

STANDARD CAPACITANCE TVS COMPONENT**APPLICATIONS**

- ✓ Ethernet - 10/100/1000 Base T
- ✓ Cellular Phones
- ✓ Personal Digital Assistant (PDA)
- ✓ USB Interfaces

IEC COMPATIBILITY (EN61000-4)

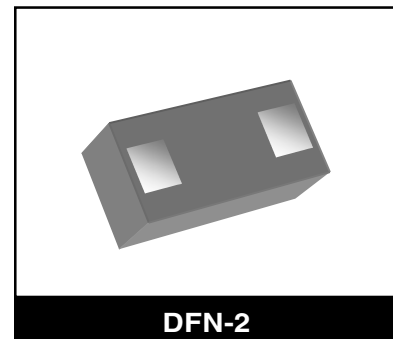
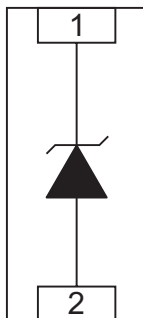
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns

FEATURES

- ✓ 150 Watts Peak Pulse Power per Line ($t_p = 8/20\mu s$)
- ✓ ESD Protection > 25 kilovolts
- ✓ Cable Discharge Event (CDE) Protection
- ✓ Unidirectional Configuration
- ✓ Provides One Line of Protection
- ✓ RoHS Compliant

MECHANICAL CHARACTERISTICS

- ✓ Molded DFN-2 Package
- ✓ Weight 0.8 milligrams (Approximate)
- ✓ Available in Lead-Free Pure-Tin Plating (Annealed)
- ✓ Solder Reflow Temperature:
Pure-Tin - Sn, 100: 260-270°C
- ✓ Consult Factory for Leaded Device Availability
- ✓ Flammability Rating UL 94V-0
- ✓ 8mm Tape and Reel Per EIA Standard 481
- ✓ Marking: Marking Code & Polarity Band

**PIN CONFIGURATION**

DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Operating Temperature	T_A	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C
Peak Pulse Power ($t_p = 8/20\mu s$) - See Figure 1	P_{PP}	150	Watts
Peak Pulse Current ($t_p = 8/20\mu s$)	I_{PP}	10	A
Soldering Temperature for 10 seconds	T_L	265	°C
Typical Forward Voltage @10mA	V_F	0.8	V

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified						
PART NUMBER	DEVICE MARKING CODE	RATED STAND-OFF VOLTAGE	MINIMUM BREAKDOWN VOLTAGE	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)	MAXIMUM LEAKAGE CURRENT	TYPICAL CAPACITANCE
		V_{WM} VOLTS	@ 1mA $V_{(BR)}$ VOLTS	I_p @ 1A V_c VOLTS	@ V_{WM} I_b μA	@ 0V, 1 MHz C pF
PLW0501D	4	5.0	6.0	9.8	1.0	70

Note 1: Measured between I/O pins and ground.

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

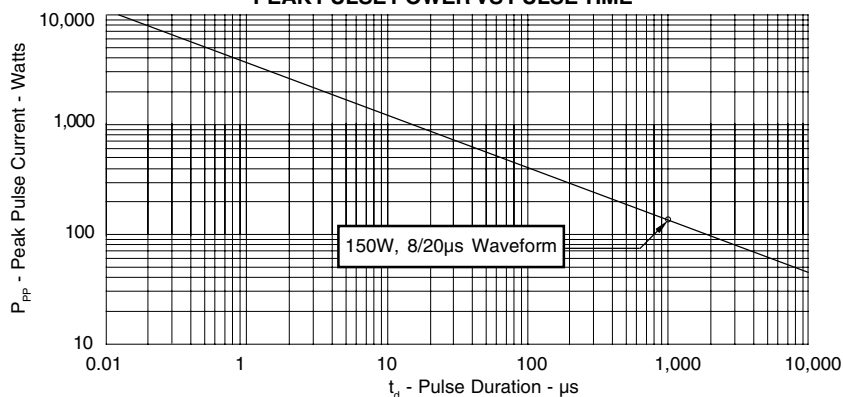
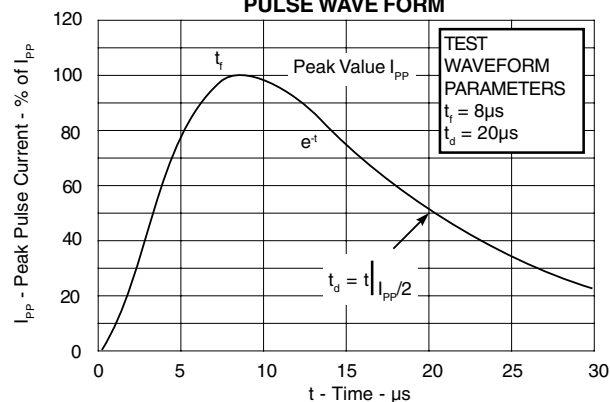


