

Transient Voltage Suppressors Array for ESD Protection

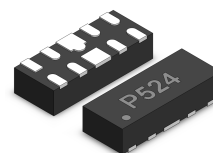
Low Capacitance

ULC0524P

Description

The ULC0524P is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

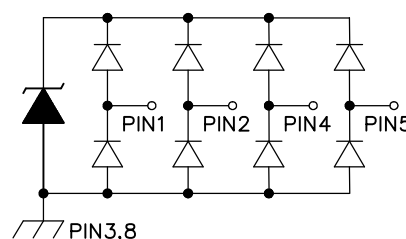
DSO-10



Feature

- u 150 Watts Peak Pulse Power per Line (tp=8/20μs)
- u Protects two or four I/O lines
- u Low capacitance: 0.3pF typical (I/O to I/O)
- u Low operating voltage: 5V
- u RoHS Compliant
- u IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- u IEC61000-4-4 (EFT) 40A (5/50ns)
- u IEC61000-4-5 (Lightning) 5A (8/20μs)

Functional Diagram



Applications

- u High Definition Multimedia Interface (HDMI)
- u Digital Visual Interface (DVI)
- u Unified Display Interface (UDI)
- u MDDI Ports
- u PCI Express
- u Serial ATA

Mechanical Characteristics

- u DSON-10 Package
- u Molding Compound Flammability Rating : UL 94V-0
- u Weight 15.0 Milligrams (Approximate)
- u Quantity Per Reel : 3,000pcs
- u Reel Size : 7 inch
- u Lead Finish : Lead Free

Mechanical Characteristics

Symbol	Parameter	Value	Units
P _{PP}	Peak Pulse Power (tp=8/20μs waveform)	150	W
T _L	Lead Soldering Temperature	260 (10sec)	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C
T _J	Operating Temperature Range	-55 to +150	°C
	IEC61000-4-2 (ESD)		
	Air Discharge	±15	KV
	Contact Discharge	±8	
	IEC61000-4-4 (EFT)	40	A
	IEC61000-4-5 (Lightning)	5	A

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Electrical Characteristics (@ 25°C Unless Otherwise Specified)

Part Number	Device Marking	V _{RWM} (V) (Max.)	V _B (V) (Min.)	I _T (mA)	V _C @1A (Max.)	V _C		I _R (μA) (Max.)	C (pF) (Typ.)
						(Max.)	(@A)		
ULC0524P	P524	5	6	1	15	25	5	1	0.8

