

ULTRA LOW CAPACITANCE TVS ARRAY



DESCRIPTION

The PLR0521U is an ultra low capacitance transient voltage suppressor array, designed to protect computing applications from the damaging effects of Electrostatic Discharge and Electrical Fast Transients.

The PLR0521U 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 an ultra low capacitance and low leakage current in a miniature 2 lead DFN package.

FEATURES

- Meets or Exceeds IEC 61000-4-2 (ESD): Air ± 15 kV, Contact ± 8 kV
- Compatible with IEC 61000-4-4 (EFT)
- Compatible with IEC 61000-4-5 (Surge): 4A, 80W, 8/20 μ s
- Low Clamping Voltage
- Protects One Unidirectional Line
- Ultra Low Capacitance: 0.8 pF (Typical)
- RoHS Compliant
- REACH Compliant

APPLICATIONS

- Gigabit Ethernet
- FireWire
- USB 2.0 & USB 3.0
- HDMI 1.4 & 2.0

MECHANICAL CHARACTERISTICS

- Molded DFN-2 Package
- Approximate Weight: 2 milligrams
- Lead-Free Ni/Pd/Au Plating
- 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



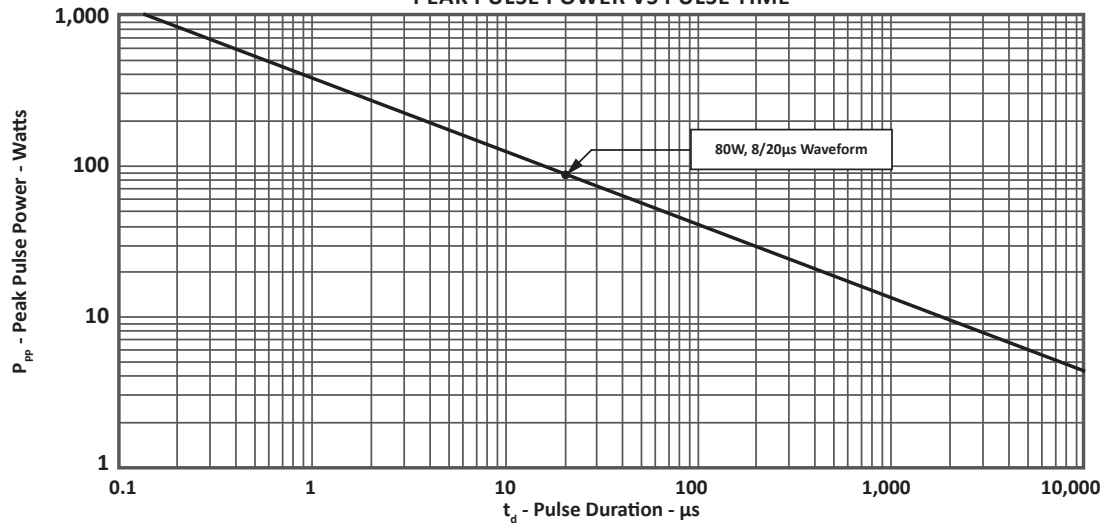
TYPICAL DEVICE CHARACTERISTICS
MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 8/20μs) - See Figure 1	P_{PP}	80	Watts
Operating Temperature	T_A	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C
IEC 61000-4-2 ESD Level 4 Rating - Contact	V_{ESD}	25.0	kV
IEC 61000-4-2 ESD Level 4 Rating - Air	V_{ESD}	30.0	kV

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	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ $I_p = 1A$ V_C VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ 8/20μS $V_C @ I_{PP}$	MAXIMUM LEAKAGE CURRENT @ V_{WM} I_D μA	TYPICAL CAPACITANCE @ 0V, 1MHz C_J pF
PLR0521U	HU	5.0	6.0	14.0	20.0V @ 4.0A	1	0.8

