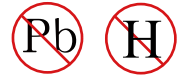




Low Capacitance ESD Protection Diode



Features

- Ultra small package (DFN1006-3L) for use in portable electronics
- ESD protection of two lines
- Low leakage current
- Low clamping voltage
- Response Time is < 1 ns
- Working voltages :5V
- Solid-state silicon avalanche technology
- Device Meets MSL 1 Requirements
- ROHS compliant

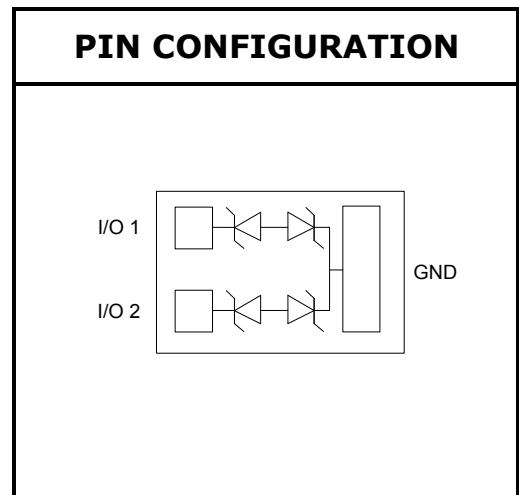
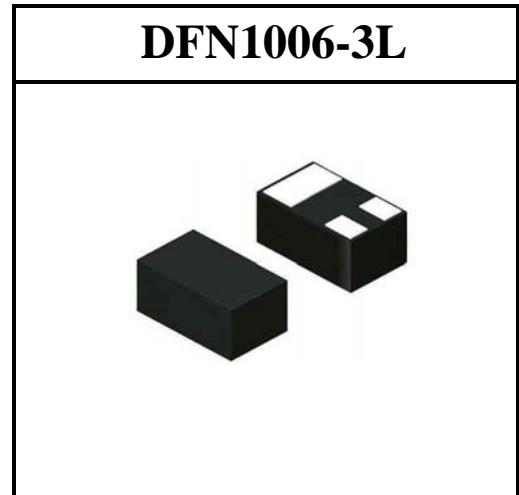
Main applications

- USB1.1/2.0 Data lines
- Industrial Controls
- Computers and peripherals
- Portable instrumentation
- Peripherals
- Notebook Computers
- Set-Top Box
- Projection TV
- Audio and video equipment
- Subscriber Identity Module (SIM) card protection

Marking : GA

Ordering Information

Device	Qty per Reel	Reel Size
YSESD05CN92BL	10000	7 Inch



DEVICE CHARACTERISTICS

YSESD05CN92BL

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	PPPP	50	Watts
Peak pulse current (tp=8/20μs waveform)	I _{PP}	2	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.

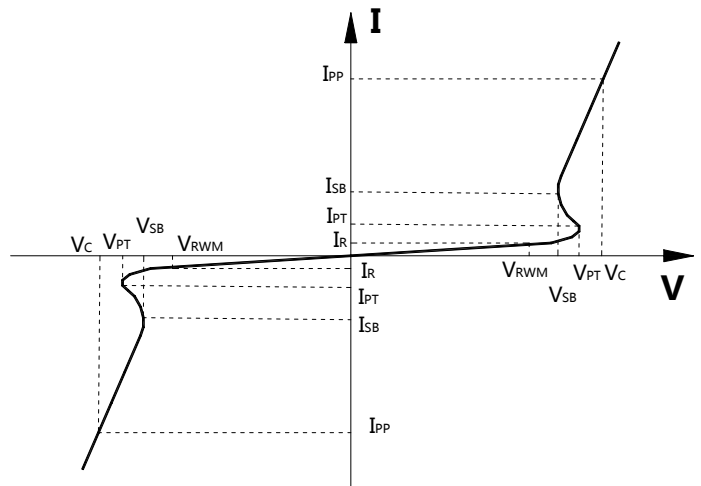
*Other voltages may be available upon request.

