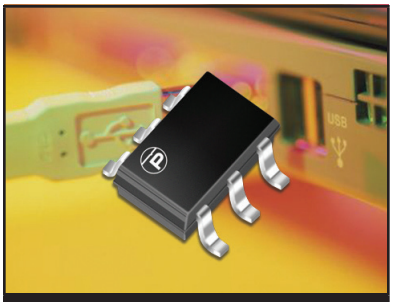
ULTRA LOW CAPACITANCE STEERING DIODE/TVS ARRAY



SOT-23-6 PACKAGE

DESCRIPTION

The SRV2.8-4 is an ultra low capacitance steering diode/TVS array. This device can be used in applications such as video cards, SMART phones, Gigabit Ethernet and other computer interfaces. Designed for ESD protection, the SRV2.8-4 can clamp the effects of electrical fast transients on the power bus.

The SRV2.8-4 combines low capacitance steering diodes for up to four individual data or transmission lines and one TVS diode for power bus protection. This device is available in the space-saving SOT-23-6 package configuration, which minimizes lead inductance to prevent overshoot voltages during high ESD current events. The SRV2.8-4 meets the IEC 61000-4-2, 61000-4-2 and 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): 24A, 8/20µs - Level 2(Line-Gnd) & Level 3(Line-Line0
- 600 Watts Peak Pulse Power per Line(tp = 8/20µs)
- ESD Protection > 25 kilovolts
- Low Clamping Voltage
- Protection for 4 Lines
- Ultra Low Capacitance: 3.5pF Typical
- RoHS Compliant
- REACH Compliant

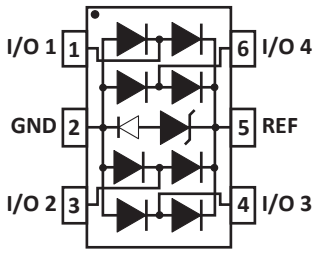
APPLICATIONS

- Gigabit Ethernet
- SMART Phones
- Portable Electronics
- Video Card Interfaces
- USB 2.0 Interfaces
- DVI Interfaces

MECHANICAL CHARACTERISTICS

- Molded JEDEC SOT-23-6 Package
- Approximate Weight: 16 milligrams
- Lead-Free Nickel Paladium Gold Plating
- 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_{PP}	600	Watts
Operating Temperature	T_L	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C
Forward 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}	30	Amps

NOTES
1. Across TVS only - pin 2 to pin 5.

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 **= 5A** V_C **VOLTS**	**MAXIMUM CLAMPING VOLTAGE (Fig. 2) (Note 1) @** I_P **= 24A** V_C **VOLTS**	**MAXIMUM LEAKAGE CURRENT (Note 1) @**V_{WM} I_D **µA**	**TYPICAL CAPACITANCE (Note 1) @0V, 1MHz** $C_{J(SD)}$ **pF**
SRV2.8-4	S2	2.8	3.0	5.5	8.5	18	5	3.5