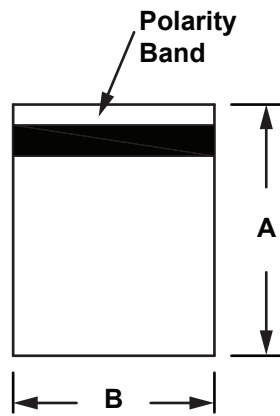
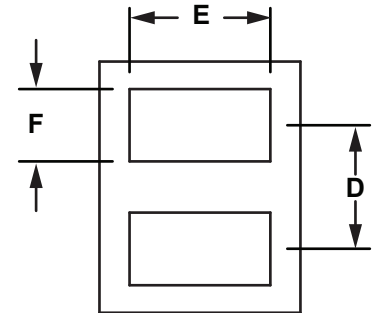
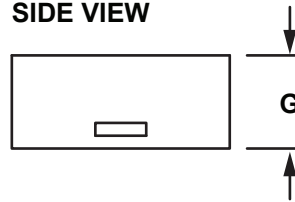
FIGURE 1
PEAK PULSE POWER VS PULSE TIME



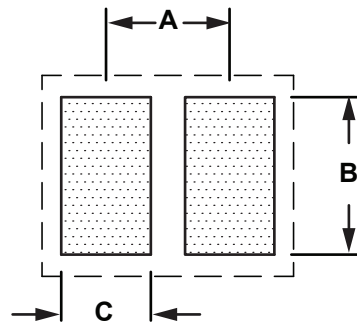
PACKAGE INFORMATION
OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.290	0.325	0.055	0.063
B	0.210	0.270	0.044	0.051
D	0.74		0.029	
E	0.270	0.330	0.031	0.035
F	0.140	0.200	0.015	0.019
G	0.015	0.045	0.020	0.027

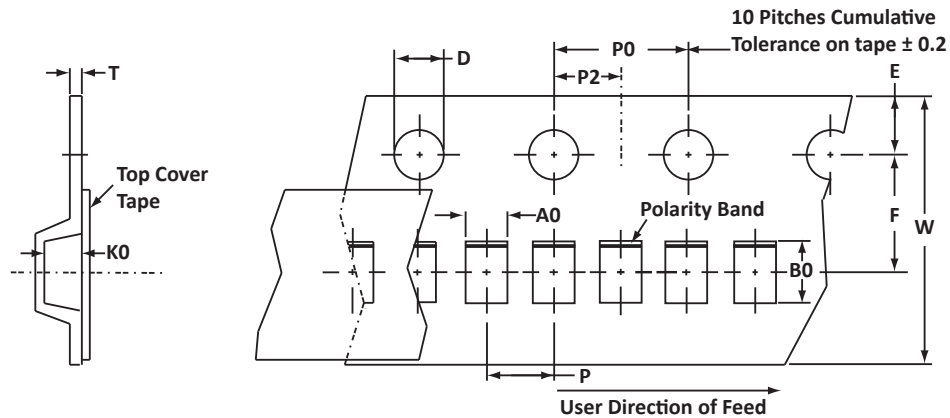
NOTES
1. Dimensions are exclusive of mold flash and metal burrs.

TOP VIEW

BOTTOM VIEW

SIDE VIEW

PAD LAYOUT DIMENSIONS

DIM	MILLIMETERS	INCHES
	NOM	NOM
A	0.74	0.029
B	0.94	0.037
C	0.53	0.021



TAPE AND REEL



SPECIFICATIONS

REEL DIA.	TAPE WIDTH	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")	8mm	0.70 ± 0.05	1.15 ± 0.10	0.56 ± 0.05	1.55 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.30	4.00 ± 0.10	2.00 ± 0.05	2.00 ± 0.05	0.25

NOTES

1. Dimensions are in millimeters.
2. Surface mount product is taped and reeled in accordance with EIA-481.
3. Suffix - T710 = 7" Reel - 10,000 pieces per 8mm tape.
4. Marking on Part - marking code (see page 2) and polarity band.

ORDERING INFORMATION

BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
PLR0521U	n/a	-T710	10,000	7"	n/a

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

COMPANY INFORMATION

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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