

Features

- Protects two I/O lines and one Vcc line
- Low capacitance
- Working voltages : 5V
- Low leakage current
- Response Time is < 1 ns
- Low capacitance (<1.2pF) for high-speed interfaces
- No insertion loss to 3.0GHz
- Solid-state silicon avalanche technology
- Device Meets MSL 1 Requirements
- ROHS compliant

Main applications

- xDSL
- USB 1.1/2.0/OTG
- IEEE 1394 Firewire Ports
- Projection TV Monitors and Flat Panel Displays
- Notebook Computers
- Set Top Box
- Projection TV

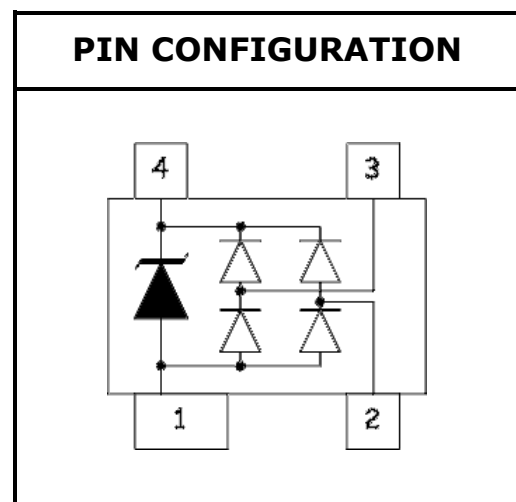
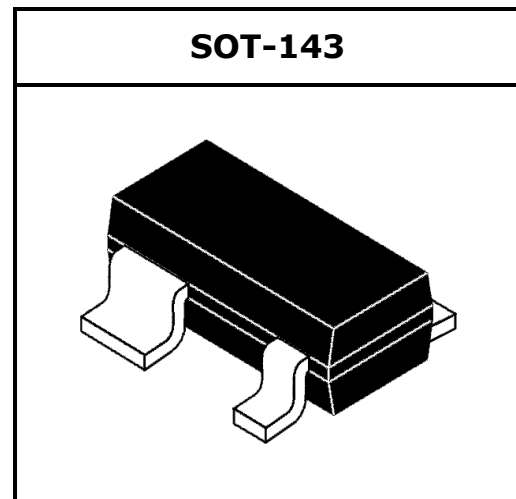
Protection solution to meet

- IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning) 5A (8/20μs)

Marking : R05

Package Information

Device	Qty per Reel	Reel Size
YSSR05LC	3000	7 Inch



DEVICE CHARACTERISTICS

YSSR05LC

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P _{PPP}	150	Watts
Peak Pulse Current(tp=8/20μs waveform)	I _{PP}	5	A
ESD Rating per IEC61000-4-2:			
Contact		8	KV
Air		15	
Lead Soldering Temperature	T _L	260 (10 sec.)	°C
Operating Temperature Range	T _J	-55 ~ 150	°C
Storage Temperature Range	T _{STG}	-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.

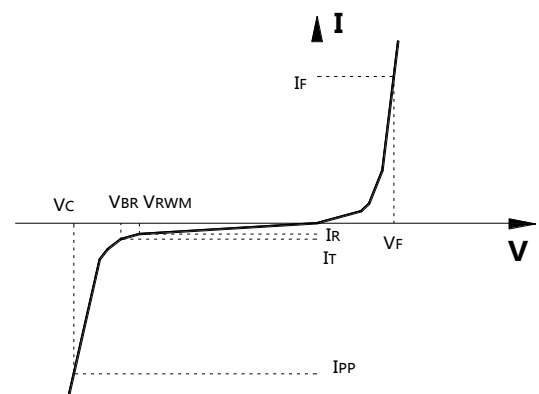
1. Non-repetitive current pulse, per Figure 1.

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
V _{RWM}	Reverse Working Voltage	Any I/O to Ground			5.0	V
V _{BR}	Reverse Breakdown Voltage	I _T = 1mA, Any I/O to Ground	6.0			V
I _R	Reverse Leakage Current	V _{RWM} = 5V, Any I/O to Ground			1	μA
V _F	Diode Forward Voltage	I _F = 15mA		0.85	1.2	V
V _C	Clamping Voltage	I _{PP} = 1A, tp = 8/20μs, any I/O pin to Ground			15.5	V
		I _{PP} = 5A, tp = 8/20μs, any I/O pin to Ground			30	V
I _{PP}	Peak Pulse Current	tp = 8/20μs			5	A
C _J	Junction Capacitance	V _R = 0V, f = 1MHz, between I/O pins		0.45	0.6	pF
		V _R = 0V, f = 1MHz, any I/O pin to Ground		0.9	1.2	pF

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

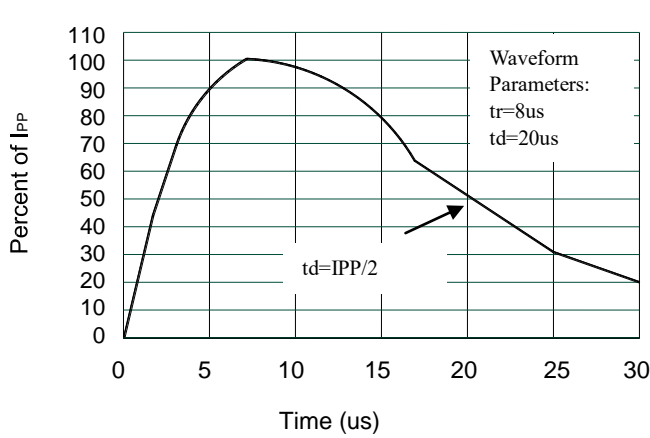
Symbol	Parameter
V _{RWM}	Working Peak Reverse Voltage
V _{BR}	Breakdown Voltage @ I _T
V _C	Clamping Voltage @ I _{PP}
I _T	Test Current
I _{RM}	Leakage current at V _{RWM}
I _{PP}	Peak pulse current
C _O	Off-state Capacitance
C _J	Junction Capacitance



