

PROTECTION PRODUCTS
Absolute Maximum Rating

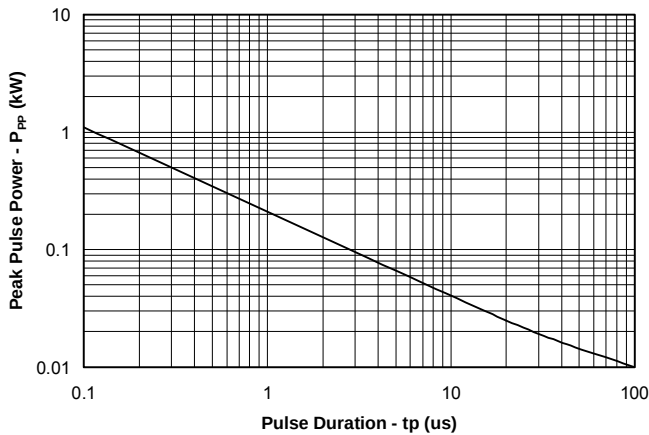
Rating	Symbol	Value	Units
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	+/- 18 +/- 12	kV
Operating Temperature	T_J	-55 to +125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Characteristics (T=25°C)

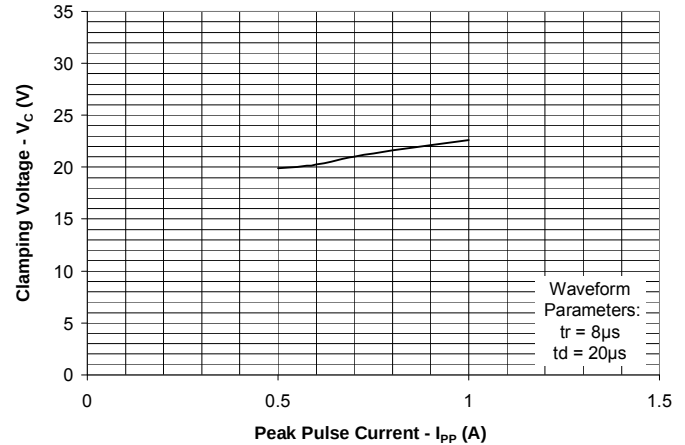
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}	Pin 1 to 2 or 2 to 1			12	V
Reverse Breakdown Voltage	V_{BR}	$I_t = 1mA$ Pin 1 to 2 or 2 to 1	13.3	16	19	V
Reverse Leakage Current	I_R	$V_{RWM} = 12V, T=25^{\circ}C$ Pin 1 to 2 or 2 to 1		<1	50	nA
Clamping Voltage	V_C	$I_{PP} = 1A, t_p = 8/20\mu s$ Pin 1 to 2 or 2 to 1			27	V
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz$		3	7	pF

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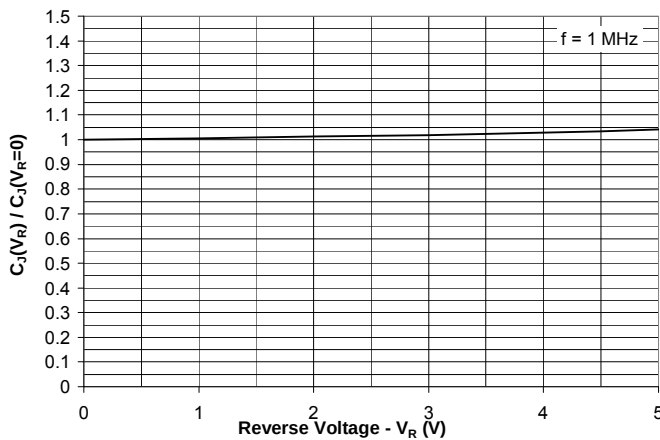
Non-Repetitive Peak Pulse Power vs. Pulse Time



