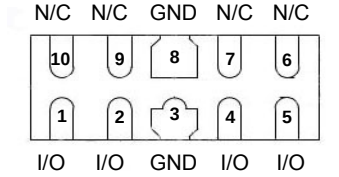
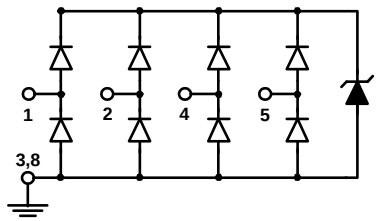
Desicription

◆ ESD0303LR uses ultra-small DFN2.5*1.0-10L package. Each ESD0303LR device can protect four high-speed data lines. The combined features of ultra-low capacitance, ultra-small size and high ESD robustness make ESD0303LR ideal for high-speed data ports and high-frequency lines (e.g., USB3.0 & DVI) applications. The low clamping voltage of the ESD0303LR guarantees a minimum stress on the protected IC.

DFN-2510





Circuit Diagram

Features

- ◆ IEC61000-4-2(ESD):±15KV Max Air
  ±15KV Max Contact
- ◆ IEC61000-4-4(EFT):40A(5/50ns)
- ◆ IEC61000-4-5(Surge):7.0A(8/20us)
- ◆ Line capacitance: 0.25pF(typical)@1MHz
- ◆ Very low reverse current:I_R< 0.1uA(typical)
- ◆ Halogen free ,Lead free and RoHs
- ◆ 70.0 Watts Peak Pulse Power per Line (tp=8/20us)

Application

- ◆ USB2.0&3.0
- ◆ V-By-One
- ◆ SATA and eSATA interface
- ◆ HDMI 1.3, 1.4,2.0 and 2.1
- ◆ PCI Express
- ◆ Desktops, Servers and Notebooks
- ◆ MDDI Ports
- ◆ 10G Ethernet Ports

Order information

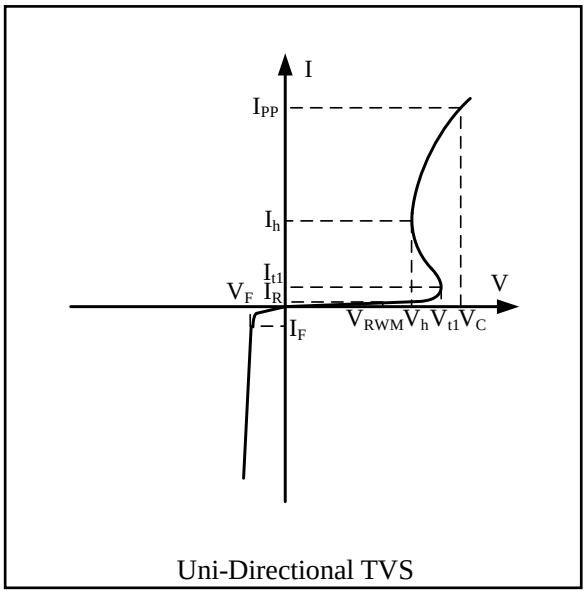
Model	Marking	Package	shipping
ESD0303LR	**a4**	**DFN2510-10L**	**3000/Tape&Reel**

Electrical characteristics (TA=25 oC, unless otherwise noted)

Parameter	Symbol	Conditions	Min.	TYP.	Max.	Units
Reverse stand-off voltage	V_{RWM}				3.3	V
Reverse leakage current	I_R I/O to GND	V_{RWM}=3.3V			0.1	uA
Reveres breakdown voltage	V_{BR} I/O to GND	I_T=1mA	5.0		9.0	V
ESD Dynamic Turn-on Resistance	$R_{dynamic}$	t_p=10/100ns		0.18		Ω
ESD Clamping Voltage	V_{clamp}	I_{PP}=16A,t_p=10/100ns		8.5		V
Clamping voltage	V_C I/O to GND	I_{pp}= 7.0A (8/20us)		9.0	11.0	V
Junction capacitance	C_J I/O to GND	VR=1.65V f=1MHz		0.25	0.35	pF

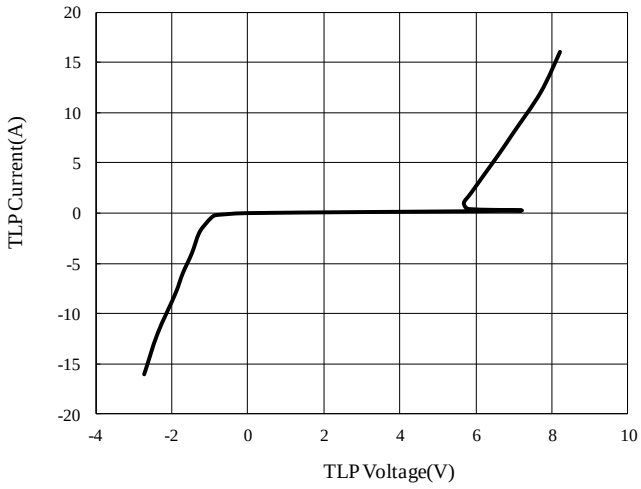
Electrical Characteristics (T_A = 25°C)