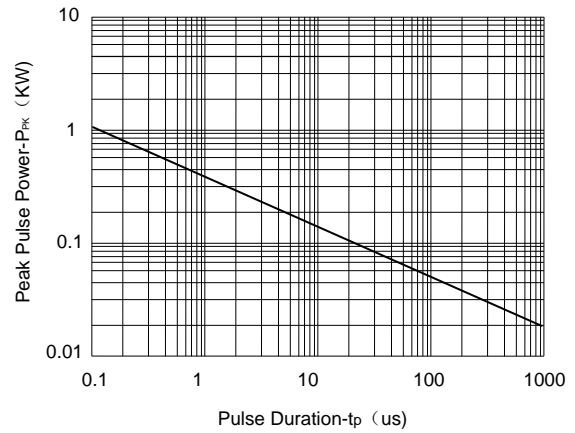
DEVICE CHARACTERISTICS

YSSR05LC

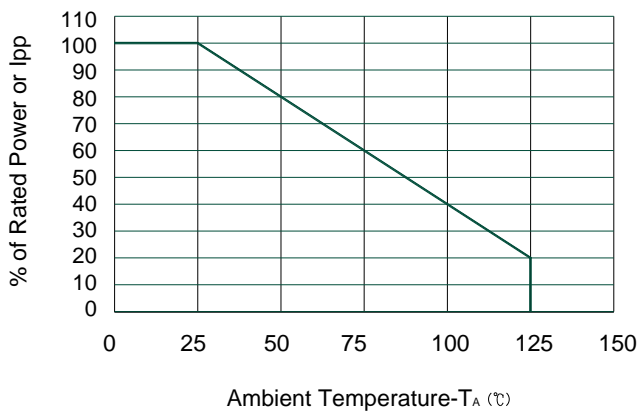
Typical electrical characterist applications



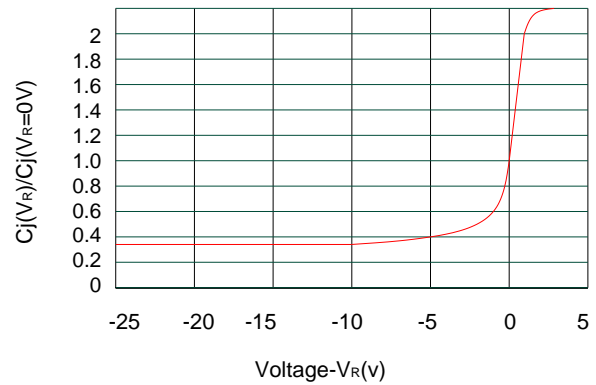
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time

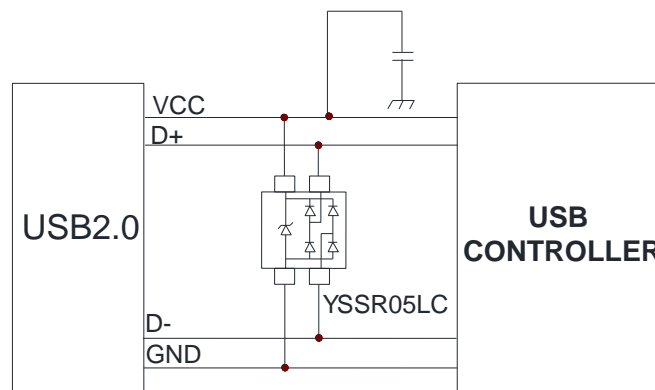


Power Derating Curve



Junction Capacitance vs. Reverse Voltage

Typical applications

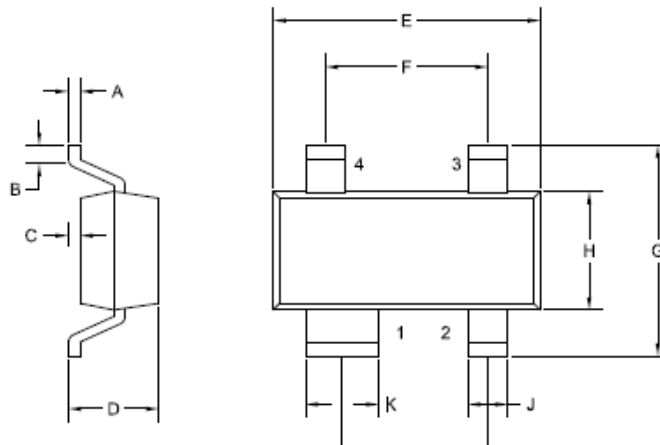


USB PROTECTION FOR ESD
 ESD protection for USB port

PACKAGE OUTLINE & DIMENSIONS

YSSR05LC

Mechanical Drawing



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.006	0.08	0.15
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	-	0.045	-	1.14
E	0.110	0.120	2.79	3.04
F	0.075		1.90	
G	-	0.098	-	2.50
H	0.047	0.055	1.19	1.40
J	0.014	0.020	0.36	0.50
K	0.030	0.037	0.76	0.93

* SOLDERING FOOTPRINT

