

PROTECTION PRODUCTS

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{pk}	25	Watts
Maximum Peak Pulse Current ($t_p = 8/20\mu s$)	I_{pp}	2	Amps
ESD per IEC 61000-4-2 (Air) ¹ ESD per IEC 61000-4-2 (Contact) ¹	V_{ESD}	+/- 17 +/- 12	kV
Operating Temperature	T_J	-40 to +85	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Notes:

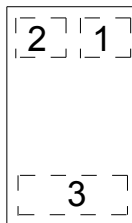
1) ESD rating between pin 1 and ground. Pin 2 not rated for IEC level ESD discharges

Electrical Characteristics (T=25°C)

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
TVS Reverse Stand-Off Voltage	V_{RWM}				5	V
TVS Reverse Breakdown Voltage	V_{BR}	$I_t = 1mA$	6	8	10	V
TVS Reverse Leakage Current	I_R	$V_{RWM} = 5.0V$			0.5	μA
Total Series Resistance	R	Each Line	850	1000	1150	Ohms
Total Capacitance	C_{in}	Input to Gnd, Each Line $V_R = 0V, f = 1MHz$	10	12	15	pF

Pin Identification and Configuration

Pin	Symbol	Identification
1	I/O In	Data Input (Connector Side)
2	I/O Out	Data Output (To Protected IC)
3	GND	Ground

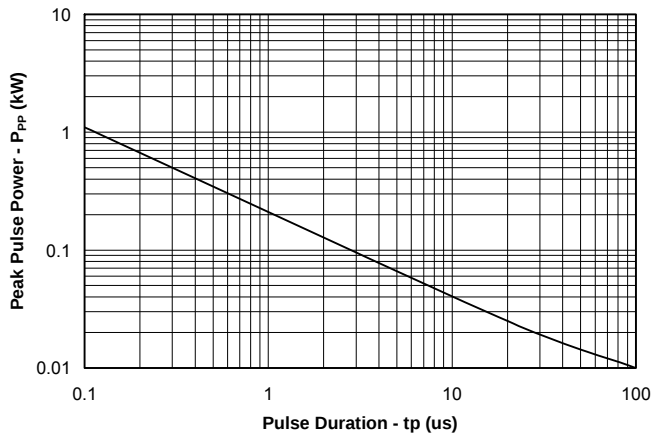


Pin Configuration (Top View)

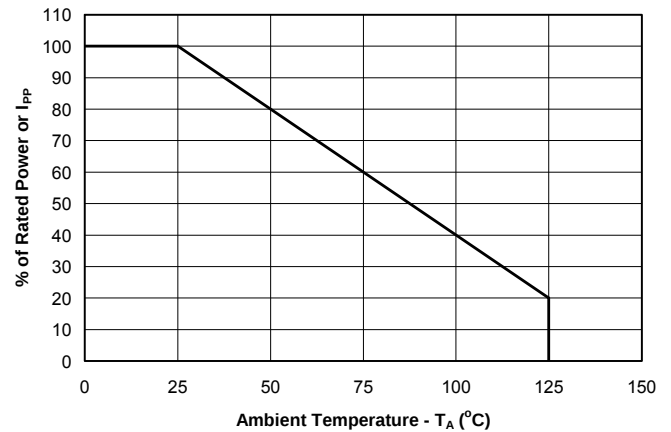
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Typical Characteristics

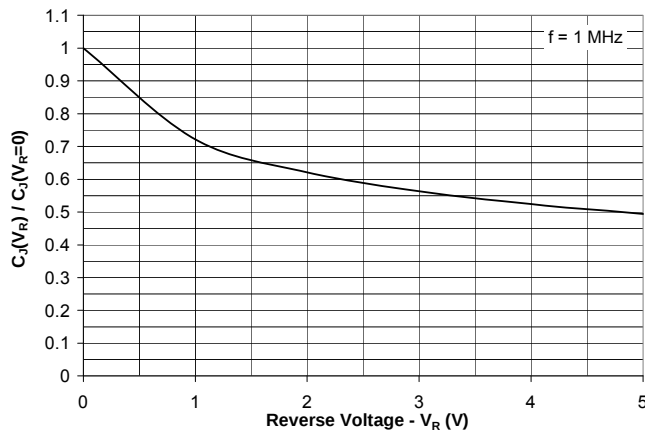
Non-Repetitive Peak Pulse Power vs. Pulse Time



