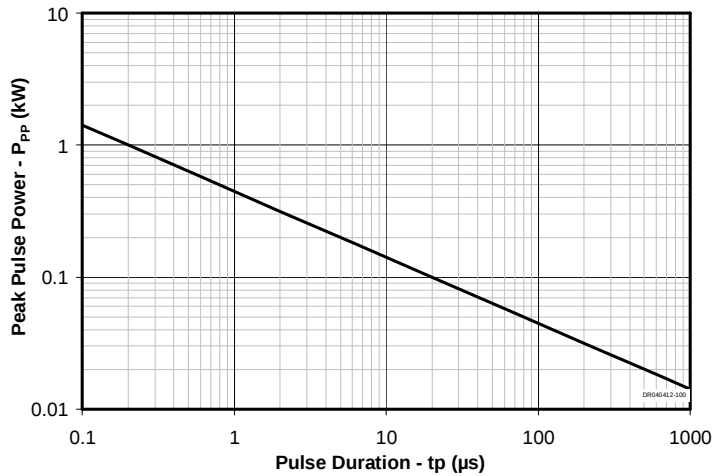
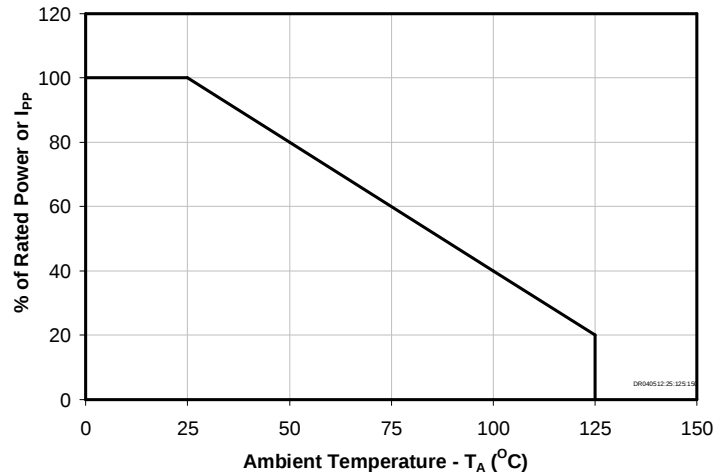
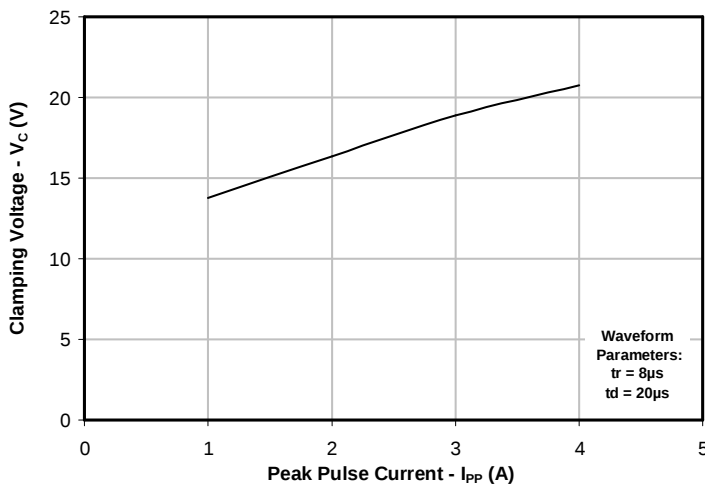
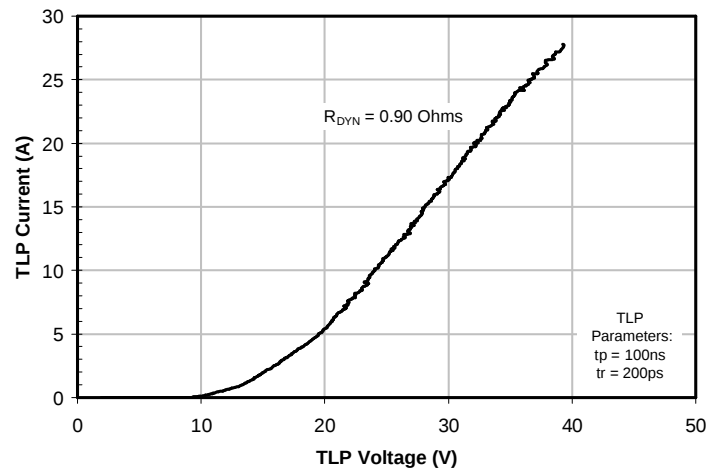
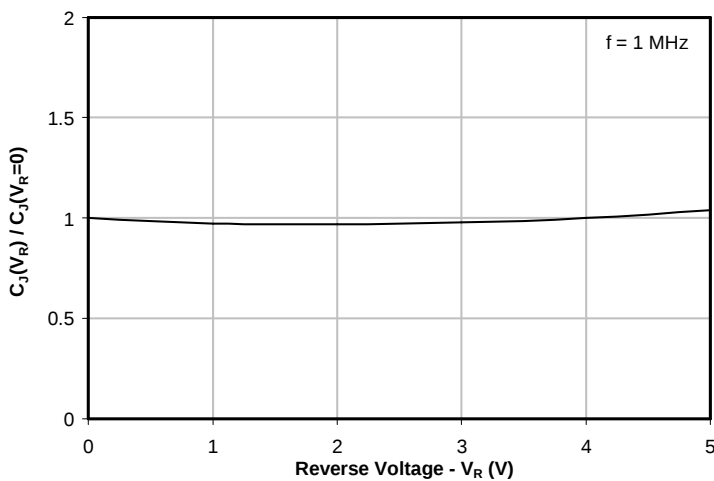
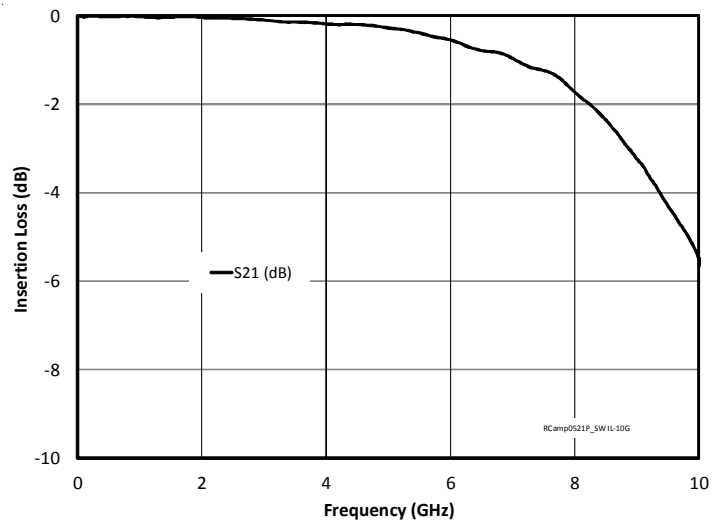


