

## LOW CAPACITANCE TVS COMPONENT



### DESCRIPTION

The PLW2.8 is a low capacitance, transient voltage suppressor array designed to protect applications such as wireless telecommunication devices, PCMCIA cards and portable electronics. This device is available in a unidirectional configuration with a working voltage of 2.8V and a minimum breakdown voltage of 3.0V. The PLW2.8 is rated at 50W peak pulse power (8/20 $\mu$ s), which is sufficient protection for tertiary type lightning threats at key interface locations.

The PLW2.8 is ideally suited to protect data I/O ports against ESD. This device meets the requirements of IEC 61000-2. Packaged in a SC-79 configuration, this device can be substituted for similar 0803 outlines.

### FEATURES

- Compatible with IEC 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- 50 Watts Peak Pulse Power per Line ( $t_p = 8/20\mu s$ )
- Unidirectional Configuration
- Replacement for MLV (0803)
- Low Leakage Current <1.0 $\mu$ A
- Low Capacitance: 6pF (Typical)
- RoHS Compliant
- REACH Compliant

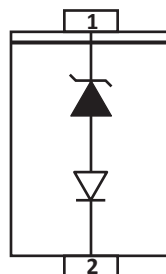
### APPLICATIONS

- Ethernet - 10/100/1000 Base T
- SMART Phones
- Portable Electronics

### 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>	50	Watts
Peak Pulse Current (tp = 8/20μs)	I <sub>PP</sub>	5	Amps
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	DEVICE MARKING	RATED STAND-OFF VOLTAGE  V <sub>WM</sub> VOLTS	MINIMUM BREAKDOWN VOLTAGE  @ 1mA V <sub>(BR)</sub> VOLTS	MINIMUM SNAP BACK VOLTAGE  @ I <sub>SB</sub> = 50mA V <sub>SB</sub> VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2)  @ IP = 1A V <sub>C</sub> VOLTS	MAXIMUM LEAKAGE CURRENT  @ V <sub>WM</sub> I <sub>D</sub> μA	TYPICAL CAPACITANCE  @ 0V, 1MHz C pF
PLW2.8	P	2.8	3.0	2.8	5.0	1	6

## TYPICAL DEVICE CHARACTERISTICS

FIGURE 1  
PEAK PULSE POWER VS PULSE TIME

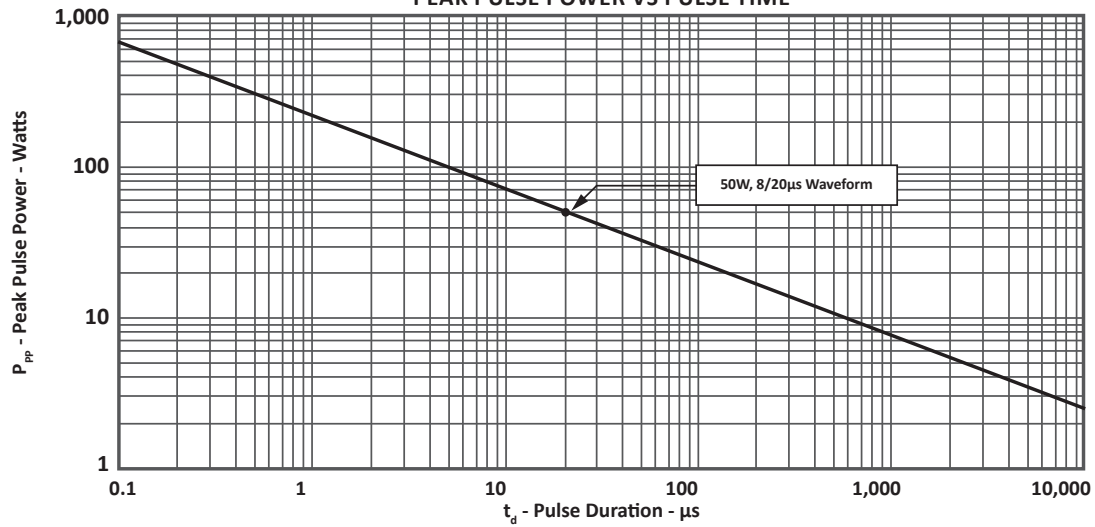
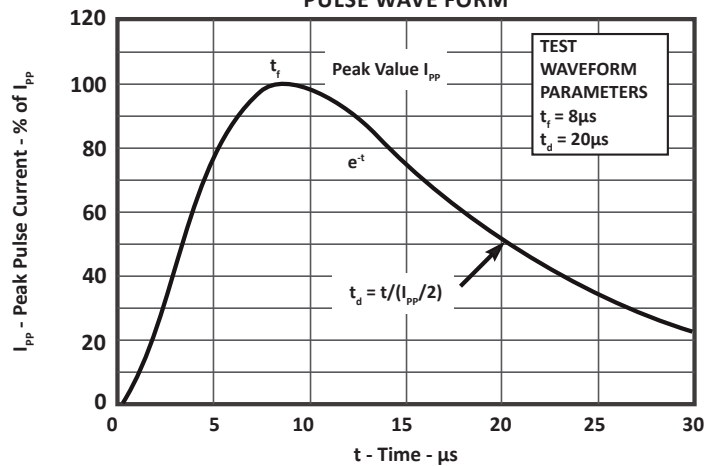


