

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) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	+/- 20 +/- 15	kV
Operating Temperature	T_J	-55 to +125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

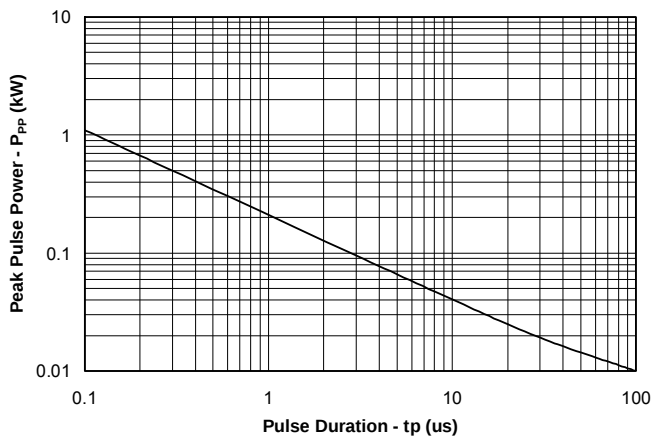
Electrical Characteristics (T=25°C)

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_t = 1mA$	6			V
Reverse Leakage Current	I_R	$V_{RWM} = 5V, T=25^\circ C$			0.25	μA
Forward Voltage	V_F	$I_F = 10mA$		1	1.2	V
Clamping Voltage	V_C	$I_{pp} = 2A, t_p = 8/20\mu s$			12.5	V
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$			10	pF
Junction Capacitance	C_j	$V_R = 3.3V, f = 1MHz$		4.5		pF

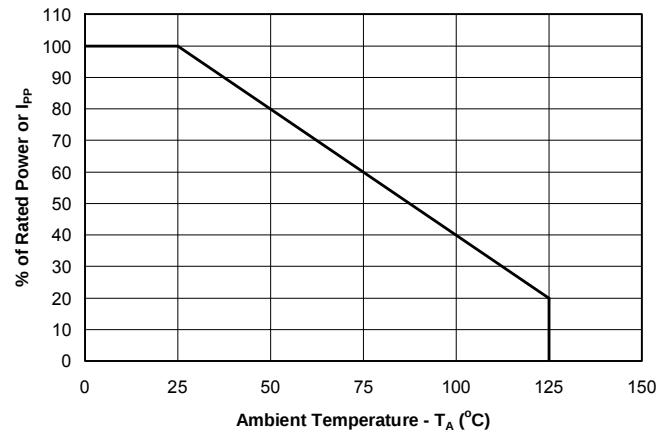
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Typical Characteristics

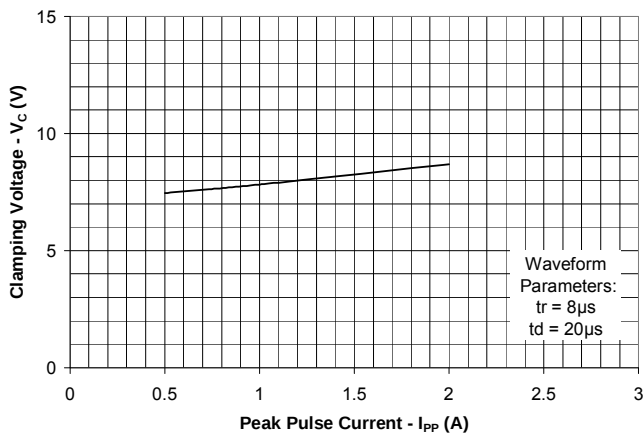
Non-Repetitive Peak Pulse Power vs. Pulse Time