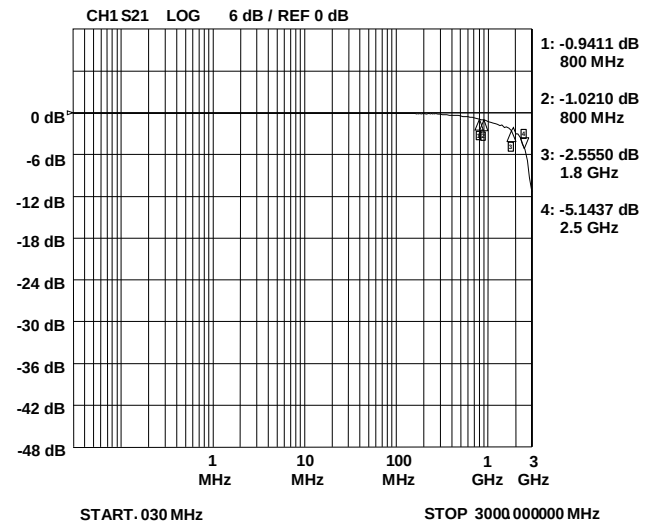
Clamping Voltage vs. Peak Pulse Current



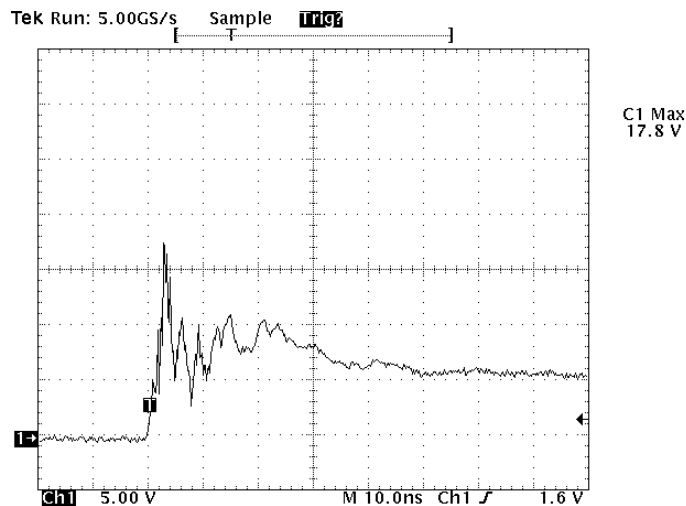
Normalized Junction Capacitance vs. Reverse Voltage



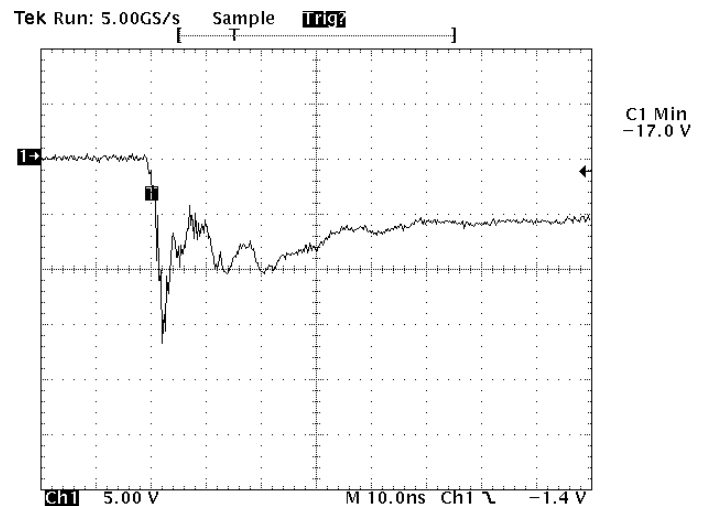
Typical Insertion Loss (S21)



ESD Clamping (Pin 1 to 2 and 2 to 1) (8kV Contact per IEC 61000-4-2)



ESD Clamping (Pin 1 to 2 and 2 to 1) (-8kV Contact per IEC 61000-4-2)



Note: Data is taken with a 10x attenuator

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PROTECTION PRODUCTS**Applications Information****Device Connection Options**

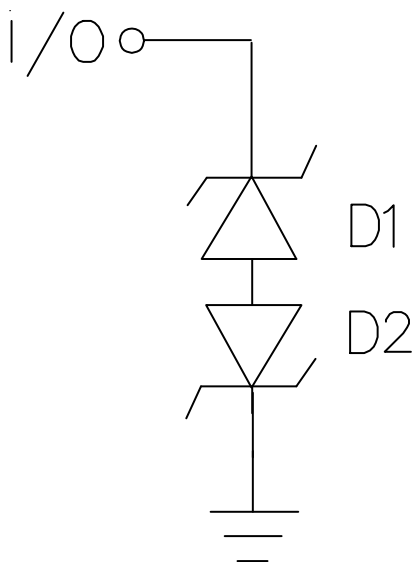
These TVS diodes are designed to protect one data, I/O, or power supply line. The device is bidirectional and may be used on lines where the signal polarity can go above and below ground.

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.

