ULTRA LOW CAPACITANCE ASYMMETRICAL TVS ARRAY

DFN-10 PACKAGE

DESCRIPTION

The PLR1524 is an ultra low capacitance assymetrical TVS array. It is designed to protect against ESD and high speed voltage transient events, the RF section Cable TV Set Top Boxes and RF Low Noise Block (Satellite TV) and Microwave radios. The assymetrical configuration on voltages of 15V and 24V and offering a max capacitance of 0.6pF will guarantee the signal integrity and eliminate the use of additional components. This device meets the IEC 61000-4-2 (ESD), IEC 61000-4-4 (EFT) and IEC 61000-4-5 (Surge) requirements.

FEATURES

- Compatible with IEC 61000-4-2 (ESD): Contact ±8kV, Air ±15kV
- Compatible with IEC 61000-4-4 (EFT): 40A, 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 2A - 8/20µs
- ESD Protection > 25 kilovolts
- 60 Watts Peak Pulse Power per Line (tp = 8/20µs)
- Low Leakage Current < 0.1µA
- Asymmetrical Voltage feature 15V & 24V (Bidirectional)
- Ultra Low Capacitance: 1.0pF Max @ 5MHz, 1Vdc
- RoHS Compliant
- REACH Compliant

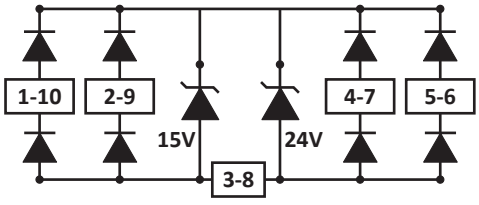
APPLICATIONS

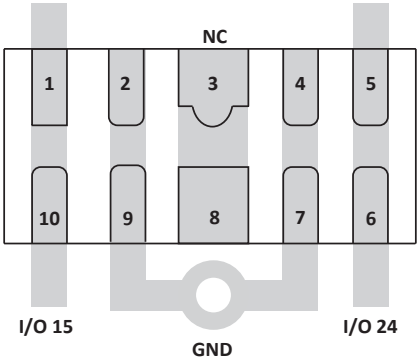
- CATV Set Top Box
- DOCSIS 3.1 Cable Modems
- VSAT LNB Down Converters
- Microwave Radios

MECHANICAL CHARACTERISTICS

- Molded DFN-10 Package
- Approximate Weight: 7 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

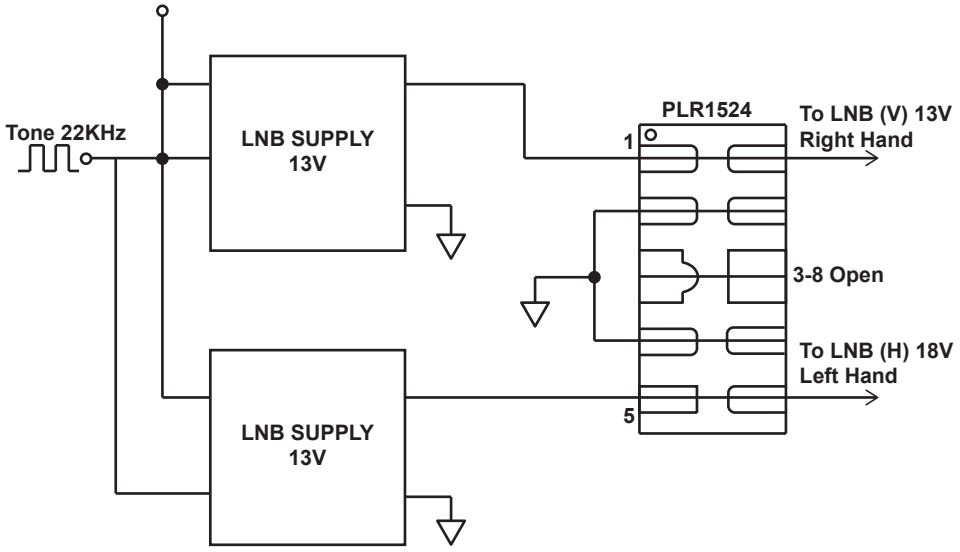
MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Operating Temperature	T_L	-55 to 150	°C
Storage Temperature	T_L	-55 to 150	°C
Peak Pulse Power (tp = 8/20µs) - See Figure 1	P_{PP}	60	W

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER	DEVICE MARKING	RATED STAND-OFF VOLTAGE (Note 1) V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE (Note 1) @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (Note 1) (Fig. 2) @ I_P = 1A V_C VOLTS	MAXIMUM LEAKAGE CURRENT (Note 1) @V_{WM} I_D µA	MAXIMUM CAPACITANCE (Note 1) @0V, 1MHz C pF	MAXIMUM CAPACITANCE (Note 1) @0V, 5MHz C pF
PLR1524	1524	15.0	16.7	35.0	0.1	1.2	1.0
		24.0	26.7	50.0			

NOTES
1. I/O to ground.