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

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

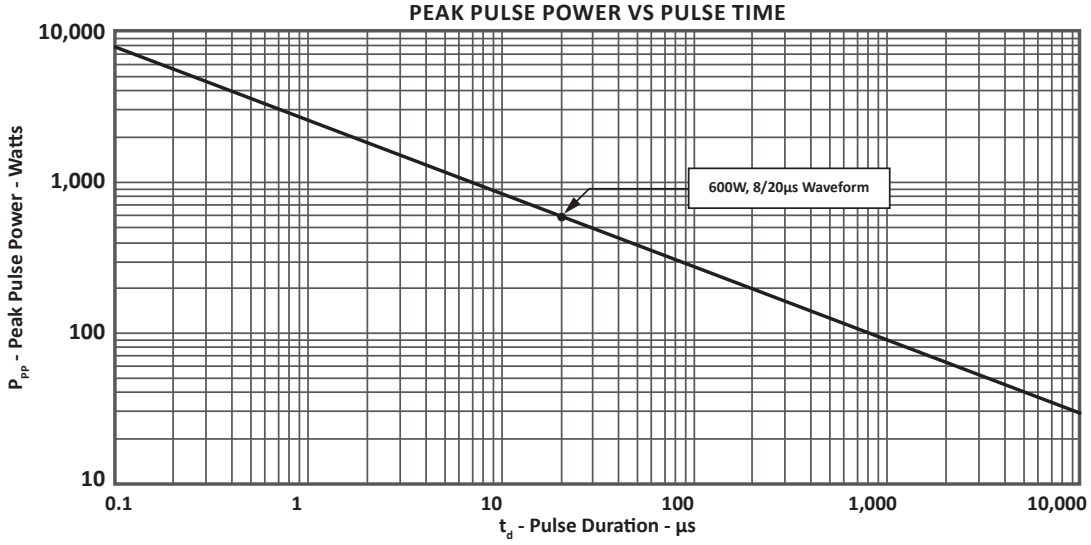
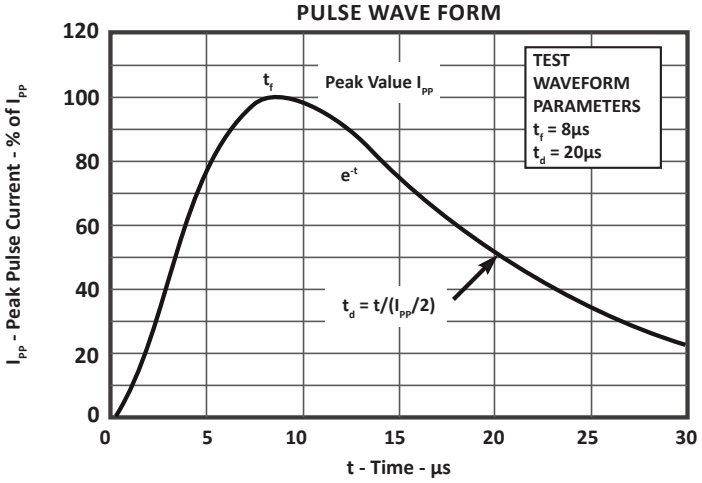


FIGURE 2
PULSE WAVE FORM



TYPICAL DEVICE CHARACTERISTICS

FIGURE 3
POWER DERATING CURVE

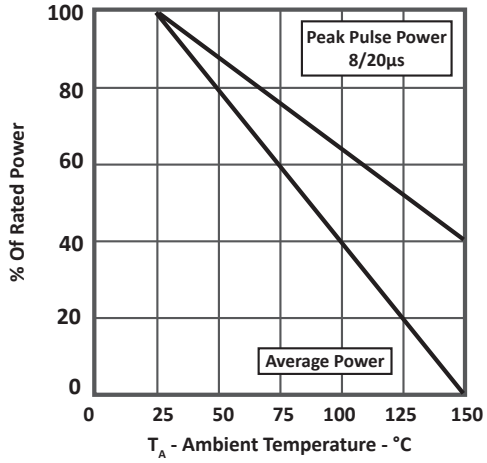
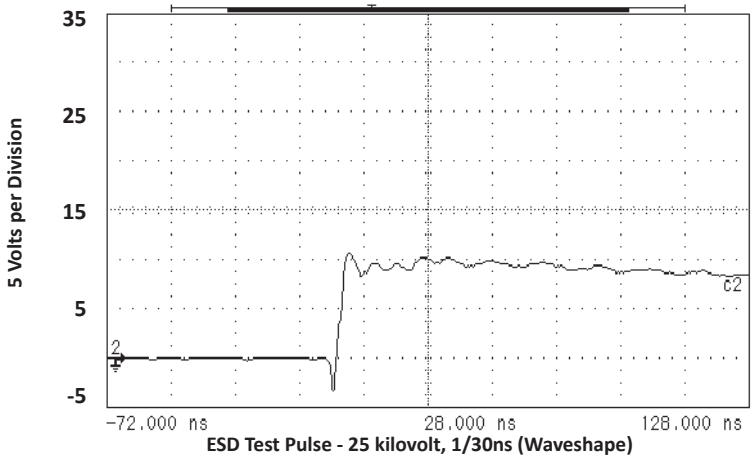


