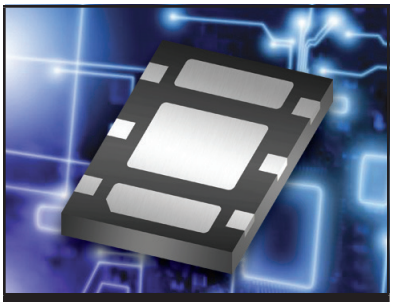
HIGH POWER LOW CAPACITANCE TVS ARRAY



DFN-6 PACKAGE

DESCRIPTION

The PLC03-3.3-DFN is a low capacitance, high powered TVS array available in a six lead DFN package. This device is designed to protect high speed data line applications from the damaging effects of ESD, EFT and secondary transient threats.

The PLC03-3.3-DFN has a peak pulse power rating of 1800 Watts for an 8/20µs waveshape. This devices meets the IEC 61000-4-2, IEC 61000-4-4 and IEC 61000-4-5 requirements.

FEATURES

- Compatible with IEC 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- Compatible with IEC 61000-4-4 (EFT): 40A - 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 94A, 8/20µs - Level 4(Line-Gnd), 48A, Level 1 (Power) & 48A, Level 4(Line-Line)
- 100A (2/10µs) per Bellcore GR1089 (Intra-Building)
- ESD Protection > 25 kilovolts
- 1800 Watts Peak Pulse Power per Line (tp = 8/20µs)
- Low Capacitance: 3pF Typical
- Telecom/Diode Bridge
- RoHS Compliant
- REACH Compliant

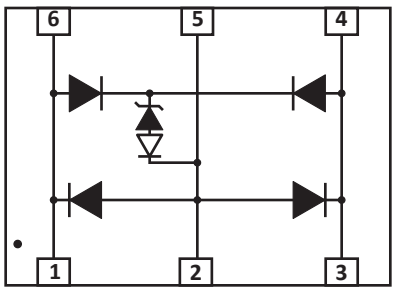
APPLICATIONS

- T1/E1 Line Cards
- xDSL Interfaces
- Ethernet 10/100 Base T
- Set Top Box Interface

MECHANICAL CHARACTERISTICS

- Molded DFN-6 Package
- Approximate Weight: TBA
- Lead-Free Pure-Tin Plating (Annealed)
- Solder Reflow Temperature:
  Pure-Tin - Sn, 100: 260-270°C
- 12mm 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_{STG}	-55 to 150	°C
Peak Pulse Power (tp = 8/20µs) - See Figure 1	P_{PP}	1800	Watts

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER	DEVICE MARKING	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM SNAPBACK VOLTAGE @50mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) (Note 1-2) @ 8/20µs V_C @ I_{PP}	MAXIMUM CLAMPING VOLTAGE (Line-Gnd) @ 8/20µs @I_P = 50A V_C VOLTS	MAXIMUM LEAKAGE CURRENT @V_{WM} I_D µA	TYPICAL CAPACITANCE (Note 3) @0V, 1MHz C pF	TYPICAL CAPACITANCE (Note 4) @0V, 1MHz C pF
PLC03-3.3-DFN	PBC	3.0	2.8	18.0V@100.0A	11	2.0	6	3

NOTES
1. For an 8/20µs waveform, apply positive pulse to pin 1 or 8 to pin 2 or 3 (ground).
2. Measured between pin 1 or 8 to pin 2 or 3.
3. Measured between I/O pins and ground (pin 1 to 2).
4. Measured between I/O pins (pin 1 to 4).

