



# DATA SHEET

SEMICONDUCTOR

YSCLAMP0524P

## Ultra Low Capacitance TVS Diode Array



### APPLICATIONS

- High Definition Multi-Media Interface (HDMI)
- Digital Visual Interface (DVI)
- Unified Display Interface (UDI)
- Monitors and Flat Panel Displays
- MDDI Ports
- PCI Express
- Serial ATA

### IEC COMPATIBILITY

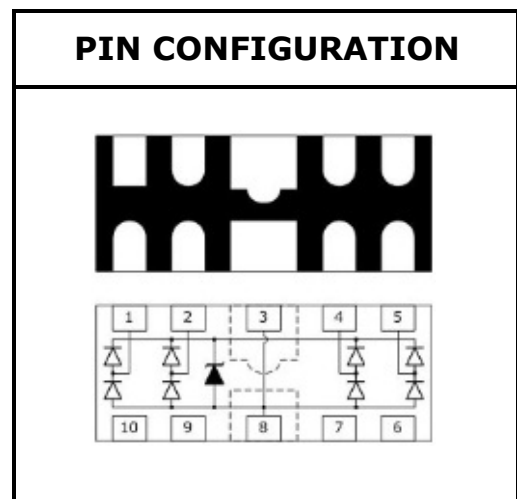
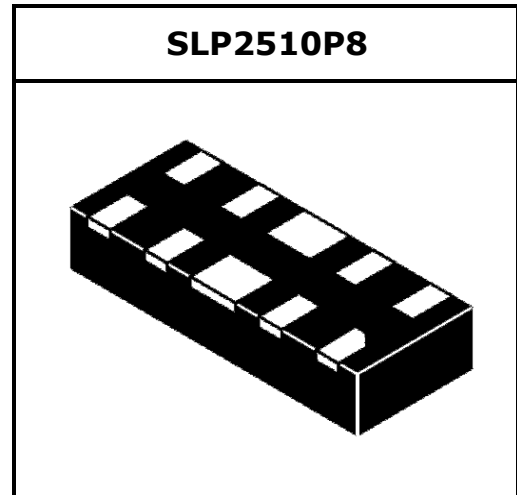
- ◆ IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50  $\eta$  s)

### FEATURES

- ◆ 150 Watts Peak Pulse Power per Line (tp=8/20 $\mu$ s)
- ◆ Protects four high-speed I/O lines
- ◆ Low clamping voltage
- ◆ Working voltages : 5.0V
- ◆ Low leakage current

### MECHANICAL CHARACTERISTICS

- ◆ (2.5x1.0x0.5mm) Package
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Weight 2.5 Milligrams (Approximate)
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Reel Size : 7 inch
- ◆ Lead Finish : Lead Free



Device	Marking
YSCLAMP0524P	0524P

# DEVICE CHARACTERISTICS

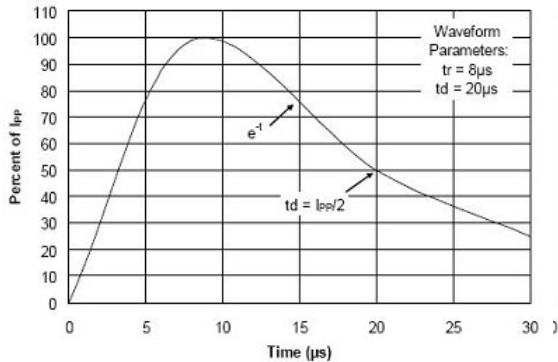
## YSCLAMP0524P

MAXIMUM RATINGS (@ 25°C Unless Otherwise Specified)			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp=8/20µs waveform)	P <sub>PP</sub>	150	Watts
Lead Soldering Temperature	T <sub>L</sub>	260 (10 sec.)	°C
Operating Temperature Range	T <sub>J</sub>	-55 ~ 150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 ~ 150	°C

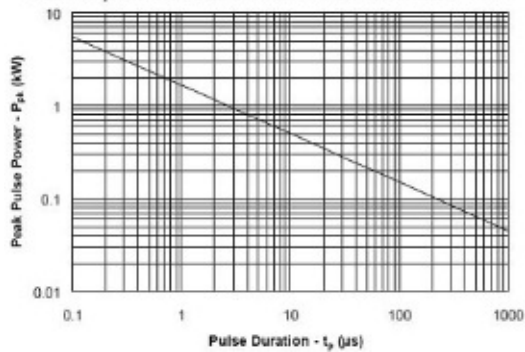
ELECTRICAL CHARACTERISTICS PER LINE (@ 25°C Unless Otherwise Specified)						
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Working Voltage	V <sub>RWM</sub>	I/O Pins to GND (Note 1)			5.0	V
Breakdown Voltage	V <sub>BR</sub>	I <sub>T</sub> =1mA, I/O Pin to GND	6.0			V
Reverse Leakage Current	I <sub>R</sub>	V <sub>RWM</sub> =5V, I/O Pin to GND			1.0	µA
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> =1A, I/O Pin to GND (8/20µs)			15	V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> =0V, f=1MHz between I/Os			0.4	pF
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> =0V, f=1MHz between I/Os & GND			0.8	pF

Note 1 : TVS devices are normally selected according to the working peak reverse voltage (VRWM), which should be equal or greater than the DC or continuous peak operating voltage level.

