

## 250 WATT TVS COMPONENT



### DESCRIPTION

The PLW0501H is a 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 5.0V and a minimum breakdown voltage of 6.0V. The PLW0501H is rated at 250W peak pulse power (8/20 $\mu$ s), which is sufficient protection for tertiary type lightning threats at key interface locations.

The PLW0501H is ideally suited to protect data I/O ports against ESD and EFT. This device meets the requirements of IEC 61000-2 and IEC 61000-4-4. 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
- Compatible with IEC 61000-4-4 (EFT): 40A, 5/50ns
- 250 Watts Peak Pulse Power per Line (tp = 8/20 $\mu$ s)
- Cable Discharge Event (CDE) Protection
- Replacement for MLV (0803)
- One Unidirectional Line of Protection
- Unidirectional Configuration
- RoHS Compliant
- REACH Compliant

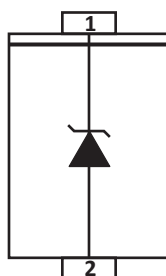
### APPLICATIONS

- 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	$P_{PP}$	250	Watts
Peak Pulse Current (tp = 8/20μs)	$I_{PP}$	16	Amps
Operating Temperature	$T_A$	-55 to 150	°C
Storage Temperature	$T_{STG}$	-55 to 150	°C
Soldering Temperature for 10 seconds	$T_L$	265	°C

**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	TYPICAL FORWARD VOLTAGE @ 100mA $V_F$ VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ $I_P = 5A$ $V_C$ VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ $I_P = 16A$ $V_C$ VOLTS	MAXIMUM LEAKAGE CURRENT @ $V_{WM}$ $I_D$ μA	TYPICAL CAPACITANCE @ 0V, 1MHz C pF
PLW0501H	U5	5.0	6.0	0.8	9.8	12.5	5	120

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1  
PEAK PULSE POWER VS PULSE TIME

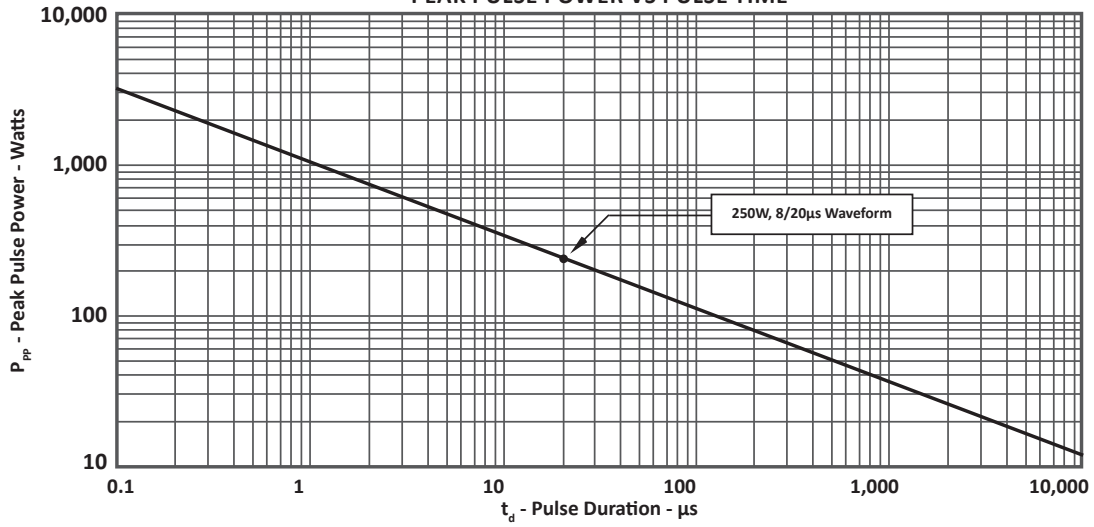
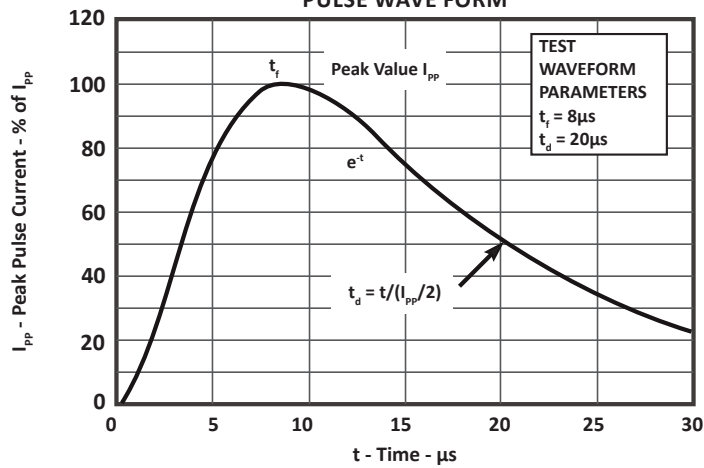


