

Product Brief



SEMTECH PROTECTION PRODUCTS



μClamp[®] 0502T

Low Profile - Space Saving 2-Line ESD Protection

Novel design utilizes space of traditional single device to protect 2 lines

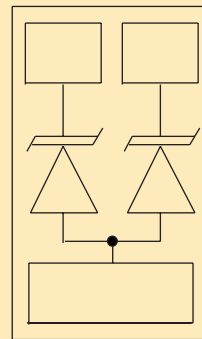
μClamp Series TVS device for multi-line protection

Key Product Features:

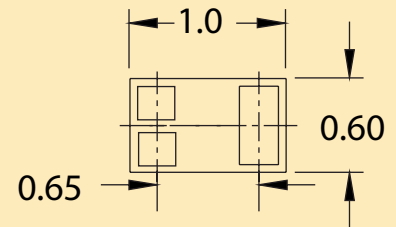
- Novel package design for reduced board space
- Two Line protection in a single line footprint
- Low clamping voltage protecting sensitive IC's
- Low Leakage current maximizes battery life
- Meets IEC61000-4-2, Level 4 immunity requirements
- MLV Replacement
- Replaces two devices
- Low capacitance of <math><10\text{pF}</math>
- RoHS/WEEE Compliant

Applications:

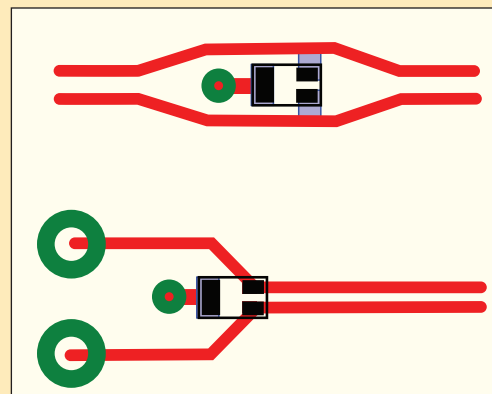
- Cellular Handsets & Accessories
- Personal Digital Assistants (PDAs)
- Notebooks & Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- MP3 Players



SLP1006P3T (Bottom View)



Nominal Dimension (mm)



μClamp0502T Layout Ideas

Product Brief

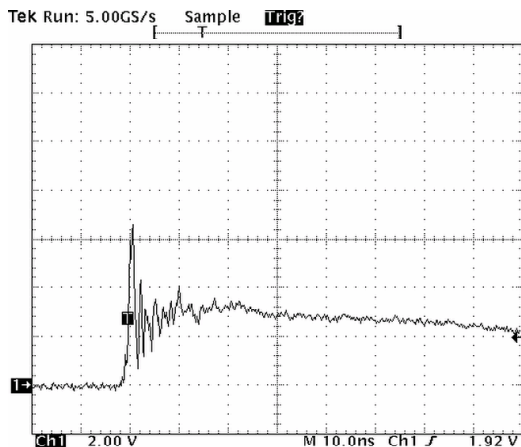
μClamp® 0502T - Space Saving Low Profile 2 Line ESD Protection

Maximum Rating	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20us)	P_{pk}	25	Watts
Peak Pulse Current (tp = 8/20us)	I_{pp}	2	Amps
ESD per IEC6100-4-2 (Air) ESD per IEC6100-4-2 (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)

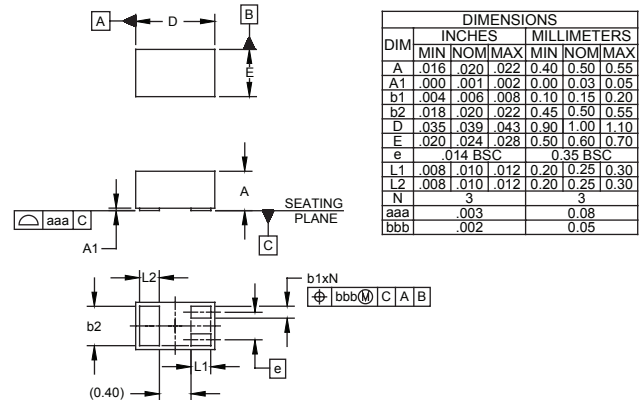
Parameter	Symbol	Condition	Min	Typ	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_t = 1mA$	6			V
Reverse Leakage Current	I_R	$V_{RWM} = 5V, T = 25 °C$			0.25	μA
Forward Voltage	V_F	$I_F = 10mA$		1	1.2	V
Clamping Voltage	V_C	$I_{pp} = 2A, t_p = 8/20\mu s$			12.5	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

ESD Clamping (8kV Contact per IEC61000-4-2)



C1 Max
6.64 V

Outline Drawing



NOTES:

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

Ordering Information

Part Number	Working Voltage	Qty Per Reel	Reel Size
μClamp0502T.TCT	5V	3,000	7 inches

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