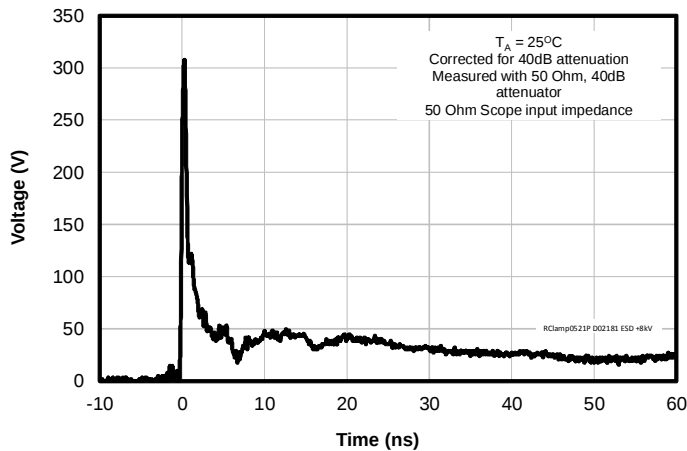
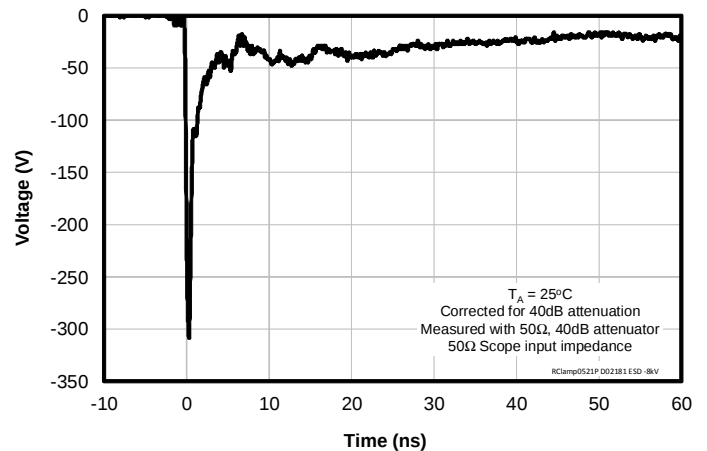
PROTECTION PRODUCTS
Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{pk}	100	Watts
Maximum Peak Pulse Current ($t_p = 8/20\mu s$)	I_{pp}	4	Amps
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	+/- 15 +/- 8	kV
Operating Temperature	T_J	-55 to +125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Characteristics (T=25°C)

