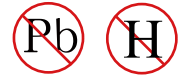




Ultra Low Capacitance Array for ESD Protection



Features

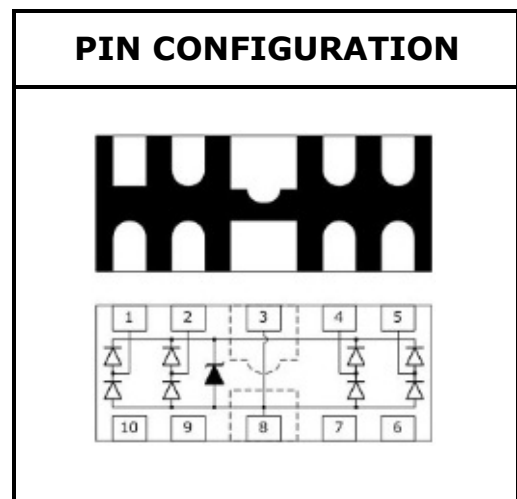
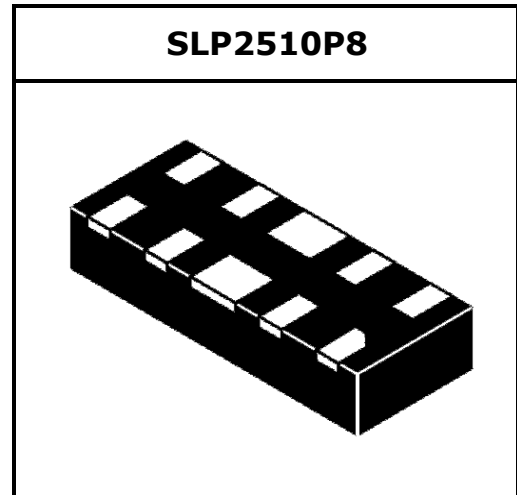
- Protects two or four I/O lines
- Low capacitance:0.15pF Typical between I/O channel
- Working voltages : 5.5V
- Low leakage current
- Response Time is < 1 ns
- Meets MSL 1 Requirements
- **Solid-state silicon avalanche technology**
- ROHS compliant

Main applications

- High Definition Multi-Media Interface (HDMI1.3/1.4/2.0)
- Digital Visual Interface (DVI)
- Display Port Interface
- Serial ATA
- PCI Express
- USB 1.1/2.0/3.0/3.1/OTG
- IEEE 1394 Firewire Ports
- Projection TV Monitors and Flat Panel Displays
- Notebook Computers
- Set Top Box
- Projection TV

Protection solution to meet

- IEC61000-4-2 (ESD) ±20kV (air), ±20kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning) 3.5A (8/20µs)



Device	Marking	Qty per Reel	Reel Size
YSCLAMP0524P	0524P	3000	7 Inch

DEVICE CHARACTERISTICS

YSCLAMP0524P

Maximum ratings (Temp=25°C Unless Otherwise Specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	PPPP	45	Watts
Peak Pulse Current(tp=8/20μs waveform)	IPP	3.5	A
ESD Rating per IEC61000-4-2:	Contact	20	KV
	Air	20	
Lead Soldering Temperature	TL	260 (10 sec.)	°C
Operating Temperature Range	TJ	-55 ~ 150	°C
Storage Temperature Range	TSTG	-55 ~ 150	°C

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

*Other voltages may be available upon request.

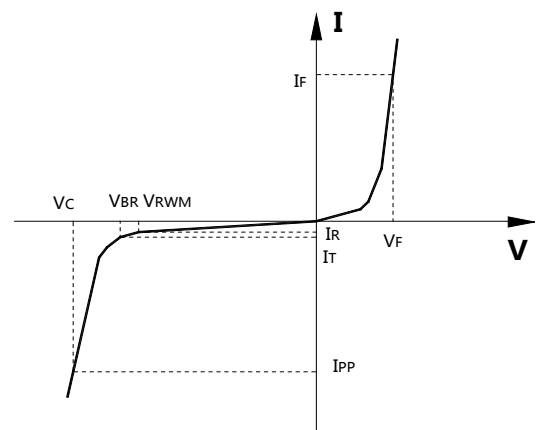
1. Non-repetitive current pulse, per Figure 1.

Electrical characteristics (Temp=25°C Unless Otherwise Specified)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
VRWM	Reverse Working Voltage	Any I/O to Ground			5.5	V
VBR	Reverse Breakdown Voltage	IT = 1mA, Any I/O to Ground	6.0			V
IR	Reverse Leakage Current	VRWM = 5V, Any I/O to Ground			0.5	μA
VF	Diode Forward Voltage	IF = 15mA		0.85	1.2	V
VC	Clamping Voltage	IPP = 1A, tp =8/20μs, any I/O pin to Ground		8.6	9.8	V
		IPP = 3A, tp =8/20μs, any I/O pin to Ground		11.4	15	V
Rdyn	dynamic resistance	positive transient negative transient		0.48 0.35		Ω
CJ	Junction Capacitance	VR = 0V, f = 1MHz, between I/O pins		0.1	0.25	pF
		VR = 0V, f = 1MHz, any I/O pin to Ground		0.36	0.6	pF