SIMPLIFIED TYPICAL APPLICATION FOR A DUAL LNB DEDICATED SUPPLIES (V & H)



TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
PULSE WAVE FORM

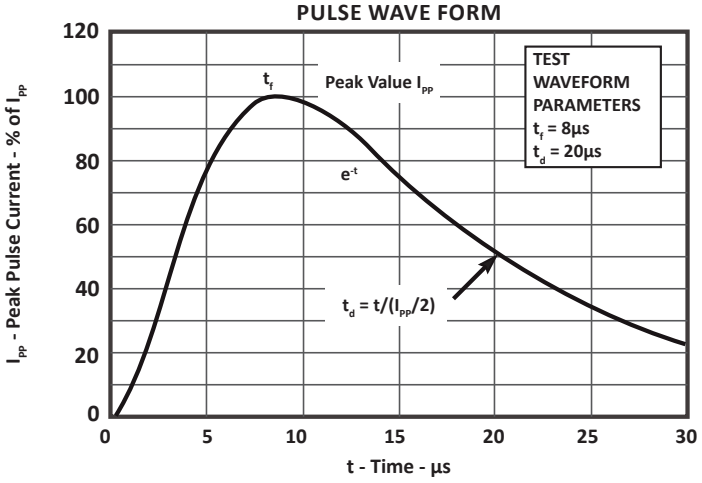
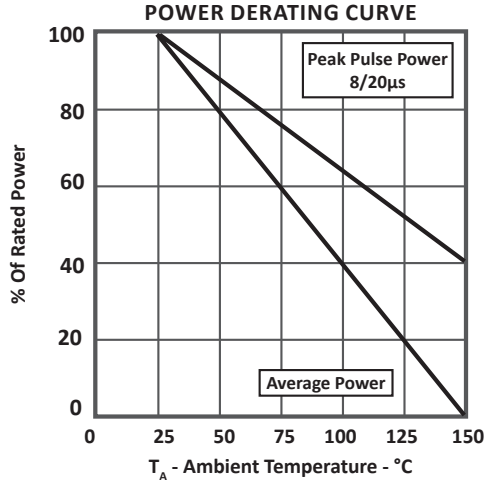


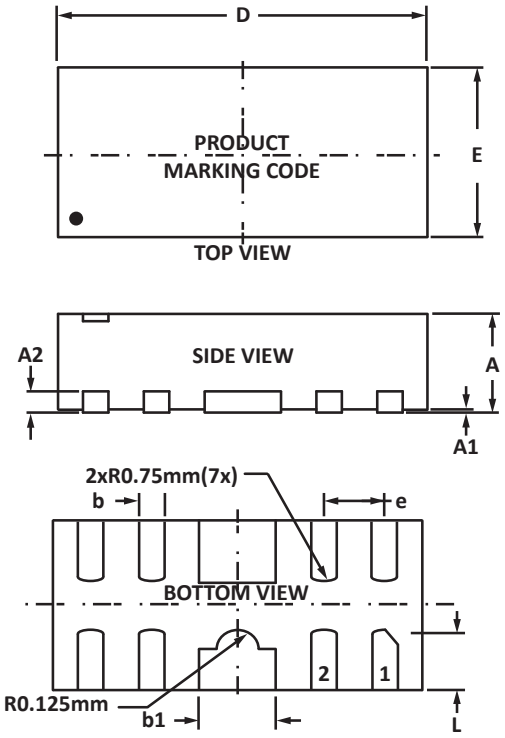
FIGURE 2
POWER DERATING CURVE



PACKAGE INFORMATION

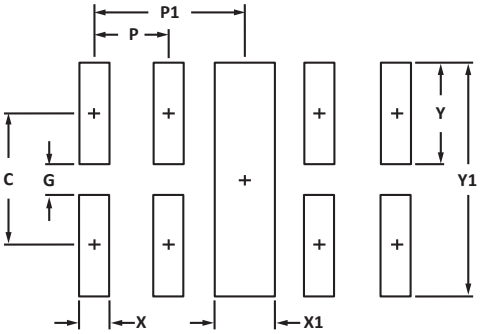
OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.47	0.60	0.019	0.024
A1	0.00	0.05	0.000	0.002
A2	0.13	0.21	0.005	0.008
b	0.15	0.25	0.006	0.010
b1	0.35	0.45	0.014	0.018
D	2.40	2.60	0.094	0.102
E	0.90	1.10	0.035	0.043
e	0.50 Nominal		0.020 Nominal	
L	0.35	0.43	0.014	0.017

NOTES
1. Controlling dimension: millimeters.

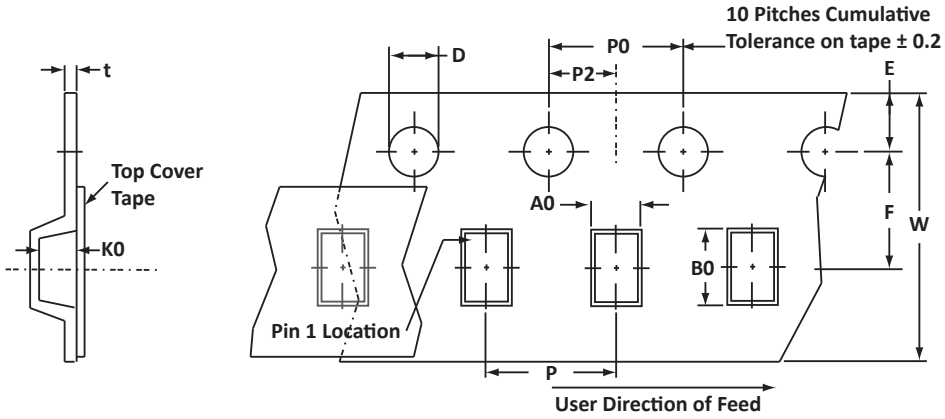


PAD LAYOUT		
DIM	MILLIMETERS	INCHES
	NOMINAL	NOMINAL
C	0.875	0.34
G	0.20	0.008
P	0.50	0.020
P1	1.00	0.039
X	0.25	0.010
X1	0.46	0.018
Y	0.675	0.027
Y1	1.55	0.061

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	1.20 ± 0.10	2.70 ± 0.10	0.75 ± 0.10	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
1. Dimensions are in millimeters.
2. Surface mount product is taped and reeled in accordance with EIA-481.
3. Suffix - T73 = 7" Reel - 3,000 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
PLR1524	n/a	-T73	3,000	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 an ISO 9001 certified company.

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