



Description

RCLAMP7524T.TNT is an ultra-low capacitance ESD Protection Array designed to protection for high-speed data interfaces. With typical capacitance of 0.2pF (I/O to I/O) only, RCLAMP7524T.TNT is designed to protect parasitic-sensitive systems against over-voltage and over-current transient events. It complies with IEC 61000-4-2 (ESD), Level 4 ($\pm 8\text{KV}$ contact, $\pm 15\text{KV}$ air discharge), IEC61000-4-4 (electrical fast transient-EFT) (40A, 5/50ns), very fast charged device model (CDM) ESD and cable discharge event (CDE) etc. RCLAMP7524T.TNT uses ultra-small DFN1308-5L package. Each RCLAMP7524T.TNT device can protect four high-speed data lines. The combined features of ultra-low capacitance, ultra-small size and high ESD robustness make RCLAMP7524T.TNT ideal for high-speed data ports and high-frequency lines (e.g., HDMI & DVI)applications. The low clamping voltage of the RCLAMP7524T.TNT guarantees a minimum stress on the protected IC.

Features

- Transient protection for high-speed data lines
IEC 61000-4-2 (ESD) $\pm 25\text{kV}$ (Air)
 $\pm 20\text{kV}$ (Contact)
IEC 61000-4-4 (EFT) 40A (5/50 ns) Cable Discharge Event (CDE)
- Package optimized for high-speed lines
- Ultra-small package (1.3mm $\times$ 0.8mm $\times$ 0.5mm)
- Protects one data, control line
- Low capacitance: 0.2pF (I/O to I/O)
- Low leakage current
- Low clamping voltage

Mechanical Data

- DFN1308-5L package
- Flammability Rating: UL 94V-0
- Packaging: Tape and Reel
- High temperature soldering guaranteed:
260 $^{\circ}\text{C}$ /10s
- Reel size: 7 inch

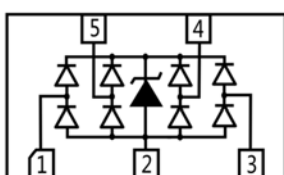
Ordering Information

- Device: RCLAMP7524T.TNT
- Package: DFN1308-5L
- Material: Halogen free and RoHS compliant
- Packing: Tape & Reel
- Quantity per reel: 10,000pcs

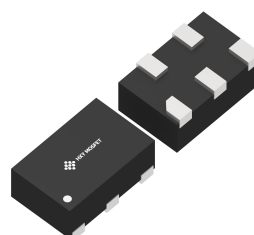
Applications

- Serial ATA
- PCI Express
- Desktops, Servers and Notebooks
- MDDI Ports
- USB 2.0/3.0 Power and Data Line Protection
- High Definition Multi-Media Interface (HDMI)
- Digital Visual Interfaces (DV I)

Pin Configuration



Package Outline





Absolute Maximum Rating

Symbol	Parameter	Value	Units
V _{ESD}	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	±20 ±25	kV
P _{PP}	Peak Pulse Power (8/20μs)	60	W
T _{OPT}	Operating Temperature	-55~125	°C
T _{STG}	Storage Temperature	-55~150	°C
T _L	Lead Soldering Temperature	260(10sec)	°C