Symbol	Parameter
V_{RWM}	Nominal Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{t1}	Reverse Triggering Voltage @ I_{t1}
I_{t1}	Test Current for Reverse Triggering
V_h	Holding Voltage
I_h	Holding Current
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Peak Pulse Current
C_{ESD}	Parasitic Capacitance
f	Small Signal Frequency
V_F	Forward Voltage
I_F	Forward Current

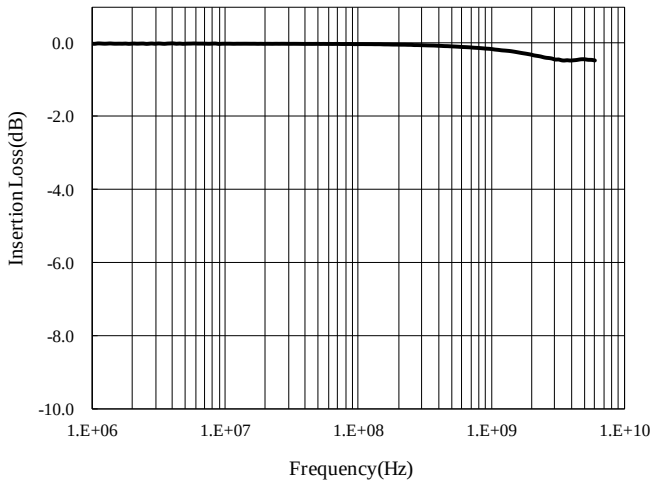


Uni-Directional TVS

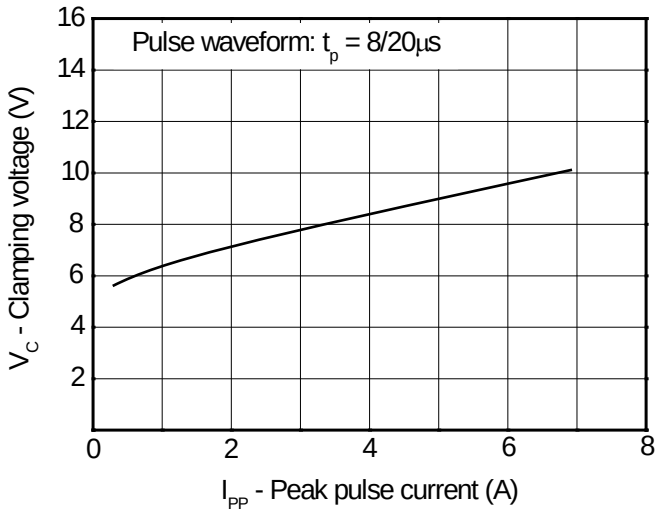
Typical characteristics (T_A=25°C, unless otherwise noted)