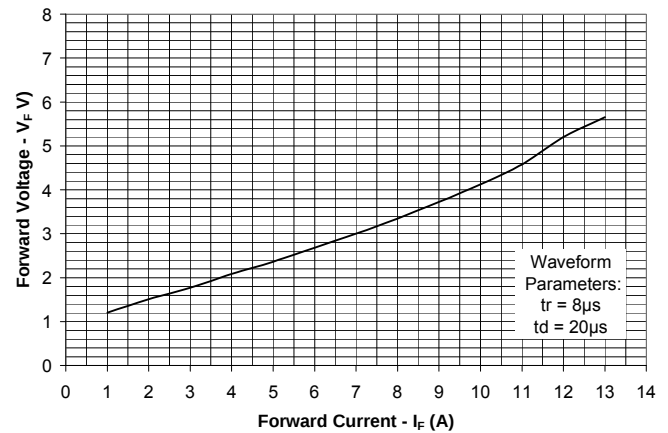
Power Derating Curve



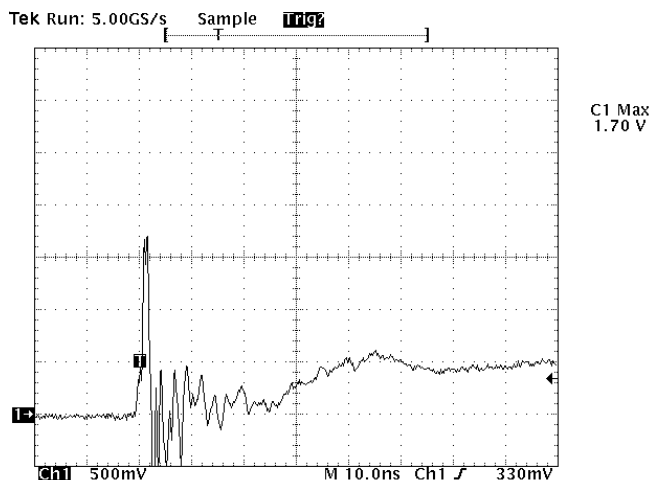
Normalized Junction Capacitance vs. Reverse Voltage