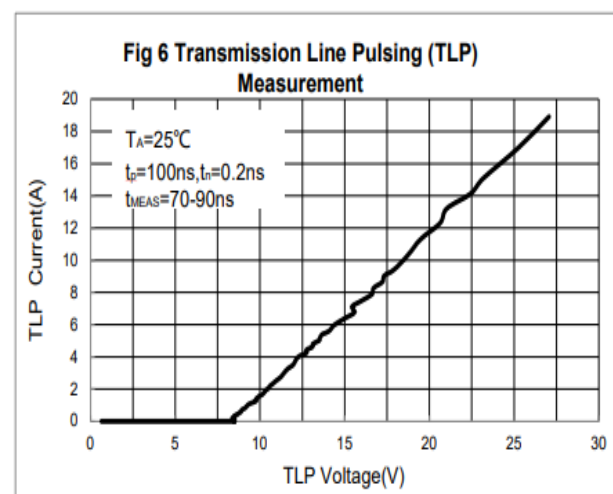
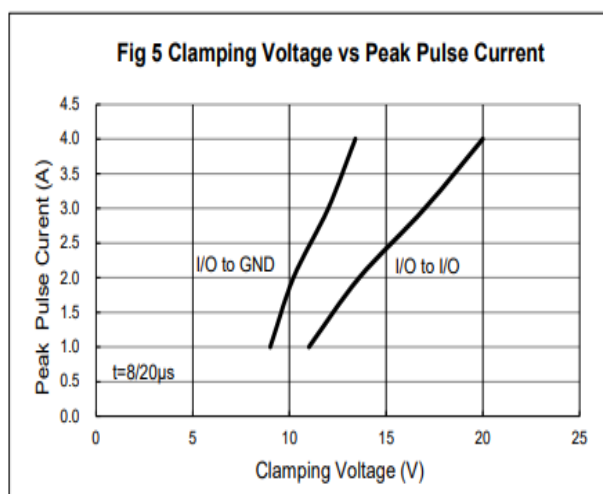
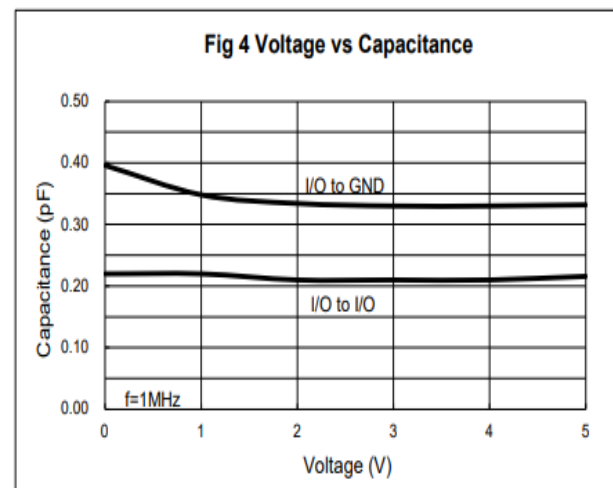
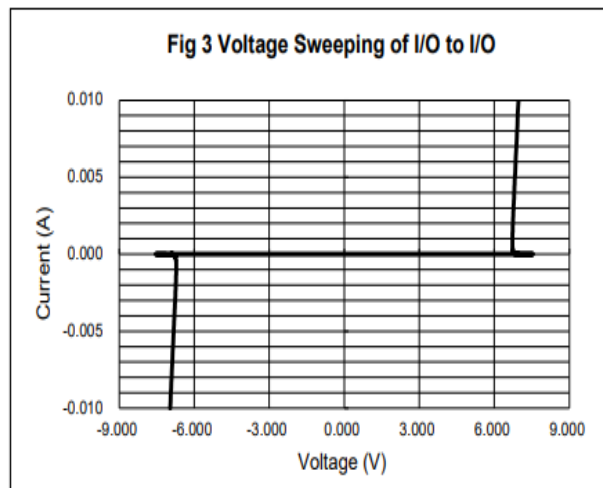
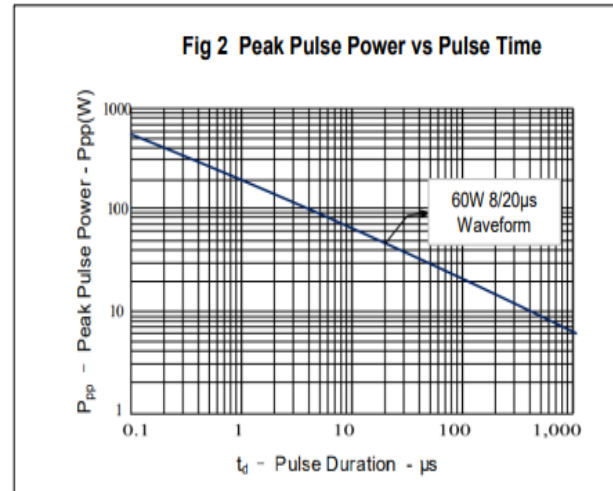
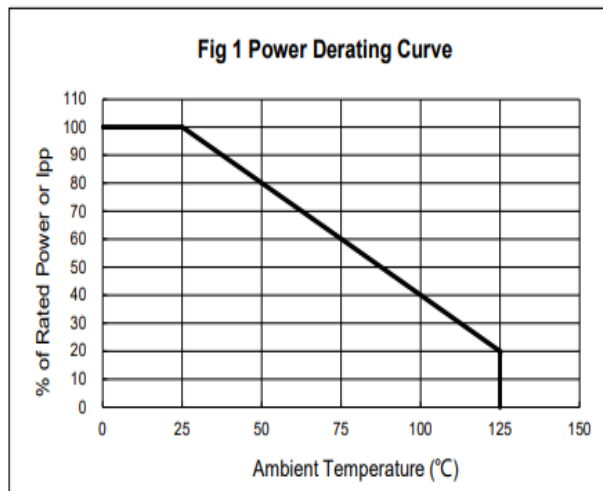
Electrical Characteristics (T_{amb}=25°C)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V _{RWM}	Reverse Working Voltage	Any I/O to GND			5.0	V
V _{BR}	Reverse Breakdown Voltage	I _T = 1mA Any I/O to GND	6.0		9.0	V
I _R	Reverse Leakage Current	V _{RWM} = 5V Any I/O to GND			1.0	uA
V _C	Clamping Voltage	I _{PP} = 1A, t _p = 8/20μs Any I/O to GND			10	V
		I _{PP} = 4A, t _p = 8/20μs Any I/O to GND			15	V
V _{OTLP}	TLP Clamping Voltage	I _{PP} = 8A IEC61000-4-2 Level 2 equivalent (±4kV Contact, ±8kV Air) Between I/O and GND		16		V
		I _{PP} = 16A IEC61000-4-2 Level 2 equivalent (±8kV Contact, ±16kV Air) Between I/O and GND		23		V
C _{ESD}	Parasitic Capacitance	V _R = 0V, f = 1MHz Between I/O and GND		0.4	0.5	pF
C _{ESD}	Parasitic Capacitance	V _R = 0V, f = 1MHz Between I/O and GND		0.2	0.3	pF