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_t = 1mA$	6	9.3	11	V
Reverse Leakage Current	I_R	$V_{RWM} = 5V, T=25^\circ C$		0.025	1	μA
Clamping Voltage	V_C	$I_{pp} = 1A, t_p = 8/20\mu s$			15	V
Clamping Voltage	V_C	$I_{pp} = 4A, t_p = 8/20\mu s$			25	V
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz$		0.30	0.50	pF

PROTECTION PRODUCTS
Typical Characteristics
Non-Repetitive Peak Pulse Power vs. Pulse Time

Power Derating Curve

Clamping Voltage vs. Peak Pulse Current

TLP Characteristic (Positive Pulse)

Normalized Capacitance vs. Reverse Voltage

Typical Insertion Loss (S21)


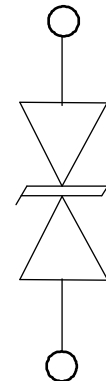
PROTECTION PRODUCTS
Typical Characteristics
ESD Clamping (+8kV Contact per IEC 61000-4-2)

ESD Clamping (-8kV Contact per IEC 61000-4-2)

Applications Information
Device Connection Options

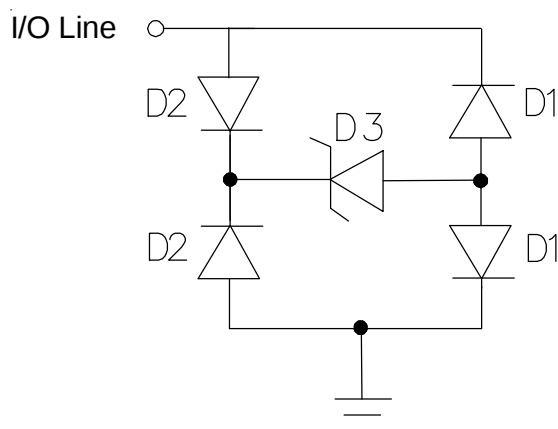
These low capacitance TVS diodes are designed to provide common mode protection for one high-speed line or differential protection for one line pair. The device is bidirectional and may be used on lines where the signal polarity is positive and negative.

Circuit Board Layout Recommendations for Suppression of ESD.

