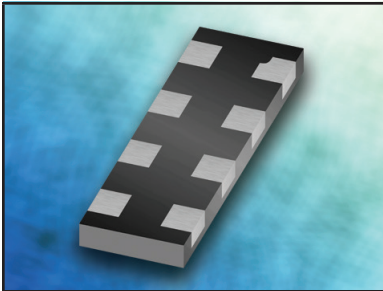


## ULTRA LOW CAPACITANCE TVS ARRAY



**DFN-8 PACKAGE**

### DESCRIPTION

The PLR2210 is an ultra low capacitance TVS array designed to provide electrostatic discharge (ESD) protection for high-speed data interfaces. With a typical capacitance of 0.6pF, the PLR2210 is designed to protect sensitive systems against over-voltage and over-current transient events. The PLR2210 is compliant with IEC 61000-4-2, IEC 61000-4-4 and IEC 61000-6-5. The device is available in a DFN-8 package configuration and offers two line pairs of protection. The PLR2210 is ideal for high-speed port and frequency applications such as Gigabit Ethernet.

### FEATURES

- Compatible with IEC 61000-4-2 (ESD): Air 30kV, Contact 30kV
- Compatible with IEC 61000-4-4 (EFT): 40A, 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 12A, 8/20 $\mu$ s
- 170 Watts Peak Pulse Power per Line( $t_p = 8/20\mu$ s)
- Provides Protection for Two Line Pairs
- Low Leakage Current: 10nA @  $V_{RWM}$  (Typical)
- Low Operating and Clamping Voltage
- Eac I/O Pin can Withstand Over 1000 ESD Strikes for  $\pm 8$ kV Contact Discharge
- Package Optimized for High-Speed Lines
- RoHS Compliant
- REACH Compliant

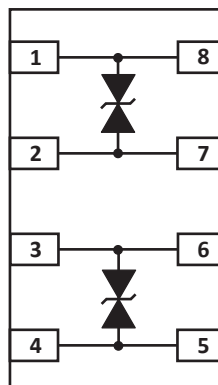
### APPLICATIONS

- 10GBase-T Ethernet Ports
- 10/100/1000M Ethernet Ports
- WAN/LAN Equipment
- Desktops, Servers and Notebooks
- Cellular Phones
- Switching Systems
- Audio/Video Inputs

### MECHANICAL CHARACTERISTICS

- Molded DFN-8 Package
- Approximate Weight: 7 milligrams
- Lead-Free
- Solder Reflow Temperature - 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 (tp = 8/20μs) - See Figure 1	P <sub>PP</sub>	170	Watts
Peak Pulse Current (tp = 8/20μs)	I <sub>PP</sub>	12	Amps
Operating Temperature	T <sub>J</sub>	-55 to 125	°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	MINIMUM BREAKDOWN VOLTAGE	MINIMUM BREAKDOWN VOLTAGE	MINIMUM SNAPBACK VOLTAGE	MAXIMUM CLAMPING VOLTAGE	MAXIMUM CLAMPING VOLTAGE	MAXIMUM LEAKAGE CURRENT	TYPICAL CAPACITANCE
		V <sub>RWM</sub> VOLTS	@ 2μA V <sub>(BR)</sub> VOLTS	@ 1μA V <sub>(BR)</sub> VOLTS	@ 1mA V <sub>SB</sub> VOLTS	@ I <sub>P</sub> = 2A V <sub>C</sub> VOLTS	@ I <sub>P</sub> = 10A V <sub>C</sub> VOLTS	@ V <sub>WM</sub> I <sub>D</sub> μA	@ 2.5V, 1MHz C pF
PLR2210	2210	2.5	2.7	3.5	3.3	6.0	11.5	0.05	0.6

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1  
PEAK PULSE POWER VS PULSE TIME