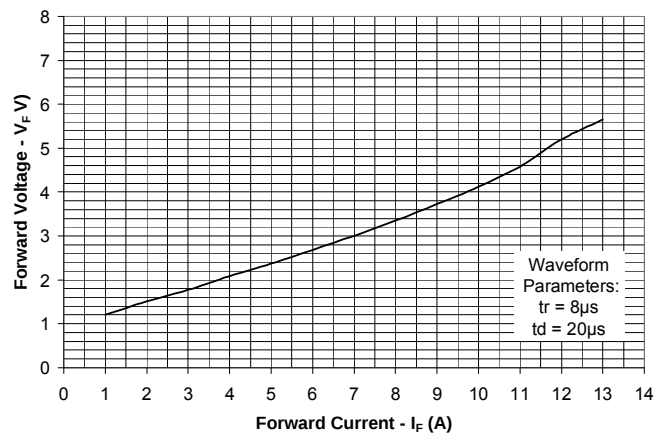
Power Derating Curve



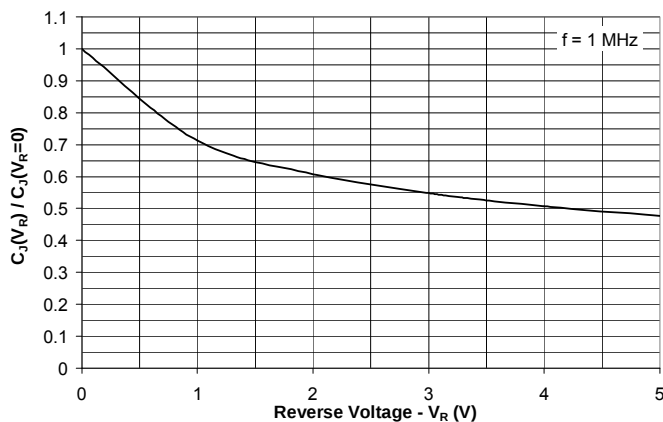
Clamping Voltage vs. Peak Pulse Current



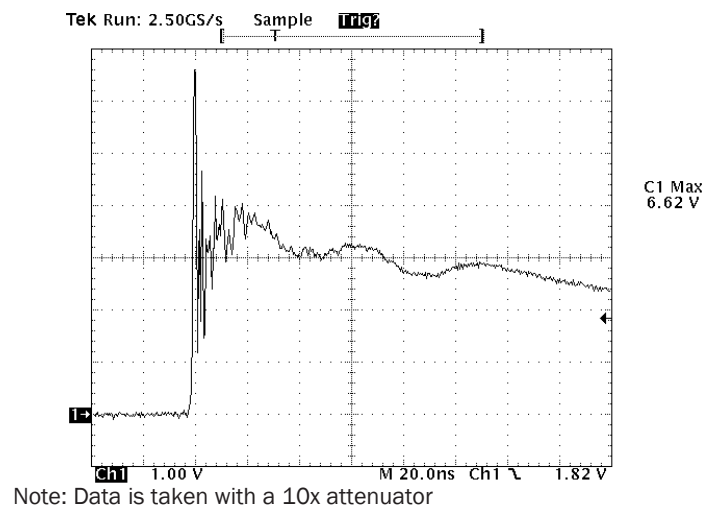
Forward Voltage vs. Forward Current



Normalized Junction Capacitance vs. Reverse Voltage



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



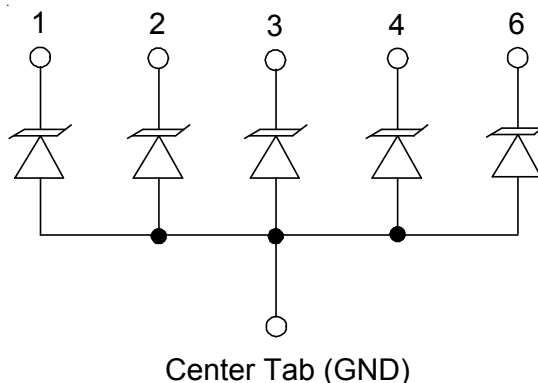
PROTECTION PRODUCTS**Applications Information****Device Connection Options**

This device is designed to protect five data lines. The device is unidirectional and may be used on lines where the signal polarity is above ground.

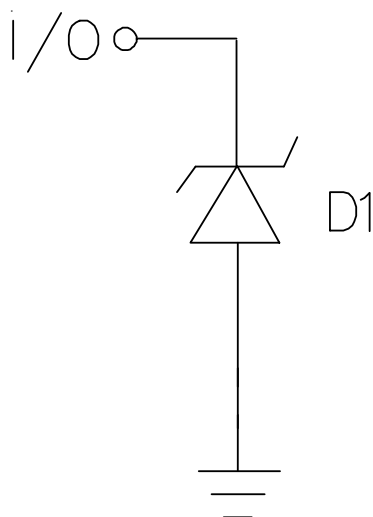
Circuit Board Layout Recommendations for Suppression of ESD.