Note: I/O are pin 1, ,4,5, GND is pin2.

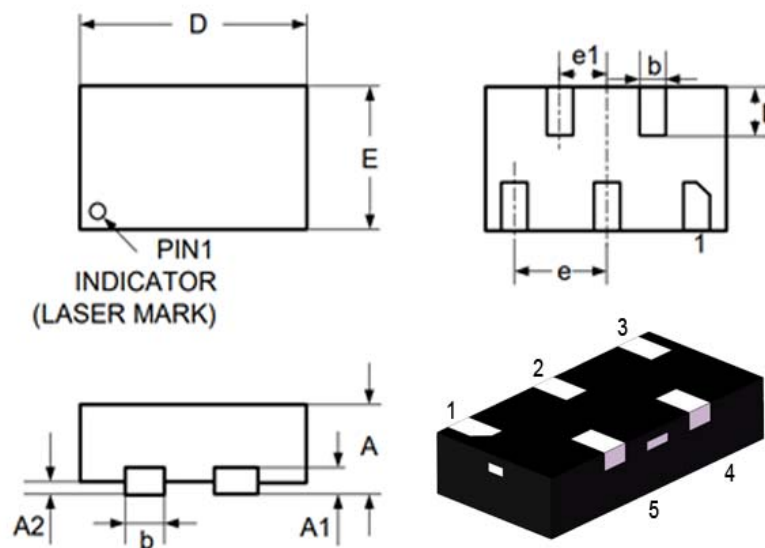


Electrical Characteristics Curve





Outline And Dimensions



Symbol	Dimensions (mm)		
	Min.	Nom.	Max.
D	1.20	1.30	1.40
E	0.70	0.80	0.90
L	0.20	0.22	0.25
b	0.13		0.23
e		0.45	
e1		0.25	
A	0.45	0.50	0.55
A1		0.15	
A2	0.00		0.05



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