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

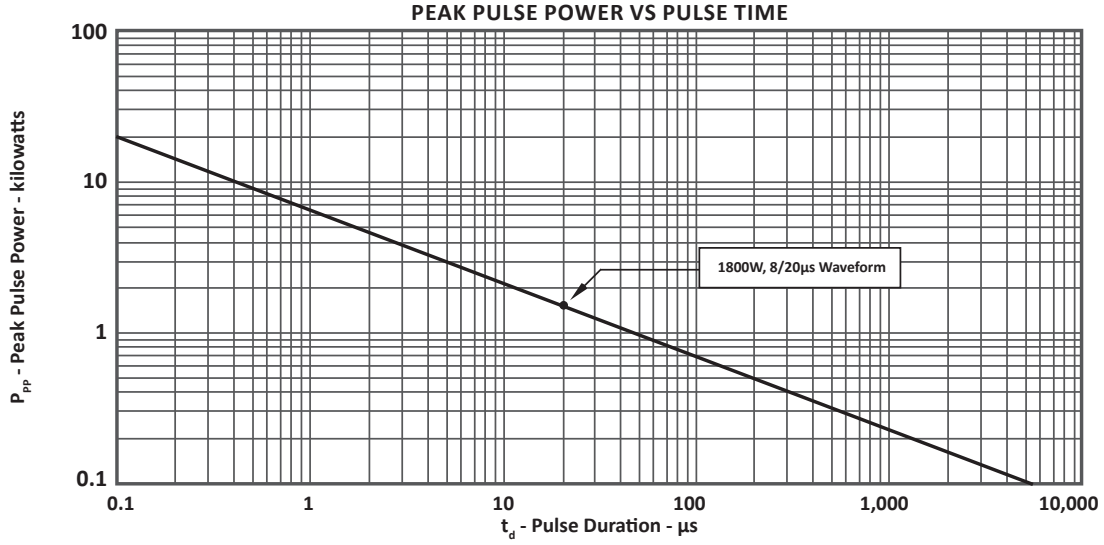


FIGURE 2
PULSE WAVE FORM

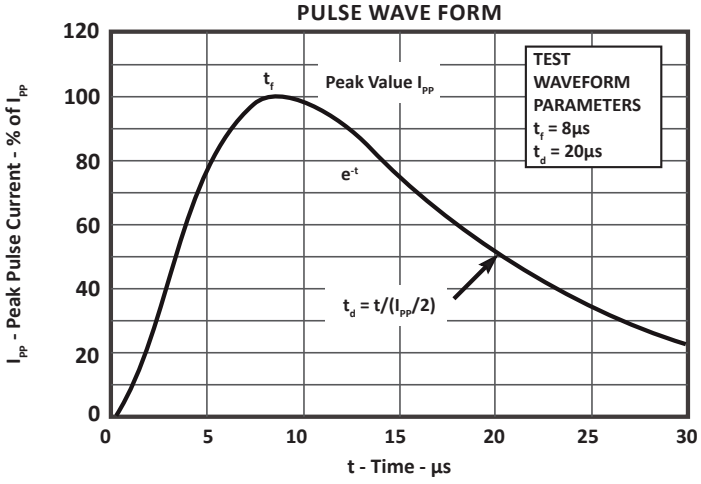
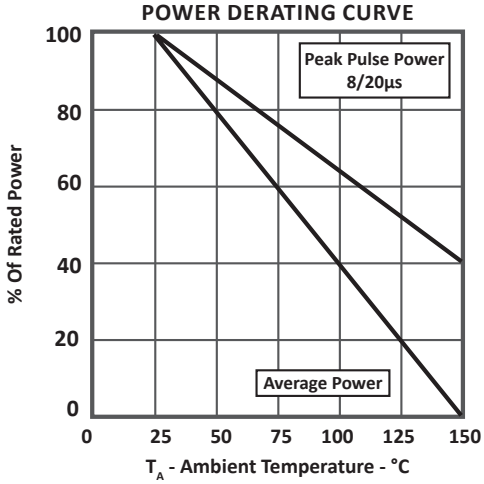