Junction capacitance is measured in VR=0V,F=1MHz

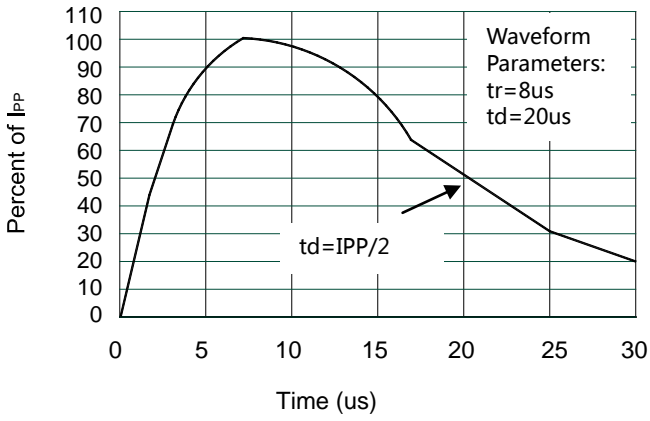
Symbol	Parameter
VRWM	Working Peak Reverse Voltage
VBR	Breakdown Voltage @ IT
VC	Clamping Voltage @ IPP
IT	Test Current
IRM	Leakage current at VRWM
IPP	Peak pulse current
CO	Off-state Capacitance
CJ	Junction Capacitance



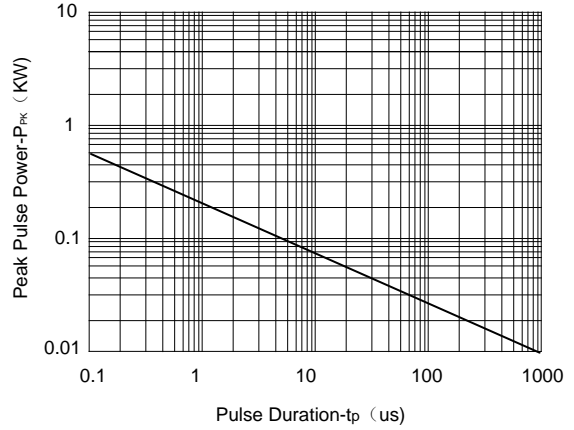
DEVICE CHARACTERISTICS

YSCLAMP0524P

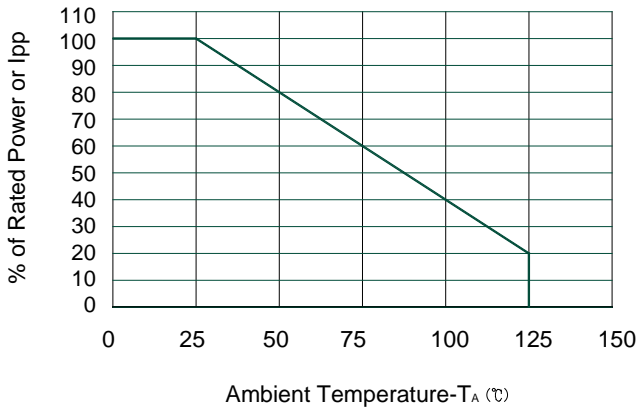
Typical electrical characterist applications



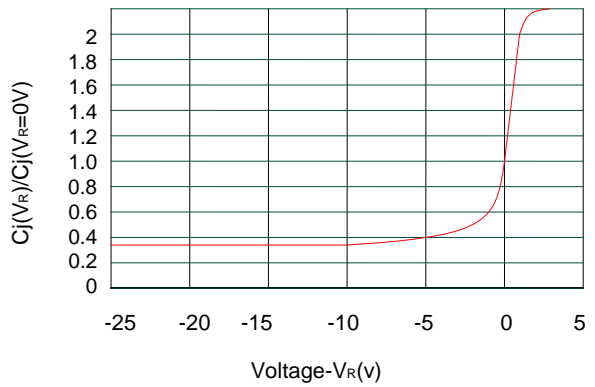
Pulse Waveform



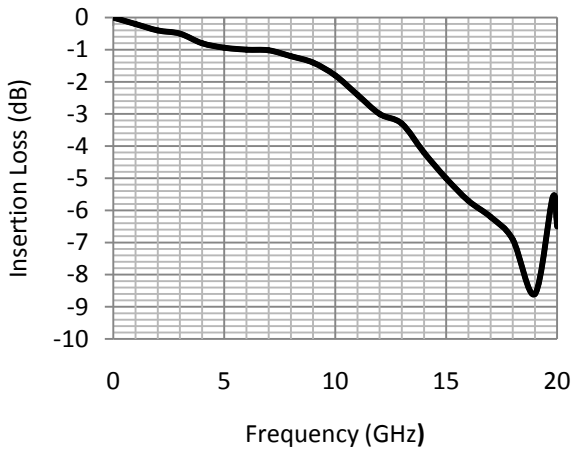
Non-Repetitive Peak Pulse Power vs. Pulse Time



Power Derating Curve



Junction Capacitance vs. Reverse Voltage



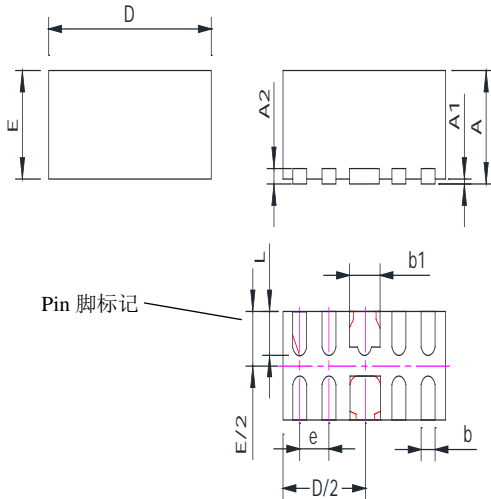
Insertion Loss S21

PACKAGE OUTLINE AND DIMENSIONS

YSCLAMP0524P

Mechanical Data

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	0.45	0.65
A1	0.05REF	
A2	0.15REF	
b	0.15	0.25
b1	0.30	0.50
D	2.424	2.576
E	0.924	1.076
e	0.50REF	
L	0.30	0.45

Recommended Pad outline