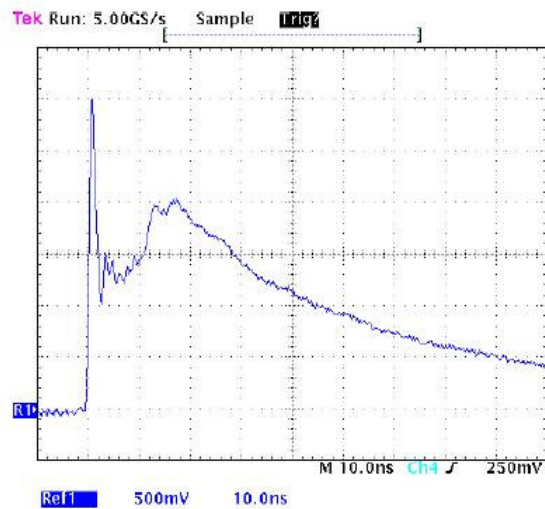
**Pulse Waveform**



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

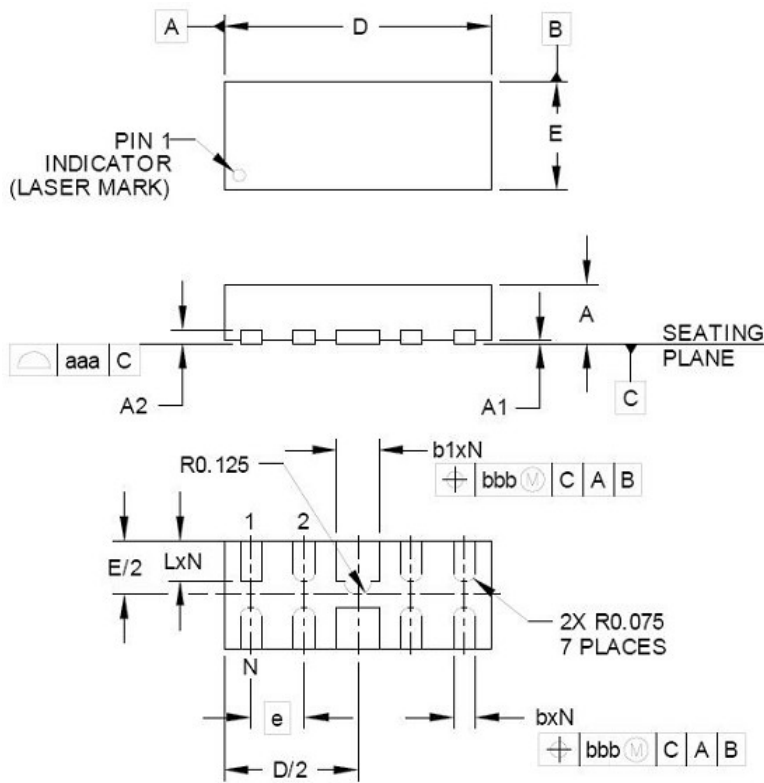


**ESD Pulse Waveform (Per IEC 61000-4-2)**



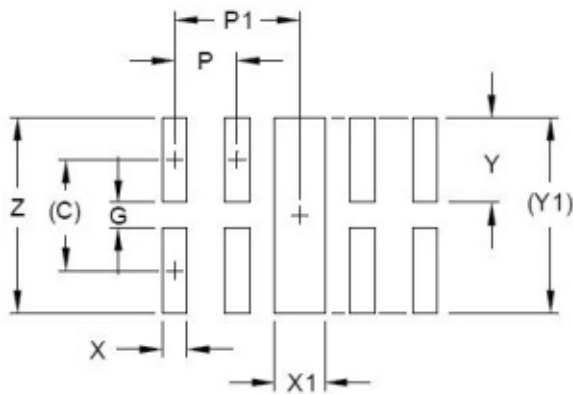
# PACKAGE OUTLINE AND DIMENSIONS

## YSCLAMP0524P



DIM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.020	.023	.026	0.50	0.58	0.65
A1	0.00	.001	.002	0.00	0.03	0.05
A2	(.005)			(0.13)		
b	.006	.008	.010	0.15	0.20	0.25
b1	.014	.016	.018	0.35	0.40	0.45
D	.094	.098	.102	2.40	2.50	2.60
E	.035	.039	.043	0.90	1.00	1.10
e	.020 BSC			0.50 BSC		
L	.012	.015	.017	0.30	0.38	0.425
N	10			10		
aaa	.003			0.08		
bbb	.004			0.10		

### \* SOLDERING FOOTPRINT



DIM	DIMENSIONS	
	INCHES	MILLIMETERS
C	(.034)	(0.875)
G	.008	0.20
P	.020	0.50
P1	.039	1.00
X	.008	0.20
X1	.016	0.40
Y	.027	0.675
Y1	(.061)	(1.55)
Z	.061	1.55