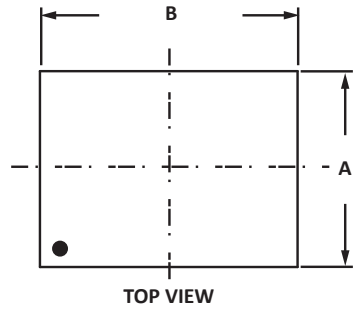
FIGURE 3
POWER DERATING CURVE

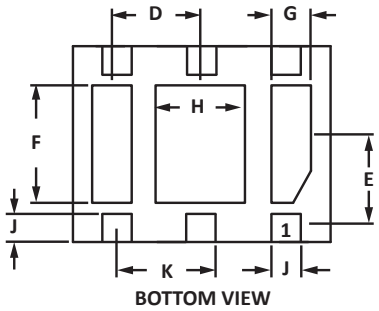


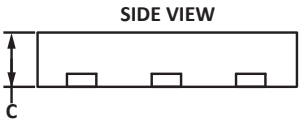
DFN-6 PACKAGE INFORMATION

OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	3.42	3.58	0.134	0.140
B	3.92	4.08	0.154	0.160
C	0.67	0.83	0.027	0.033
D	1.36	1.46	0.053	0.057
E	1.47	1.57	0.058	0.062
F	2.11	2.21	0.083	0.087
G	0.54	0.64	0.021	0.025
H	1.42	1.52	0.055	0.061
H	0.35	0.41	0.014	0.016
K	1.27 BSC		0.050 BSC	

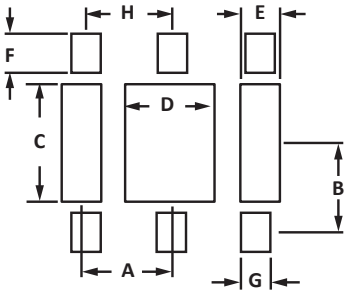
NOTES
1. Dimensions are exclusive of mold flash and metal burrs.



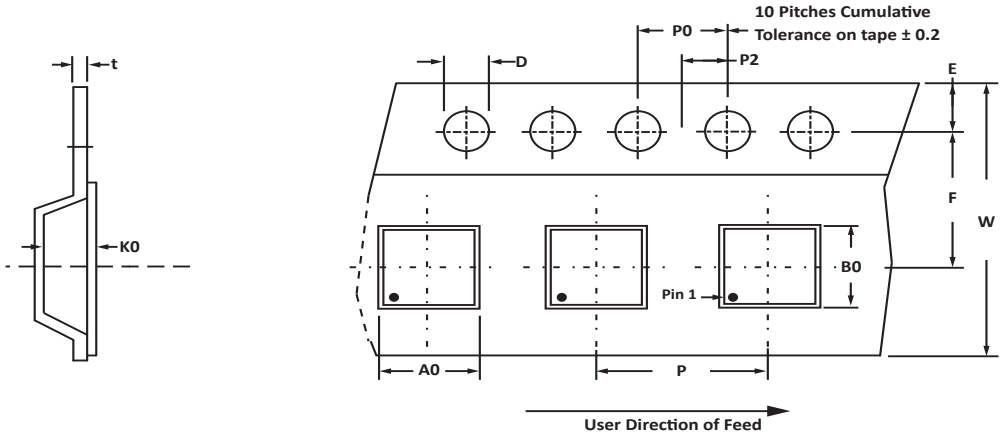




PAD LAYOUT				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.38	1.44	0.053	0.057
B	1.67	1.73	0.063	0.070
C	2.18	2.25	0.084	0.090
D	1.60	1.66	0.062	0.066
E	0.71	0.77	0.028	0.032
F	0.69	0.73	0.026	0.030
G	0.50	0.56	0.019	0.023
H	1.27 BSC		0.050 BSC	



TAPE AND REEL



SPECIFICATIONS												
REEL DIA.	TAPE WIDTH	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")	12mm	1.65 ± 0.1	1.45 ± 0.1	0.66 ± 0.1	1.50 ± 0.10	1.75 ± 0.10	5.50 ± 0.05	12.00 ± 0.30	4.00 ± 0.12	2.00 ± 0.10	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 - T7 = 7" Reel - 1,000 pieces per 12mm tape.
4. Marking on Part - marking code (see page 2), date code, logo and pin one defined by dot on top of package.

ORDERING INFORMATION					
BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
PLC03-3.3-DFN	N/A	-T7	1,000	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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