FIGURE 2  
PULSE WAVE FORM



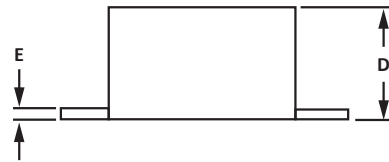
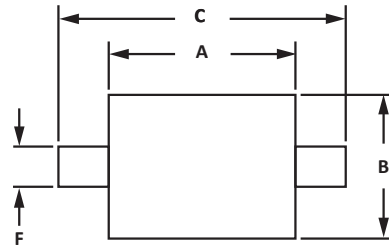
## SC-79 PACKAGE INFORMATION

## 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.

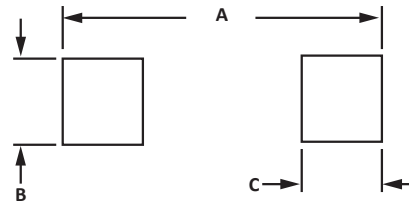


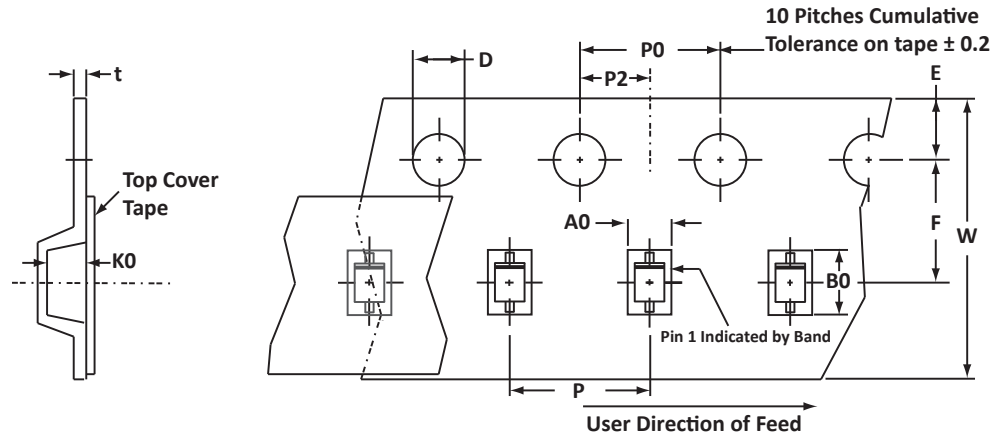
## PAD LAYOUT DIMENSIONS

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 - T73 = 7" Reel - 3,000 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
PLW0501H	-LF	-T73	3,000	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 25 years, ProTek Devices™ is a privately held semiconductor company. The company offers a product line of overvoltage protection and overcurrent protection components. These include transient voltage suppressor array (TVS arrays) avalanche breakdown diode, steering diode TVS array and electronics SMD chip fuses. These components deliver circuit protection in electronic systems from numerous overvoltage and overcurrent events. They include lightning; electrostatic discharge (ESD); nuclear electromagnetic pulses (NEMP); inductive switching; and electromagnetic interference (EMI) / radio frequency interference (RFI). ProTek Devices also offers LED wafer die for ESD protection and related high frequency products. ProTek Devices is ISO 9001:2015 certified.

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