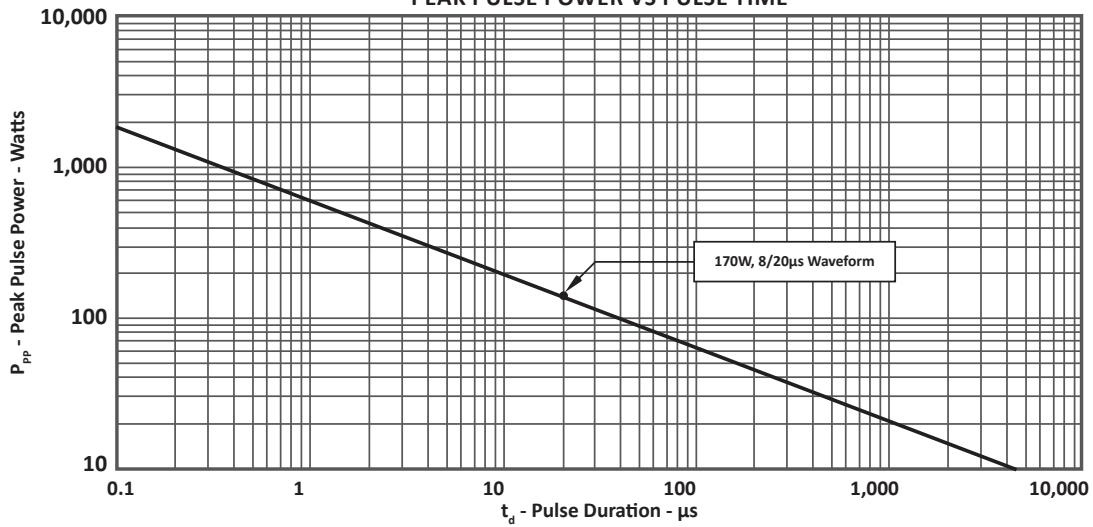


FIGURE 2  
PULSE WAVE FORM

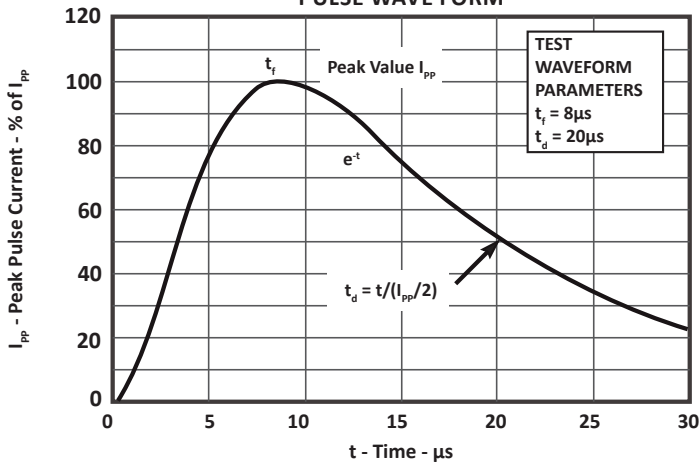
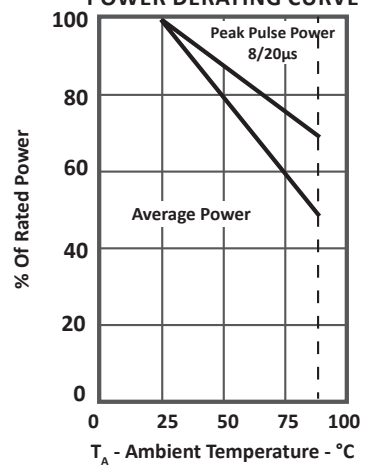


FIGURE 3  
POWER DERATING CURVE



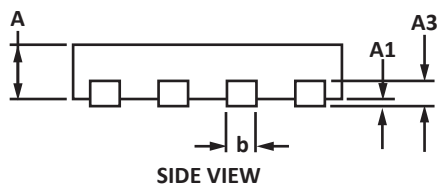
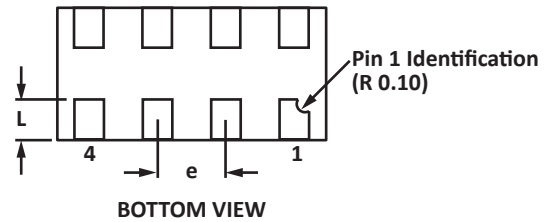
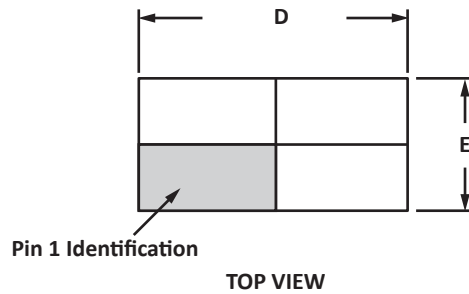
## DFN-8 PACKAGE INFORMATION