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

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

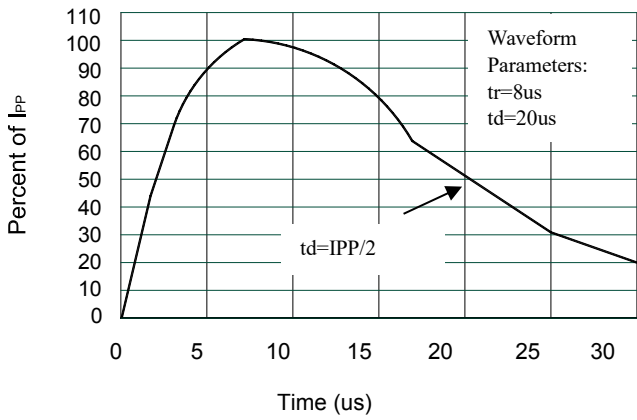
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
V _{RWM}	Reverse Working Voltage	between I/O & GND pin			5.0	V
V _{PT}	Punch-Through Voltage	I _T = 1mA, between I/O & GND pin	6.0		12	V
V _{SB}	Snap-Back Voltage	I _T = 50mA, between I/O & GND pin	5.3		8.7	V
I _R	Reverse Leakage Current	V _{RWM} = 5V, between I/O & GND pin			100	nA
V _C	Clamping Voltage	I _{PP} = 2A, tp = 8/20μs, any I/O pin to Ground		9.3	12	V
C _J	Junction Capacitance	V _R = 0V, f = 1MHz, between I/O & GND pin		2.8	3.0	pF
		V _R = 5V, f = 1MHz, between I/O & GND pin		1.7		pF
R _{dyn}	dynamic resistance	tp = 8/20μs		1.4		Ω

Symbol	Parameter
V _{RWM}	Working Peak Reverse Voltage
V _{PT}	Punch-Through Voltage@ I _{PT}
V _{SB}	Snap-Back Voltage@ I _{SB}
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

