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}	800	Watts
Operating Temperature	T_L	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C
Forward Surge Rating (5ms @ 25°C, I_F = 10mA)	V_F	0.5 Min. - 1.2 Max.	Volts
Peak Pulse Current (tp = 8/20µs) - Note 1	I_{PP}	40	Amps

NOTES
1. Measured with I/O pins tied together.

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 (Fig. 2) (Note 1) @ I_P = 1A V_C VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) (Note 1) @ I_P = 10A V_C VOLTS	MAXIMUM LEAKAGE CURRENT (Note 1) @V_{WM} I_D µA	TYPICAL CAPACITANCE (Note 1) @0V, 1MHz $C_{J(SD)}$ pF
SRV25-4	S4	2.5	3.0	4.5	7.4	0.5	3.5

NOTES
1. Measured from I/O pin to ground.

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified			
MAXIMUM CLAMPING VOLTAGE (Fig. 2) (Note 1) @ I_P = 25A V_C VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) (Note 2) @ I_P = 40A V_C VOLTS	MAXIMUM CAPACITANCE @0V, 1MHz $C_{J(SD)}$ pF	TYPICAL CAPACITANCE I/O TO I/O @0V, 1MHz $C_{J(SD)}$ pF
12.0	20.0	5.0	1.7

NOTES
1. Measured from I/O pin to ground.
2. Measured with I/O pins tied together.