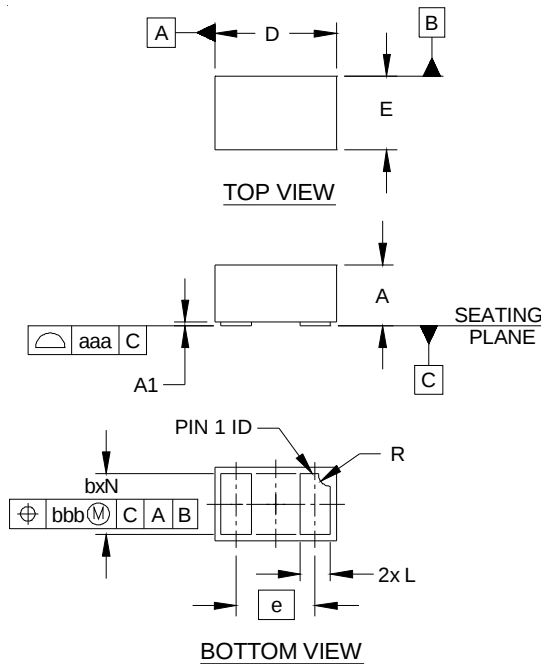
Good circuit board layout is critical for the suppression of ESD induced transients. The following guidelines are recommended:

- Place the TVS near the input terminals or connectors to restrict transient coupling.
- Minimize the path length between the TVS and the protected line.
- Minimize all conductive loops including power and ground loops.
- The ESD transient return path to ground should be kept as short as possible.
- Never run critical signals near board edges.
- Use ground planes whenever possible.

Equivalent Circuit Diagram


PROTECTION PRODUCTS
Applications Information - Spice Model

RClamp0521P Spice Model

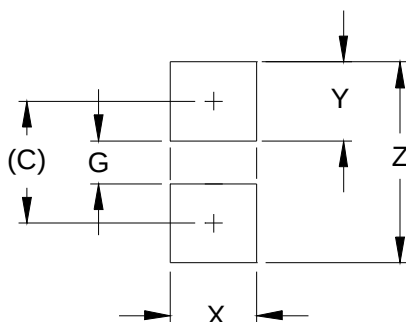
RClamp0521P Spice Parameters				
Parameter	Unit	D1 (LCRD)	D2 (LCRD)	D3 (TVS)
IS	Amp	1.0E-20	1.0E-20	2.0E-12
BV	Volt	100	100	9.36
VJ	Volt	0.7	0.7	0.6
RS	Ohm	0.458	0.89	0.8
IBV	Amp	1E-3	1E-3	1E-3
CJO	Farad	0.4E-12	0.4E-12	56E-12
TT	sec	2.541E-9	2.541E-9	2.541E-9
M	--	0.01	0.01	0.23
N	--	1.1	1.1	1.1
EG	eV	1.11	1.11	1.11

PROTECTION PRODUCTS
Outline Drawing - SLP1006P2


DIM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.016	.020	.022	0.40	0.50	0.55
A1	.000	.001	.002	0.00	0.03	0.05
b	.018	.020	.022	0.45	0.50	0.55
D	.035	.039	.043	0.90	1.00	1.10
E	.020	.024	.028	0.50	0.60	0.70
e	.026 BSC			0.65 BSC		
L	.008	.010	.012	0.20	0.25	0.30
R	.002	.004	.006	0.05	0.10	0.15
N	2			2		
aaa	.003			0.08		
bbb	.004			0.10		

NOTES:

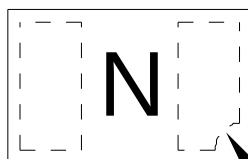
1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).