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.

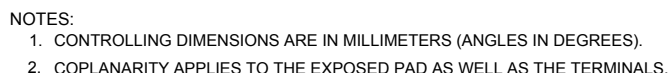
Circuit Diagram

Note: Pin 5 is N.C.

PROTECTION PRODUCTS
Applications Information - Spice Model

uClamp0505T Spice Model

uClamp0505T Spice Parameters		
Parameter	Unit	D1 (TVS)
IS	Amp	2.05e-15
BV	Volt	7.0
VJ	Volt	0.80
RS	Ohm	0.75
IBV	Amp	1.0E-3
CJO	Farad	9e-12
TT	sec	2.541E-9
M	--	0.25
N	--	1.1
EG	eV	1.11

Outline Drawing - SLP1313P6T

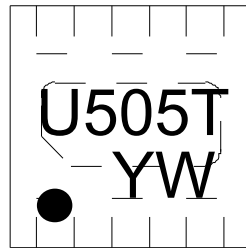


NOTES:

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.
3. THERMAL VIAS IN THE LAND PATTERN OF THE EXPOSED PAD
SHALL BE CONNECTED TO A SYSTEM GROUND PLANE.
FAILURE TO DO SO MAY COMPROMISE THE THERMAL AND/OR
FUNCTIONAL PERFORMANCE OF THE DEVICE.

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Marking Code



YW = Date Code

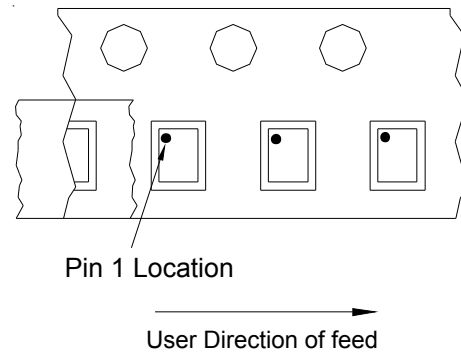
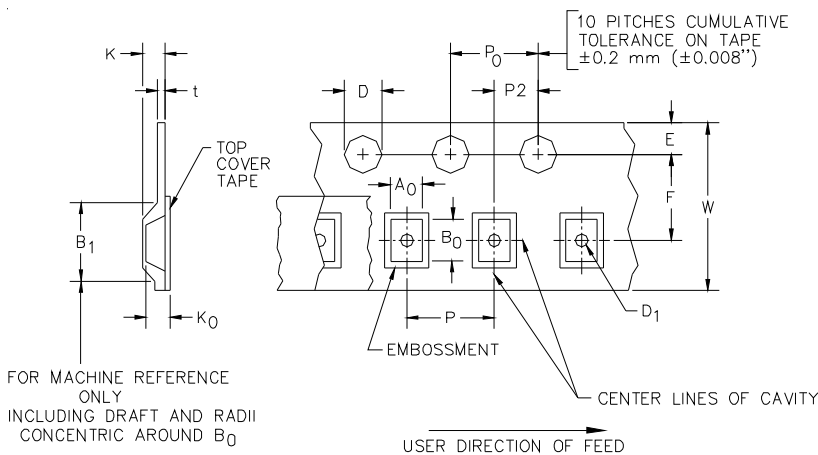
Ordering Information

Part Number	Working Voltage	Qty per Reel	Reel Size
uClamp0505T.TCT	5V	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

Tape and Reel Specification



Device Orientation in Tape

A0	B0	K0
1.51 +/-0.05 mm	1.51 +/-0.05 mm	0.56 +/-0.05 mm

Tape Width	B, (Max)	D	D1	E	F	K (MAX)	P	P0	P2	T(MAX)	W
8 mm	4.2 mm (.165)	1.5 + 0.1 mm - 0.0 mm (0.59 +.005 - .000)	0.8 mm ±0.05 (.031)	1.750±.10 mm (.069±.004)	3.5±0.05 mm (.138±.002)	2.4 mm (.094)	4.0±0.1 mm (.157±.00-4)	4.0±0.1 mm (.157±.00-4)	2.0±0.05mm (.079±.002)	0.4 mm (.016)	8.0 mm + 0.3 mm - 0.1 mm (.312±.012)

Contact Information

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