FIGURE 2  
PULSE WAVE FORM



## 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.

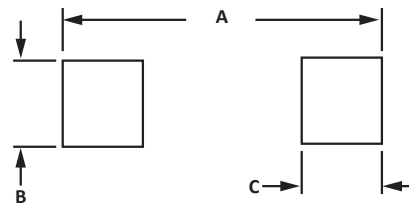


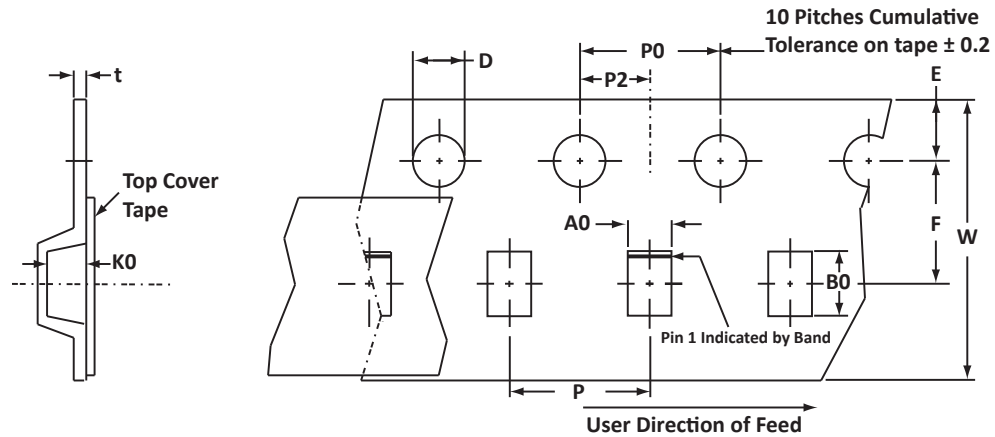
### PAD LAYOUT DIMENSIONS

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), polarity band 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
PLW2.8	-LF	-T74	4,000	7"	n/a

## COMPANY INFORMATION

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### COMPANY PROFILE

ProTek Devices, based in Tempe, Arizona USA, is a manufacturer of Transient Voltage Suppression (TVS) products designed specifically for the protection of electronic systems from the effects of lightning, Electrostatic Discharge (ESD), Nuclear Electromagnetic Pulse (NEMP), inductive switching and EMI/RFI. With over 25 years of engineering and manufacturing experience, ProTek designs TVS devices that provide application specific protection solutions for all electronic equipment/systems.

ProTek Devices Analog Products Division, also manufactures analog interface, control, RF and power management products.

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