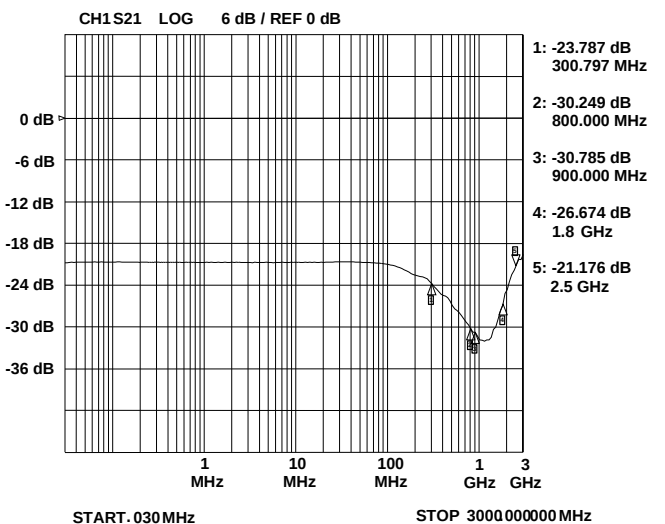
Forward Voltage vs. Forward Current



**ESD Clamping (Measured between Pin2 and Gnd)
(8kV Contact per IEC 61000-4-2)**



Insertion Loss S21



Note: Data is taken with a 10x attenuator

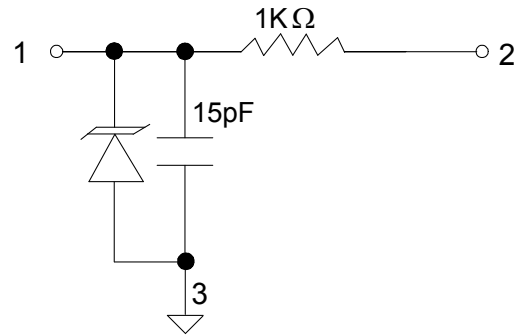
PROTECTION PRODUCTS**Applications Information****Device Connection Options**

This device is designed to protect one data line. The device is unidirectional and may be used on lines where the signal polarity is above ground. The cathode band should be placed towards the line that is to be protected.

Circuit Board Layout Recommendations for Suppression of ESD.

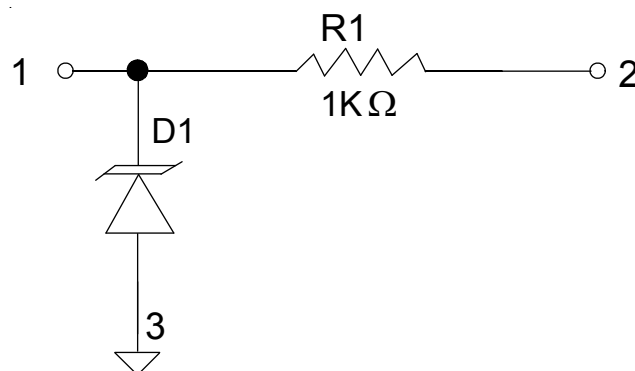
Good circuit board layout is critical for the suppression of ESD induced transients. The following guidelines are recommended:

- 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

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Applications Information - Spice Model



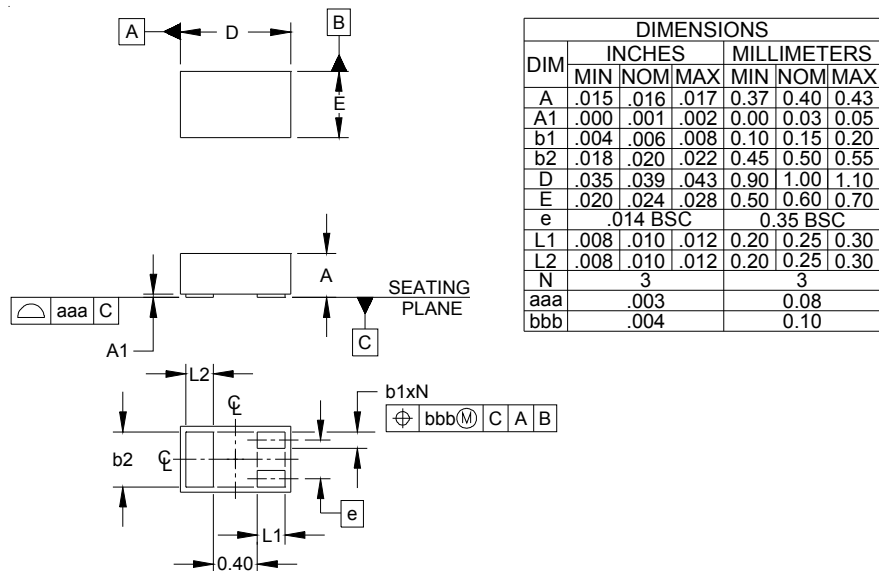
EClamp0501T Spice Model

Table 1 - EClamp0501T Spice Parameters

Parameter	Unit	D1 (TVS)
IS	Amp	2E-15
BV	Volt	7.56
VJ	Volt	0.776
RS	Ohm	0.912
IBV	Amp	1.0E-3
CJO	Farad	11.5E-12
TT	sec	2.541E-9
M	--	0.23
N	--	1.1
EG	eV	1.11

