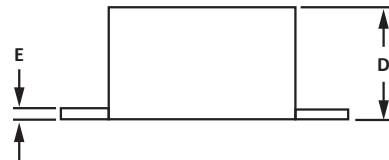
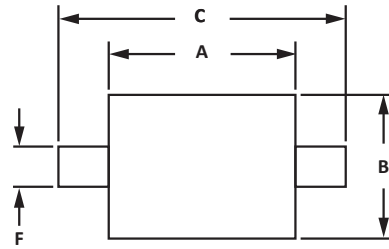
## SC-79 PACKAGE INFORMATION

## OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.10	1.30	0.043	0.049
B	0.70	0.90	0.028	0.035
C	1.50	1.70	0.059	0.066
D	0.50	0.70	0.020	0.028
E	0.08	0.20	0.003	0.008
F	0.30 BSE		0.012 BSE	

## NOTES

1. Dimensioning and tolerances per ANSI Y14.M, 1985.
2. Controlling dimension: millimeters.
3. Dimensions are exclusive of mold flash and metal burrs.

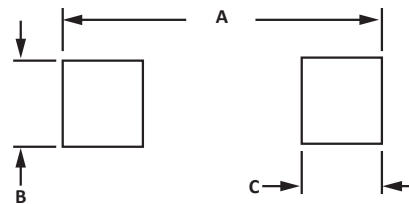


## PAD LAYOUT DIMENSIONS

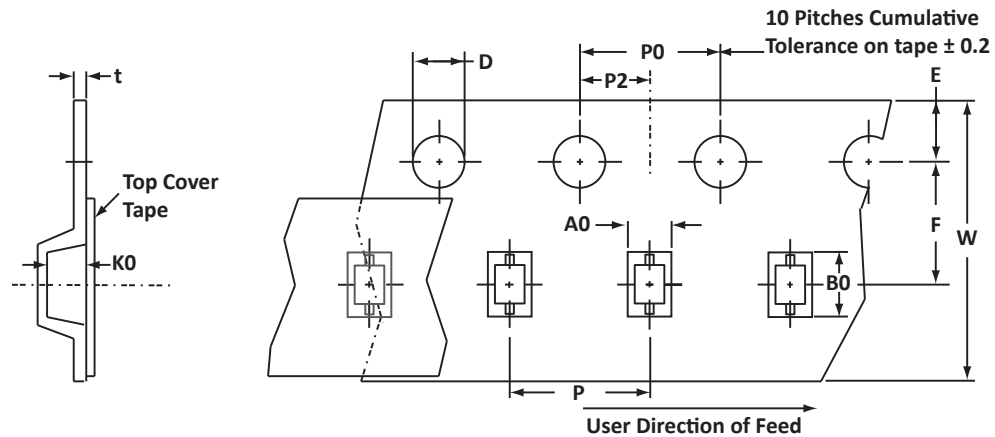
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.85	2.03	0.070	0.080
B	0.38	0.64	0.015	0.025
C	0.25	0.51	0.010	0.020

## NOTES

1. Controlling dimension: millimeters



## TAPE AND REEL



## SPECIFICATIONS

REEL DIA.	TAPE WIDTH	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")	8mm	1.00 ± 0.10	1.95 ± 0.05	0.075 ± 0.05	1.50 ± 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	0.25

## NOTES

- Dimensions are in millimeters.
- Surface mount product is taped and reeled in accordance with EIA-481.
- Empty pocket between sprocket holes.
- Suffix - T74 = 7" Reel - 4,000 pieces per 8mm tape.
- Marking on Part - marking code (see page 2) and date code.

Package outline, pad layout and tape specifications per document number 06037.R3 8/10.

## ORDERING INFORMATION

BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
PAM01SC7905C	n/a	-T74	4,000	7"	n/a

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

## COMPANY INFORMATION

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### 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.

### CONTACT US

#### Corporate Headquarters

2929 South Fair Lane  
Tempe, Arizona 85282  
USA

#### By Telephone

General: 602-431-8101  
Sales: & Marketing: 602-414-5109  
Customer Service: 602-414-5114  
Product Technical Support: 602-414-5107

#### By Fax

General: 602-431-2288

#### By E-mail:

Sales: [sales@protekdevices.com](mailto:sales@protekdevices.com)  
Customer Service: [service@protekdevices.com](mailto:service@protekdevices.com)  
Technical Support: [support@protekdevices.com](mailto:support@protekdevices.com)

#### ProTek Devices (Asia Pacific) Pte. Ltd.

8 Ubi Road 2, #06-19  
Zervex  
Singapore - 408538  
Tel: +65-67488312  
Fax: +65-67488313

#### Web

[www.protekdevices.com](http://www.protekdevices.com)

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