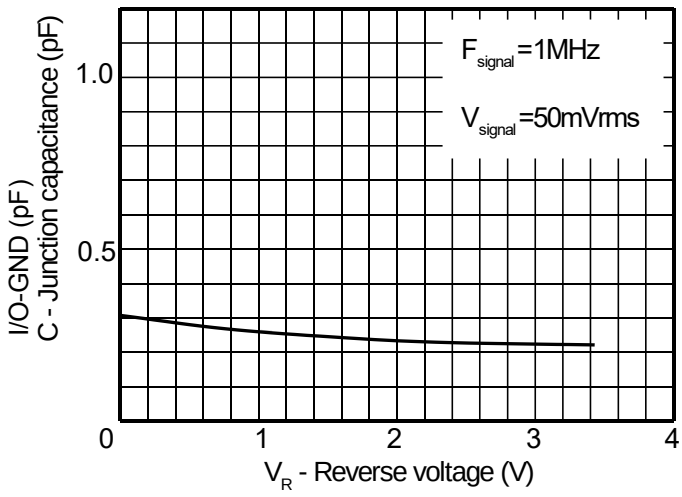
TLP Testing of I/O to GND



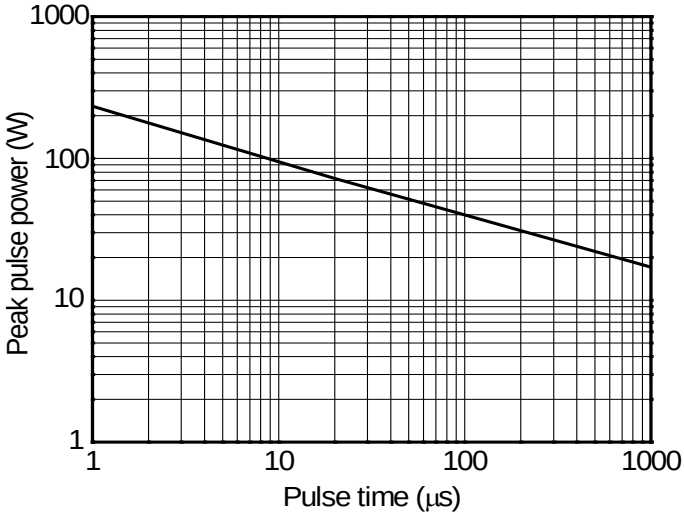
Insertion Loss S21 of I/O to GND



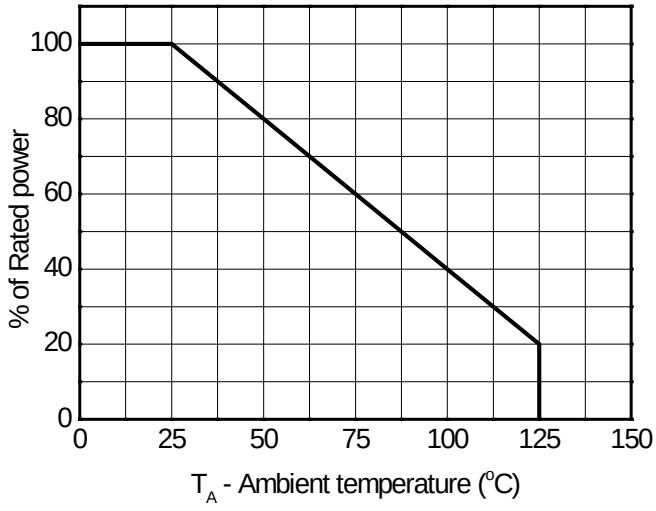
Clamping voltage vs. Peak pulse current



Capacitance vs. Reveres voltage



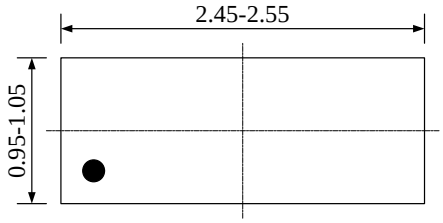
Non-repetitive peak pulse power vs. Pulse time



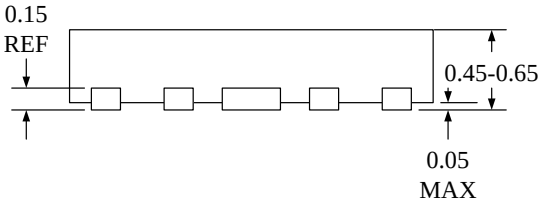
Power derating vs. Ambient temperature

Package outline dimensions

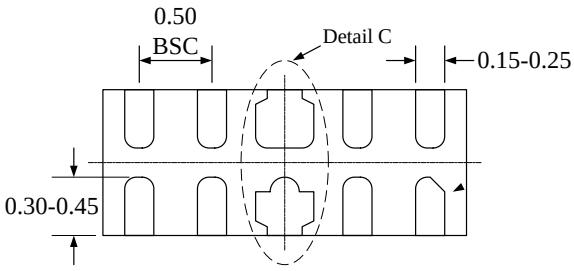
DFN2510-10L



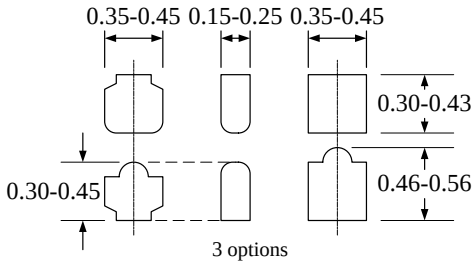
TOP VIEW



SIDE VIEW

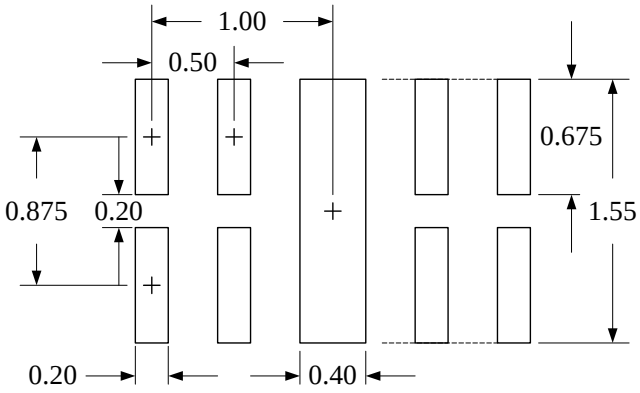


BOTTOM VIEW

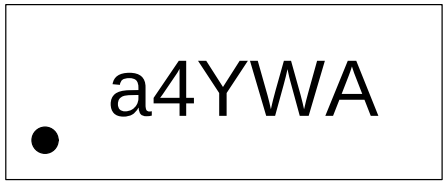


Detail C

PCB Layout Pattern



Marking Codes



Note

(1) "a4"is device code,fixed,

(2) "YWA"is date code.