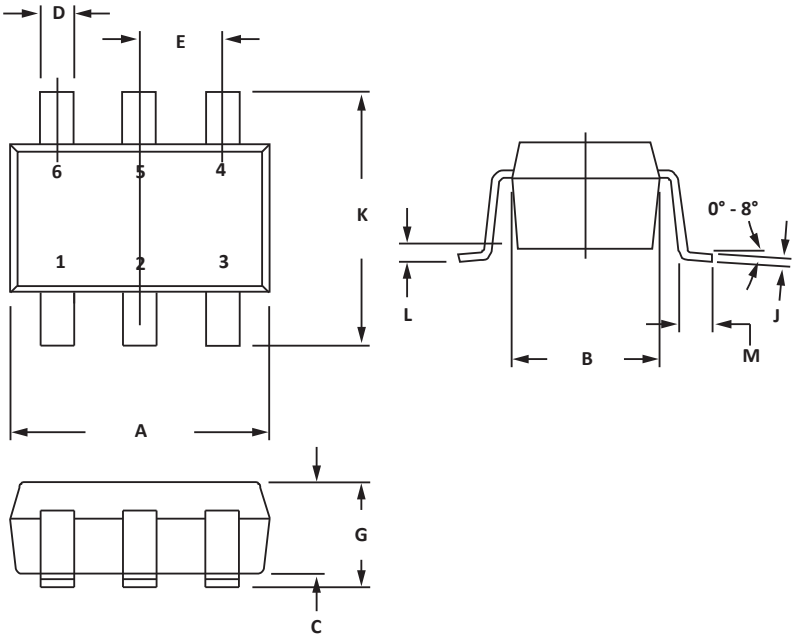
FIGURE 4
OVERSHOOT & CLAMPING VOLTAGE



SOT-23-6 PACKAGE INFORMATION

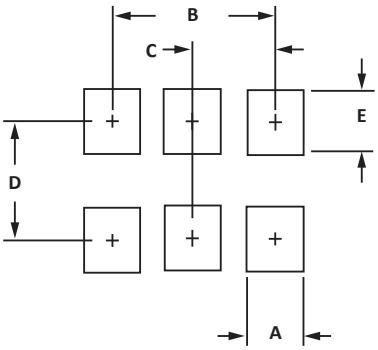
OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.80	3.05	0.110	0.120
B	1.50	1.75	0.059	0.070
C	0.90	1.30	0.036	0.051
D	0.30	0.40	0.012	0.016
E	0.85	1.05	0.033	0.040
G	0.90	1.45	0.036	0.057
J	0.09	0.20	0.003	0.008
K	2.60	3.00	0.102	0.118
L	0.0	0.15	0.0	0.006
M	0.30	0.60	0.012	0.024

NOTES
1. Controlling dimension: inches.
2. Dimensioning and tolerances per ANSI Y14.5M, 1985.
3. Dimensions are exclusive of mold flash and metal burrs.

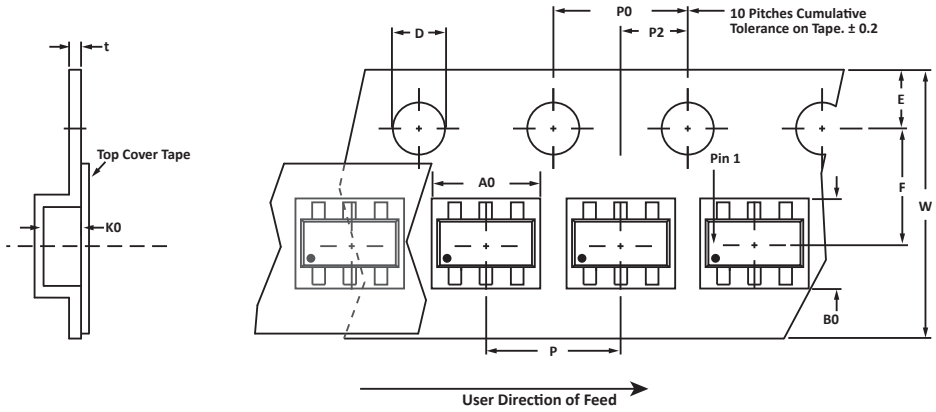


PAD LAYOUT DIMENSIONS		
DIM	MILLIMETERS	INCHES
	NOMINAL	NOMINAL
A	0.70	0.028
B	1.90	0.074
C	0.95	0.037
D	2.40	0.094
E	1.00	0.039

NOTES
1. Controlling dimension: inches.



TAPE AND REEL



SPECIFICATIONS												
REEL DIA.	TAPE WIDTH	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")	8mm	3.20 ± 0.10	3.20 ± 0.10	1.65 ± 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 - T7 = 7" Reel - 3,000 pieces per 8mm tape.
4. Marking on Part - marking code (see page 2) and pin one defined by dot on package.

Package outline, pad layout and tape specifications per document number 06013.R5 2/11

ORDERING INFORMATION					
BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
SRV2.8-4	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.

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