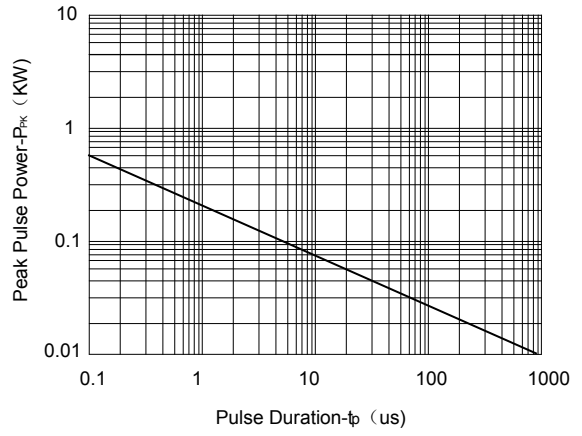


DEVICE CHARACTERISTICS

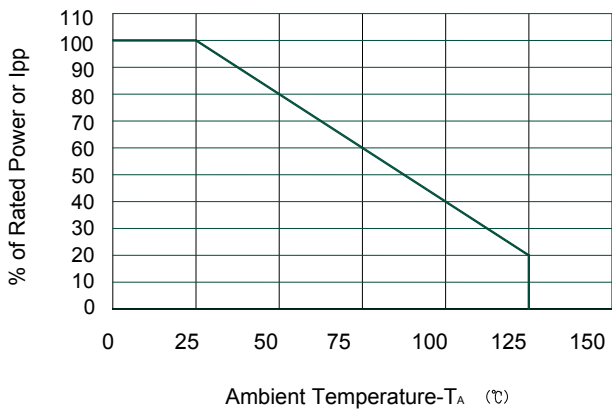
YSESD05CN92BL



Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time



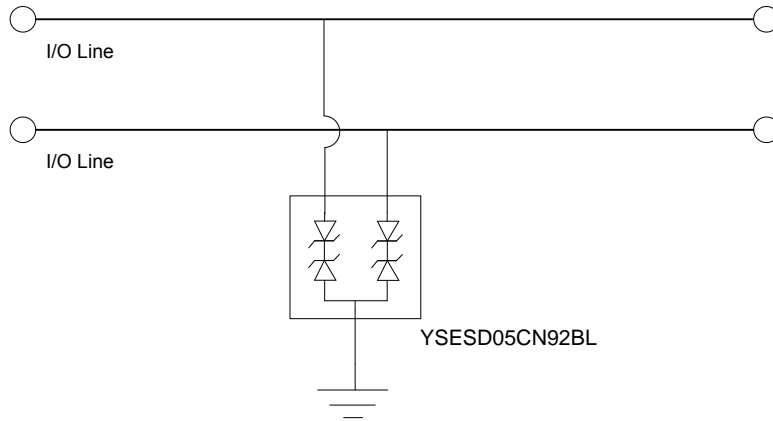
Power Derating Curve

DEVICE CHARACTERISTICS

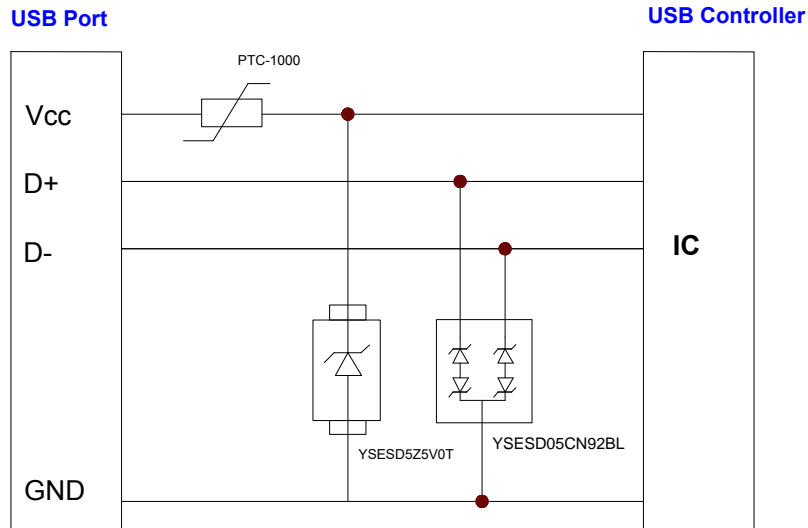
YSESD05CN92BL

Typical applications

The YSESD05CN92BL is designed for the protection of up to two bidirectional data or signal lines from the damage caused by ESD and surge pulses. The device may be used on lines where the signal polarities are both, positive and negative with respect to ground.



Two I/O Lines Bi-direction Protection



Two I/O Lines Bi-direction Protection

PACKAGE OUTLINE & DIMENSIONS

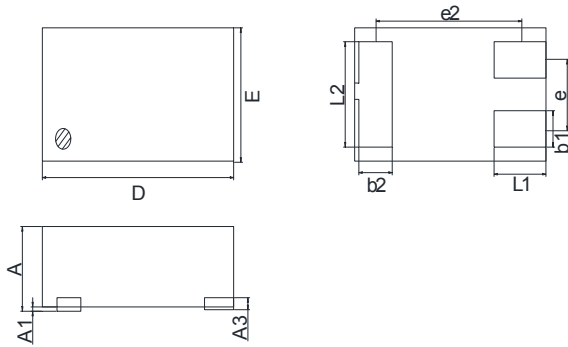
YSESD05CN92BL

DFN1006-3L

Mechanical Data

Case: DFN1006-3L

Case Material: Molded Plastic. UL Flammability



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	0.40	0.55	0.016	0.022
A1	0.01	0.10	0.0004	0.004
A3	0.125REF		0.005REF	
D	0.95	1.05	0.037	0.041
E	0.55	0.65	0.022	0.026
b1	0.10	0.20	0.004	0.008
b2	0.20	0.30	0.008	0.012
L1	0.20	0.40	0.008	0.016
L2	0.40	0.60	0.016	0.024
e1	0.30	0.40	0.012	0.016
e2	0.675BSC		0.027BSC	

Pad Layout