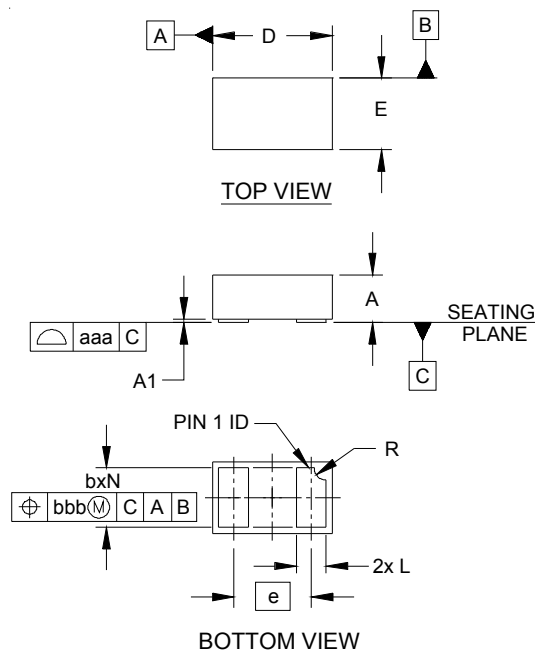
Circuit Diagram

PROTECTION PRODUCTS
Applications Information - Spice Model

Spice Model

uClamp1211T Spice Parameters			
Parameter	Unit	D1 (TVS)	D2 (TVS)
IS	Amp	2.21E-14	2.21E-14
BV	Volt	16.4	16.4
VJ	Volt	0.7	0.7
RS	Ohm	2.7	2.7
IBV	Amp	1E-3	1E-3
CJO	Farad	6E-12	6E-12
TT	sec	2.541E-9	2.541E-9
M	--	0.06	0.06
N	--	1.1	1.1
EG	eV	1.11	1.11

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Outline Drawing - SLP1006P2T

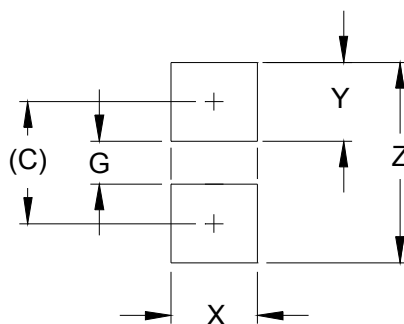


DIM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.015	.016	.017	0.37	0.40	0.43
A1	.000	.001	.002	0.00	0.03	0.05
b	.018	.020	.022	0.45	0.50	0.55
D	.035	.039	.043	0.90	1.00	1.10
E	.020	.024	.028	0.50	0.60	0.70
e	.026 BSC			0.65 BSC		
L	.008	.010	.012	0.20	0.25	0.30
R	.002	.004	.006	0.05	0.10	0.15
N	2			2		
aaa	.003			0.08		
bbb	.004			0.10		

NOTES:

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

Land Pattern - SLP1006P2T



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

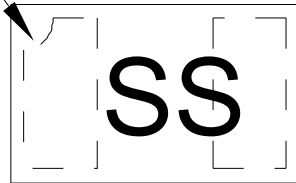
NOTES:

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 Code

PIN 1 ID



Ordering Information

Part Number	Working Voltage	Qty per Reel	Reel Size
uClamp1211T.TCT	12V	3,000	7 Inch

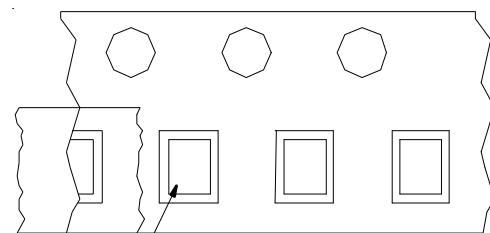
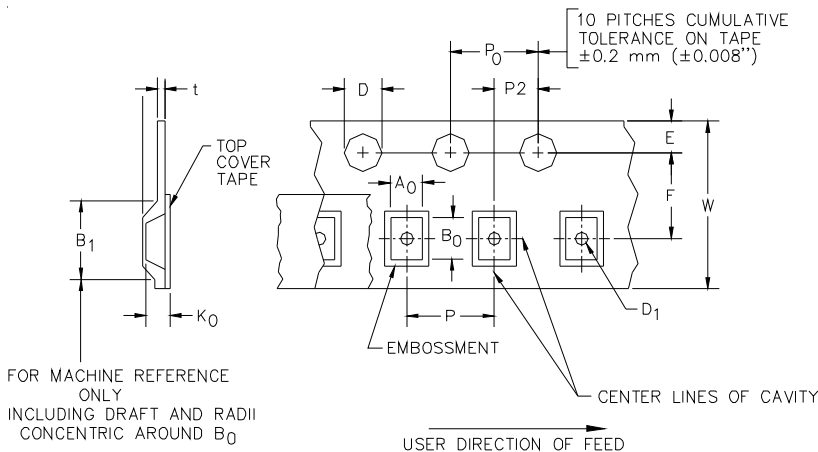
Notes:

1) This is a lead-free, RoHS/WEEE compliant product
MicroClamp, uClamp and μ Clamp are marks of Semtech Corporation

Notes:

1) Device is electrically symmetrical

Tape and Reel Specification



Pin 1 Location

User Direction of feed

Device Orientation in Tape

A0	B0	K0
0.69 $\pm$ 0.10 mm	1.19 $\pm$ 0.10 mm	0.66 $\pm$ 0.10 mm

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

Contact Information

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