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

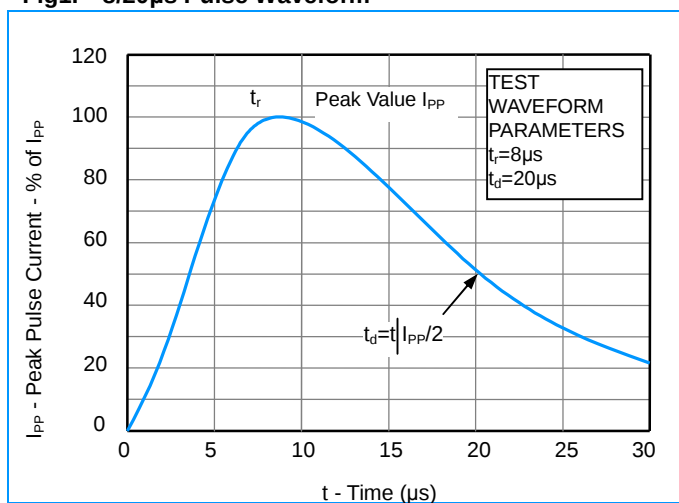


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

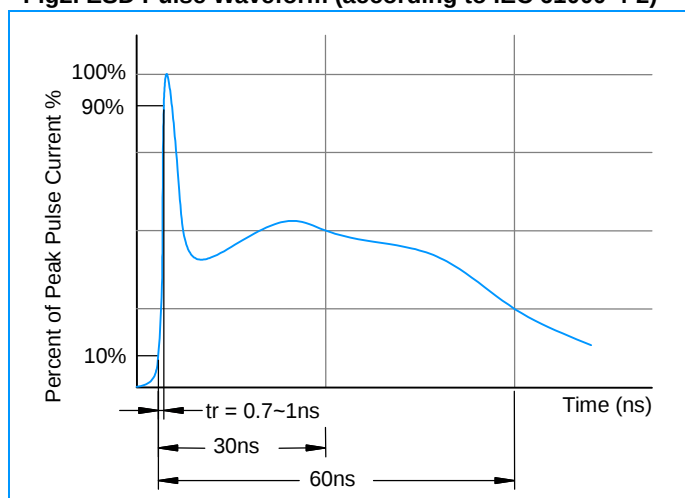


Fig3. Non - Repetitive Peak Pulse Power vs. Pulse Time

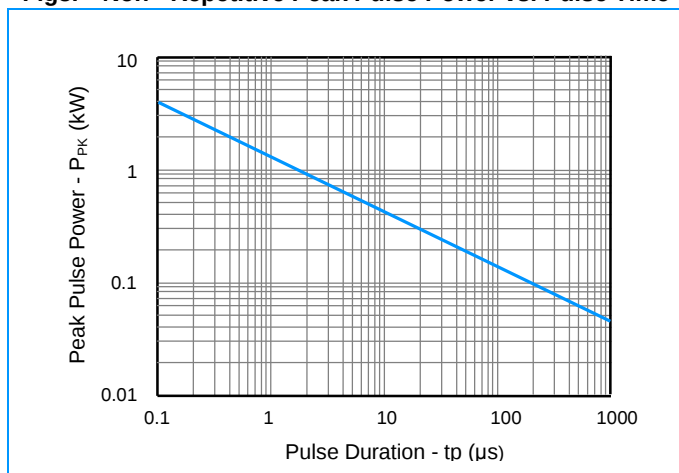
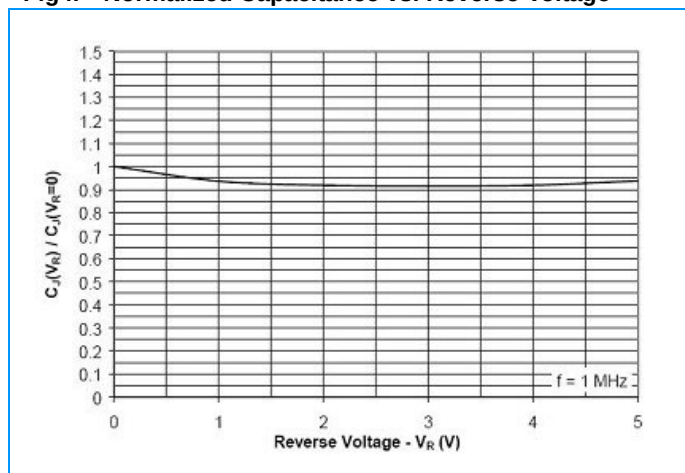


Fig4. Normalized Capacitance vs. Reverse Voltage



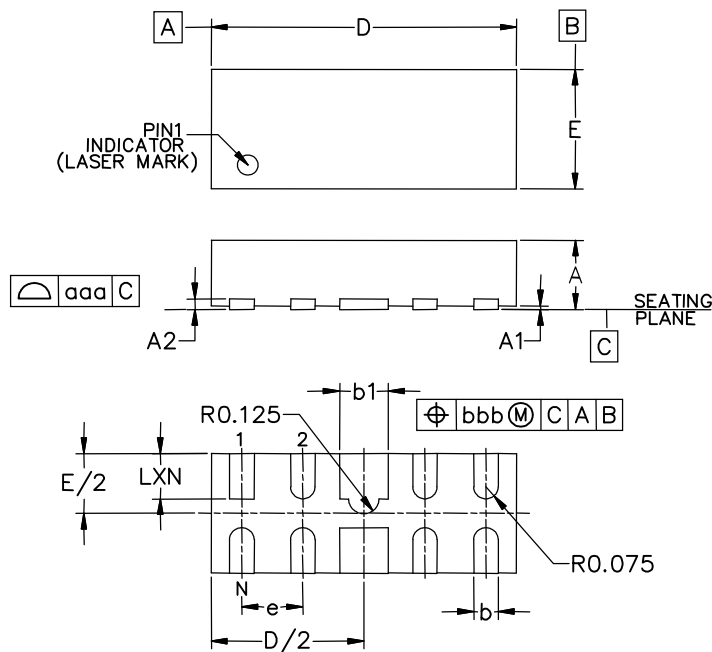


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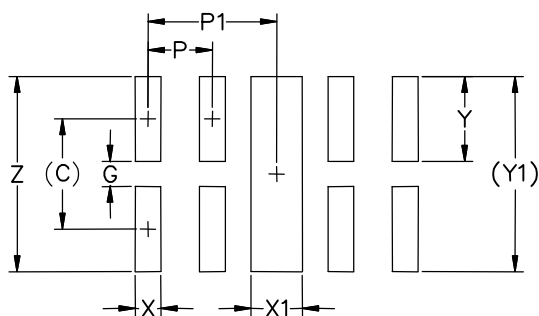
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DSON-10 Package Outline & Dimensions



Symbol	Inches			Millimeters		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	0.020	0.023	0.026	0.50	0.58	0.65
A1	0.000	0.001	0.002	0.00	0.03	0.05
A2	(0.005)			(0.13)		
b	0.006	0.008	0.010	0.15	0.20	0.25
b1	0.014	0.016	0.018	0.35	0.40	0.45
D	0.094	0.098	0.102	2.40	2.50	2.60
E	0.035	0.039	0.043	0.90	1.00	1.10
e	0.020 BSC			0.50 BSC		
L	0.012	0.015	0.017	0.30	0.38	0.425
N	10			10		
aaa	0.003			0.08		
bbb	0.004			0.10		

Soldering Footprint



Symbol	Inches	Millimeters
C	(0.034)	(0.875)
G	0.008	0.20
P	0.020	0.50
P1	0.039	1.00
X	0.008	0.20
X1	0.016	0.40
Y	0.027	0.675
Y1	(0.061)	1.55
Z	0.061	1.55