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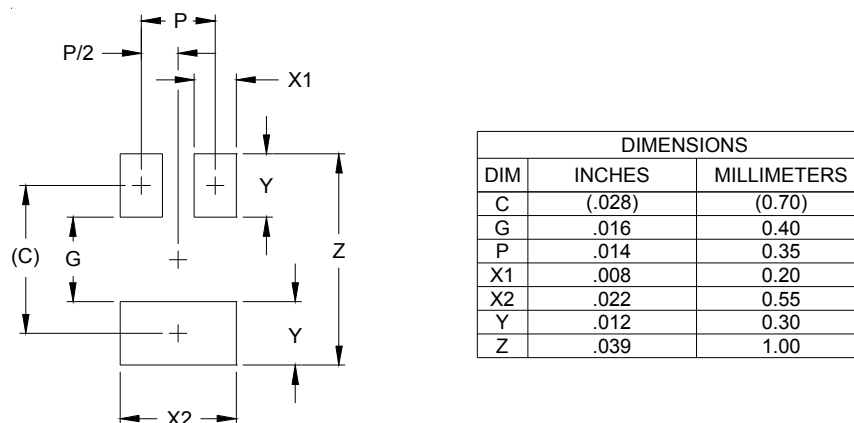
Outline Drawing - SLP1006P3T



NOTES:

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

Land Pattern - SLP1006P3T

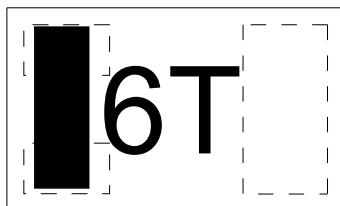


NOTES:

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.

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Marking Code



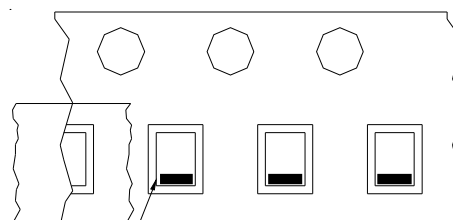
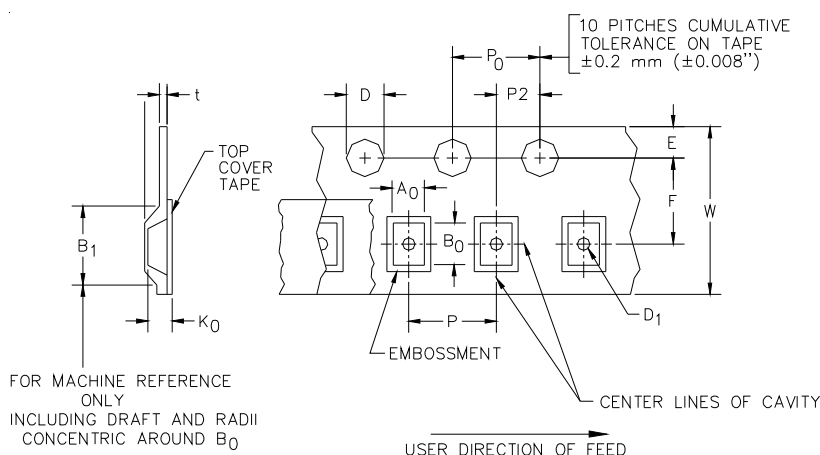
Ordering Information

Part Number	Working Voltage	Qty per Reel	Reel Size
EClamp0501T.TCT	5V	3,000	7 Inch

Notes:

1) This is a lead-free, RoHS/WEEE compliant product
EMIClamp and EClamp are marks of Semtech Corporation

Tape and Reel Specification



Pin 1 Location

User Direction of feed

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 ± .004)	4.0 ± 0.1 mm (.157 ± .004)	2.0 ± 0.05 mm (.079 ± .002)	0.254 ± 0.02 mm (.016)	8.0 mm + 0.3 mm - 0.1 mm (.312 ± .012)

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