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

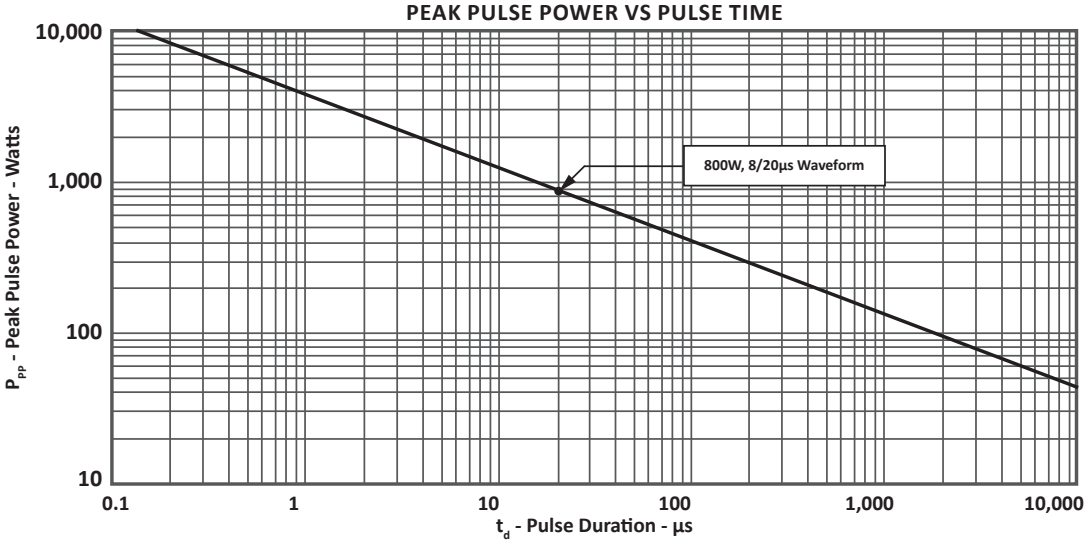


FIGURE 2
PULSE WAVE FORM

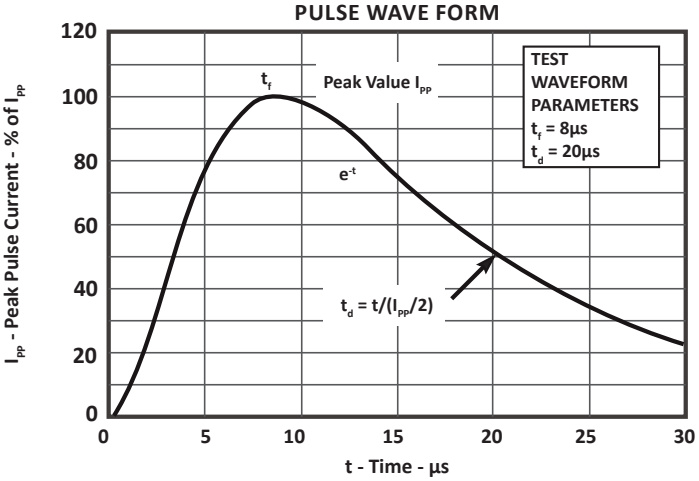
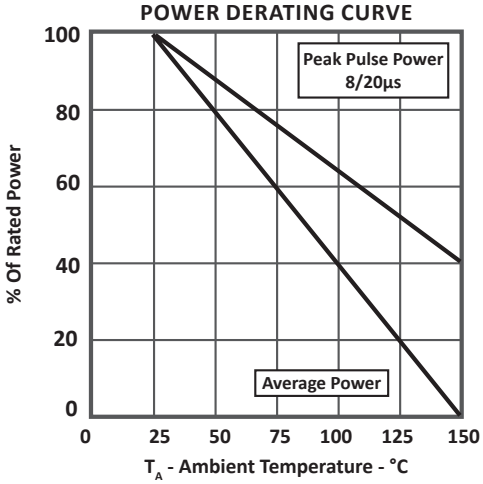
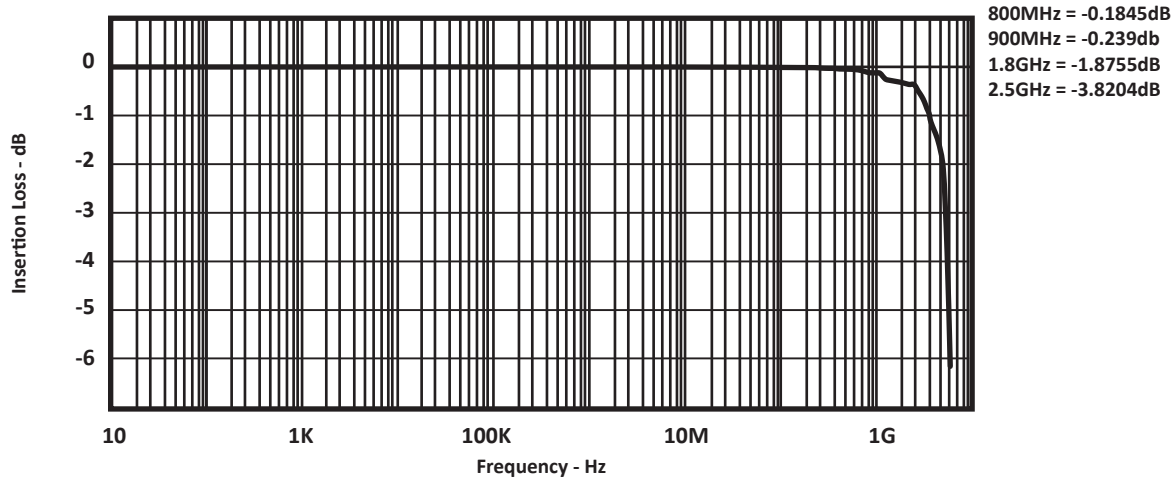