FIGURE 2
PULSE WAVE FORM



DFN-2 PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE

The diagram shows three views of a package: TOP, BOTTOM, and SIDE. The TOP view shows dimensions A (width) and B (height). The BOTTOM view shows dimensions H (width of the central area), D (height of the top central area), E (height of the middle area), and F (height of the bottom central area). The SIDE view shows dimension C (width).

PACKAGE DIMENSIONS

DIM	INCHES			MILLIMETERS		
	MIN	NOR	MAX	MIN	NOR	MAX
A	0.023	0.024	0.025	0.58	0.61	0.64
B	0.038	0.040	0.042	0.97	1.02	1.07
C	0.018	0.020	0.022	0.46	0.51	0.56
D	0.010	0.012	0.014	0.25	0.30	0.36
E	0.012	0.014	0.016	0.30	0.36	0.41
F	0.010	0.012	0.014	0.25	0.30	0.36
H	0.011	0.012	0.013	0.28	0.30	0.33

NOTES

1. Controlling dimensions in inches.
2. Decimal tolerances for mounting pad : $\pm 0.003"$ ($\pm 0.08\text{mm}$).
3. Maximum size: 0.052" (1.321mm) by 0.036" (0.914mm).

MOUNTING PAD

The diagram shows four views of a mounting pad. The top-left view shows dimensions A (width) and B (height). The top-right view shows dimensions C (width) and E (height). The bottom-left view shows dimensions F (height) and a circular solder pad with a crosshair. The bottom-right view shows a rectangular solder pad with a crosshair. A label points to the circular pad: "Solder Print Diameter 0.010" - 0.012"

PAD DIMENSIONS

DIM	MILLIMETERS	INCHES
A	0.762 ± 0.025	0.030 ± 0.001
B	0.356 ± 0.025	0.014 ± 0.001
C	0.381 ± 0.025	0.015 ± 0.001
E	1.473 ± 0.050	0.058 ± 0.002
F	0.559 ± 0.025	0.022 ± 0.001

TAPE & REEL ORIENTATION

The diagram shows a top view of a tape with two circular solder pads and a rectangular solder pad. The circular pads have crosshairs. The rectangular pad has a crosshair.

NOTE

1. Top view of tape. Solder PADS face down in tape package.

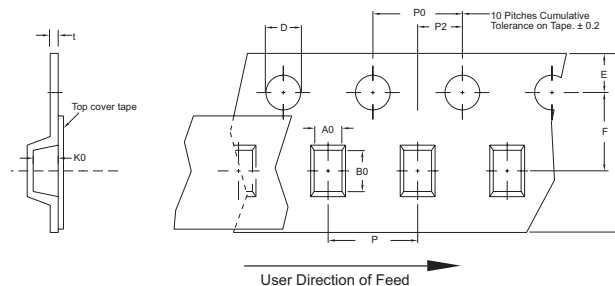
Outline & Dimensions: Rev 1 - 9/05, 0659

TAPE & REEL ORDERING NOMENCLATURE

1. Surface mount product is taped and reeled in accordance with EIA-481.
2. Suffix-T75 = 7 Inch Reel - 5,000 pieces per 8mm tape, i.e., PLW0501D-T75.
3. Suffix-LF = Lead-Free, Pure-Tin Plating, i.e., PLW0501D-LF-T75.

Table 1: Tape & Reel Specifications (Dimensions in millimeters)

Reel Dia.	Tape Width	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")/330mm(13")	8mm	0.80 $\pm$ 0.10	1.20 $\pm$ 0.10	0.70 $\pm$ 0.10	1.50 $\pm$ 0.10	1.75 $\pm$ 0.10	3.50 $\pm$ 0.05	8.00 $\pm$ 0.30	4.00 $\pm$ 0.10	2.00 $\pm$ 0.05	2.00 $\pm$ 0.10	0.25



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