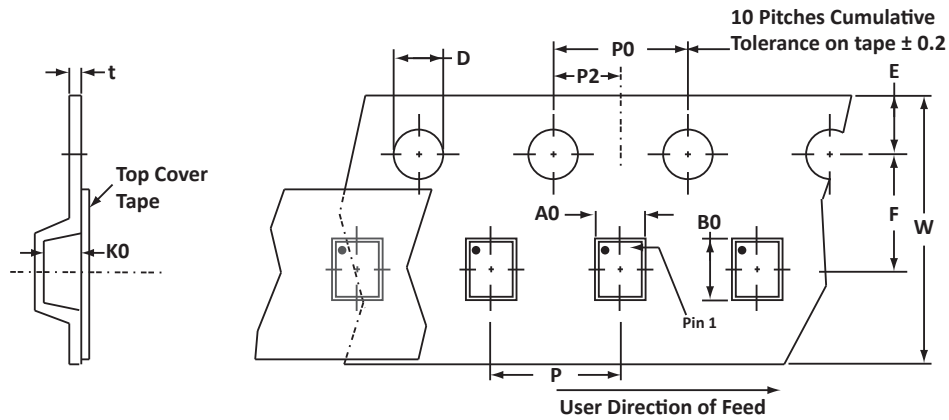
## OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.370	0.430	0.015	0.017
A1	0.000	0.050	0.000	0.002
A3	0.130 REF		0.005 REF	
b	0.200	0.300	0.008	0.012
D	1.900	2.100	0.075	0.083
E	0.900	1.100	0.035	0.043
R	0.050	0.150	0.002	0.016
e	0.500 BSC		0.020 BSC	
L	0.300	0.400	0.012	0.016

## NOTES

- Controlling dimension: millimeters.
- Dimensioning and tolerances per ANSI Y14.M, 1985.



**TAPE AND REEL**

**SPECIFICATIONS**

REEL DIA.	TAPE WIDTH	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")	8mm	1.24 ± 0.01	2.28 ± 0.01	0.65 ± 0.01	1.55 ± 0.01	1.75 ± 0.01	3.50 ± 0.01	8.00 ± 0.01	4.00 ± 0.01	2.00 ± 0.01	4.00 ± 0.01	0.25

**NOTES**

1. Dimensions are in millimeters.
2. Surface mount product is taped and reeled in accordance with EIA-481.
3. Suffix - T7 = 7" Reel - 5,000 pieces per 8mm tape.
4. Marking on Part - marking code (see page 2).

**ORDERING INFORMATION**

BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
PLR2210	N/A	-T7	5,000	7"	n/a

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

## COMPANY INFORMATION

---

### COMPANY PROFILE

In business more than 20 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.

### 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:

Asia Sales: [asiasales@protekdevices.com](mailto:asiasales@protekdevices.com)  
Europe Sales: [europesales@protekdevices.com](mailto:europesales@protekdevices.com)  
U.S. Sales: [ussales@protekdevices.com](mailto:ussales@protekdevices.com)  
Distributor Sales: [distysales@protekdevices.com](mailto:distysales@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)

COPYRIGHT © ProTek Devices 2016 - This literature is subject to all applicable copyright laws and is not for resale in any manner.

SPECIFICATIONS: ProTek reserves the right to change the electrical and or mechanical characteristics described herein without notice.

DESIGN CHANGES: ProTek reserves the right to discontinue product lines without notice and that the final judgement concerning selection and specifications is the buyer's and that in furnishing engineering and technical assistance. ProTek assumes no responsibility with respect to the selection or specifications of such products. ProTek makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ProTek assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability without limitation special, consequential or incidental damages.

LIFE SUPPORT POLICY: ProTek Devices products are not authorized for use in life support systems without written consent from the factory.