FIGURE 3
POWER DERATING CURVE

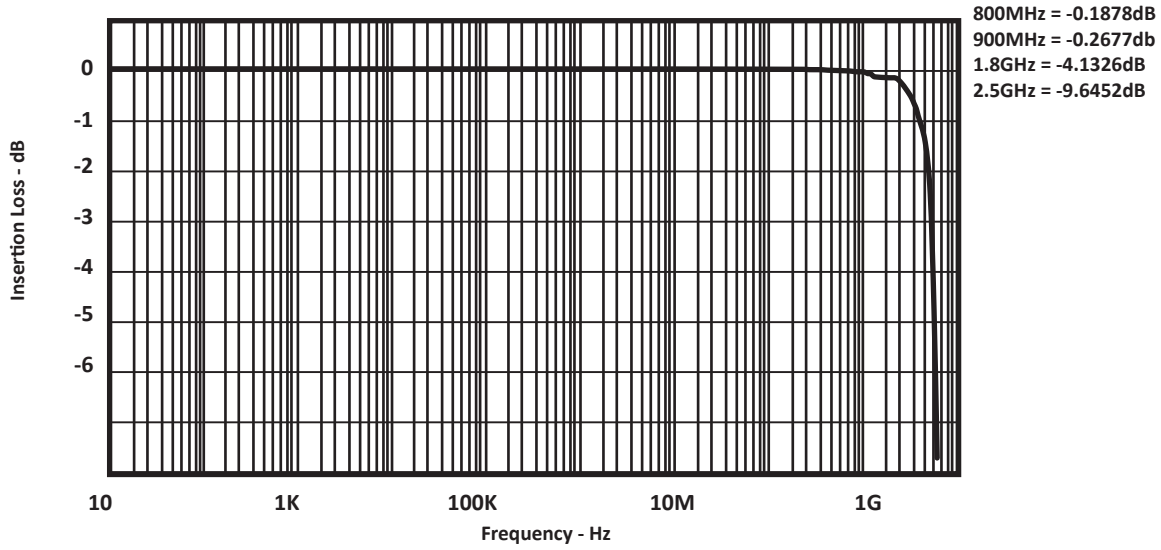


TYPICAL DEVICE CHARACTERISTICS

INSERTION LOSS - IO TO IO



INSERTION LOSS - IO TO GND



APPLICATION INFORMATION

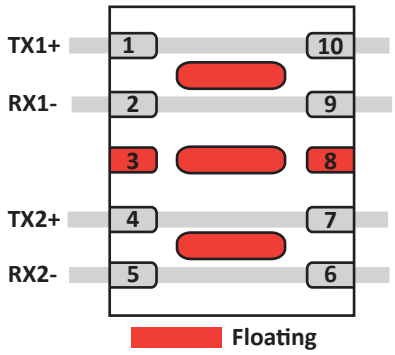


FIGURE 1 - DIFFERENTIAL-MODE PROTECTION

Figure 1 represents, rail-to-rail protection configuration for two differential-mode data line pairs - i.e., 10/100/1000 Base T Ethernet applications. Paralleling two I/O connections will provide superior protection - up to 800 Watts (8/20µs). Ground points are not necessary and should be left unconnected (floating). Device I/O to I/O off-state capacitance at 0Vdc and 1MHz signal will typically be at 2.8pF.

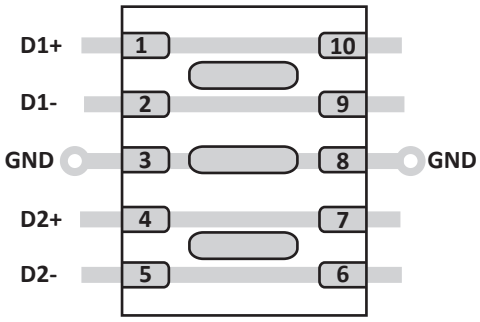


FIGURE 2 - COMMON-MODE PROTECTION

Figure 2 represents, rail-to-rail protection configuration for two common-mode data line pairs - i.e., USB, HDMI, DVI applications. Paralleling two I/O connections will provide superior protection - up to 800 Watts (8/20µs). Device I/O to ground off-state capacitance at 0Vdc and 1MHz signal will typically be at 5.5pF.