Land Pattern - SLP1006P2


DIM	DIMENSIONS	
	INCHES	MILLIMETERS
C	(.033)	(0.85)
G	.012	0.30
X	.024	0.60
Y	.022	0.55
Z	.055	1.40

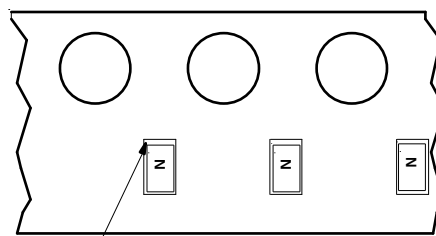
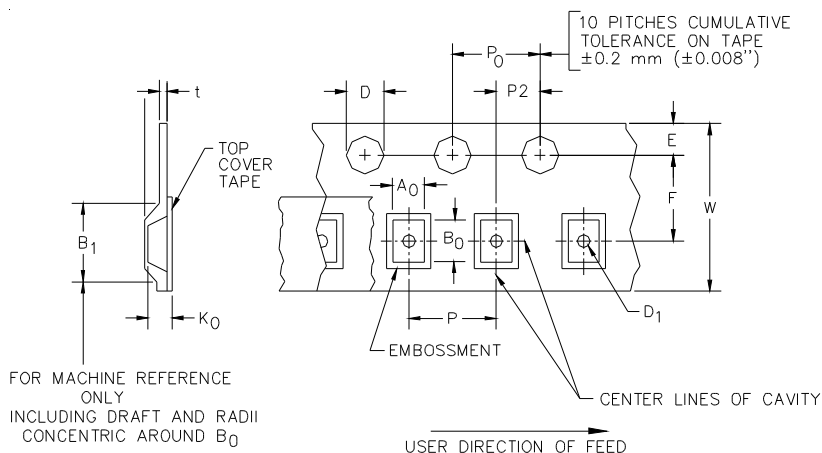
NOTES:

1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
2. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY.
CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR
COMPANY'S MANUFACTURING GUIDELINES ARE MET.

PROTECTION PRODUCTS
Marking Codes

PIN 1 ID
Ordering Information

Part Number	Tape Pitch	Qty per Reel	Reel Size
RClamp0521P.TCT	4mm	3,000	7 Inch
RClamp0521P.TNT	2mm	10,000	7 Inch

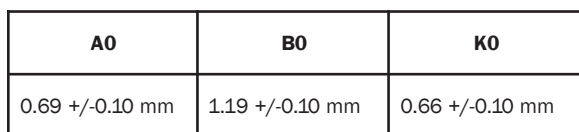
RailClamp and RClamp are marks of Semtech Corporation.

Carrier Tape Specification
3,000 piece, 4mm Pitch Reel

**Pin 1 Location
(Towards Sprocket Holes)**
Device Orientation in Tape

A0	B0	K0
0.69 +/-0.10 mm	1.19 +/-0.10 mm	0.66 +/-0.10 mm

Tape Width	B, (Max)	D	D1	E	F	P	P0	P2	T	W
8 mm	4.2 mm (.165)	1.5 + 0.1 mm - 0.0 mm (0.59 +.005 - .000)	0.4 mm ±0.25 (.031)	1.750±.10 mm (.069±.004)	3.5±0.05 mm (.138±.002)	4.0±0.10 mm (.157±.00- 4)	4.0±0.1 mm (.157±.00- 4)	2.0±0.05 mm (.079±.002)	0.254±0.02 mm (.016)	8.0 mm + 0.3 mm - 0.1 mm (.312±.012)

10,000 piece, 2mm Pitch Reel



A diagram showing a game layout on a rectangular table with a wavy left edge. At the top, there are three large empty circles. Below them, five cards are laid out in a horizontal row. Each card is rectangular with a double border and contains the letter 'Z'. An arrow points from the bottom left towards the second card from the left.

Pin 1 Location
(Towards Sprocket Holes)

Device Orientation in Tape

Semtech Corporation
Protection Products Division
200 Flynn Road, Camarillo, CA 93012
Phone: (805)498-2111 FAX (805)498-3804