APPLICATION INFORMATION

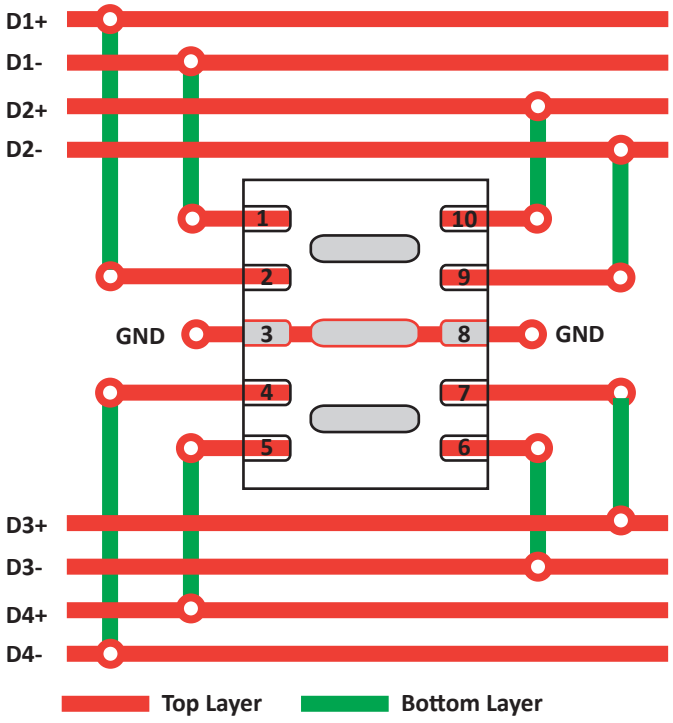


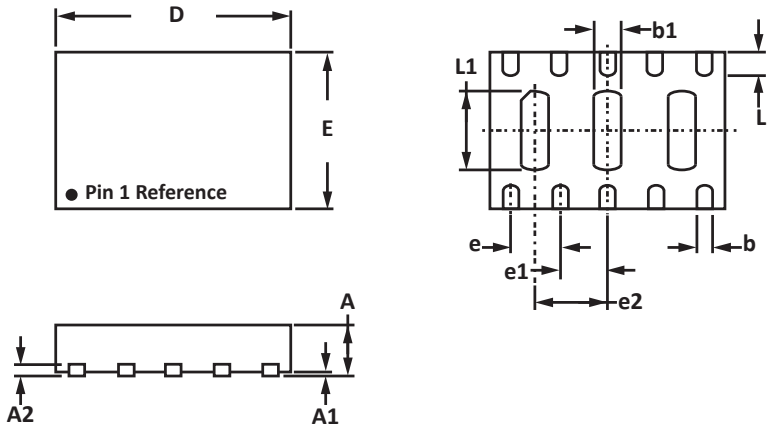
FIGURE 3 - COMMON-MODE PROTECTION

Figure 3 represents, protection configuration for four common-mode data line pairs - i.e., USB, HDMI, DVI or LVDS applications. Lines are connected through vias on the bottom PCB layer. Using this non-parallel configuration, the device provides superior protection - up to 400 Watts (8/20µs) - for each I/O. Device I/O to ground off-state capacitance at 0Vdc and 1MHz signal will typically be at 1.5pF.

DFN-10 PACKAGE INFORMATION

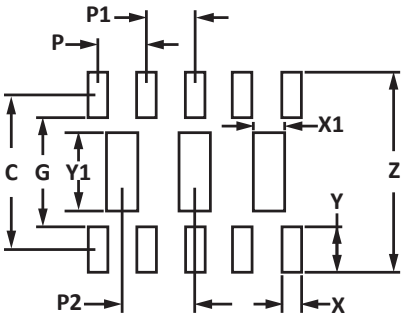
OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.50	0.65	0.020	0.026
A1	0.00	0.05	0.00	0.002
A2	0.15		0.006	
b	0.15	0.25	0.006	0.010
b1	0.25	0.45	0.010	0.018
D	2.90	3.10	0.114	0.122
E	1.90	2.10	0.075	0.083
e	0.60 BSC		0.024 BSC	
e1	0.65 BSC		0.026 BSC	
e2	0.95 BSC		0.037 BSC	
L	0.25	0.35	0.010	0.014
L1	0.95	1.05	0.037	0.041

NOTES
1. Controlling dimension: millimeters.
2. Dimensioning and tolerances per ANSI Y14.M, 1985.

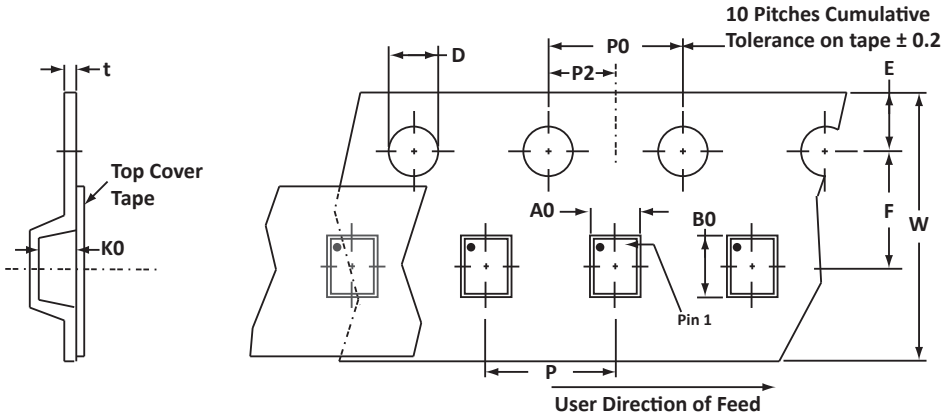


PAD LAYOUT DIMENSIONS		
DIM	MILLIMETERS	INCHES
	NOMINAL	NOMINAL
C	1.98	0.078
G	1.40	0.056
P	0.60	0.024
P1	0.65	0.026
P2	0.95	0.037
X	0.25	0.010
X1	0.40	0.016
Y	0.58	0.023
Y1	1.00	0.039
Z	2.56	0.101

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	2.24 ± 0.05	3.23 ± 0.05	0.93 ± 0.05	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 - T7 = 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
SRV25-4	N/A	-T7	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 ISO 9001:2015 certified.

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
Europe Sales: europesales@protekdevices.com
U.S. Sales: ussales@protekdevices.com
Distributor Sales: distysales@protekdevices.com
Customer Service: service@protekdevices.com
Technical Support: 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