High De nition Multimedia Interface (HDMI)

ESD Protection

HDMI 1.3 0.3PF

HDMI

HDMI / /
DVD HDMI
10.2Gbps

HDMI HDMI ESD
HDMI ESD
HDMI (CTS) ESD
IEC61000-4-2 HDMI

ESD

ESD ElectroStatic Discharge " " ESD

EMI
EMC
ESD HDMI
ESD ESD
[1] HDMI ESD IEC61000-4-2
15KV ESD

IEC61000-4-2 (HBM) ESD IEC61000-4-2
IEC61000-4-2 8KV 15KV ESD
IC

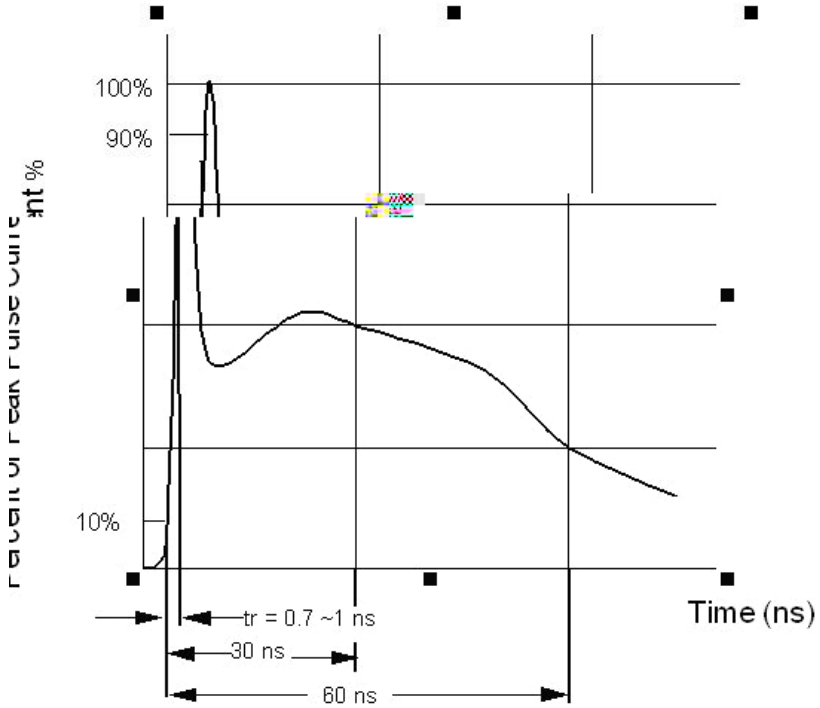


Figure 1 ESD pulse waveform according to IEC 61000-4-2

3 . HDMI ESD

— ( ) (<1pF)

— ESD ESD

— ESD

—

— PCB RF

— HDMI 1.3

2 100

ESD0524P 0.5mm

ESD0524P ESD 4

IEC61000-4-2 ESD ±8KV CONTACT ESD ±15KV Air ESD ,

HDMI HDMI

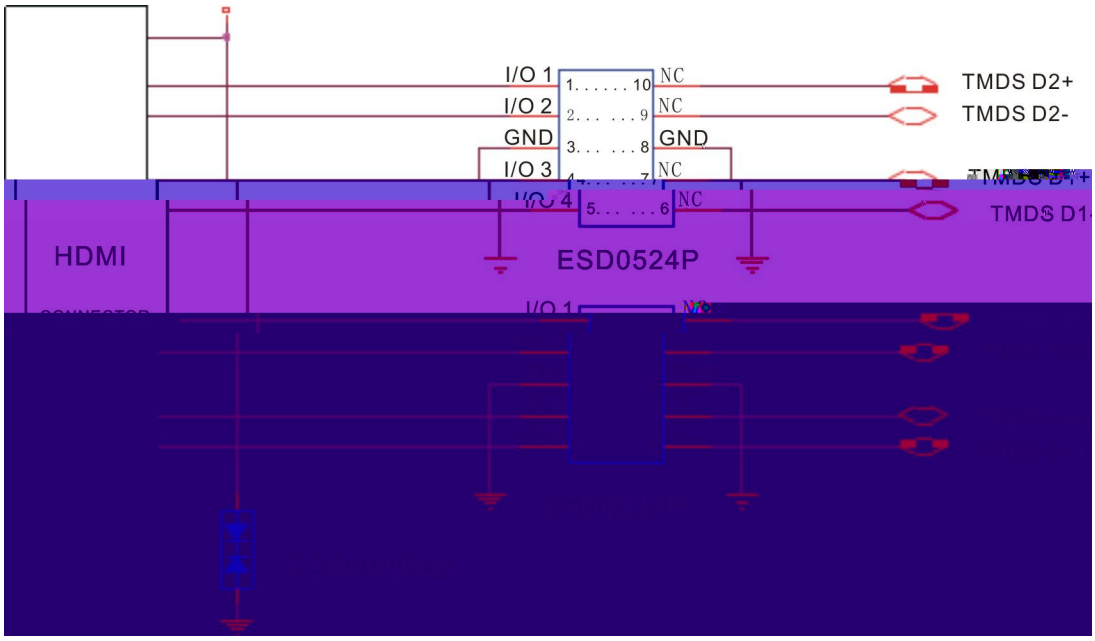


Figure 2 Flow-through layout of YINT ' S ESD0524P for HDMI Applications f o

HDMI

ESD0524P ' S TDR and eye pattern performance Figure 3

p peure

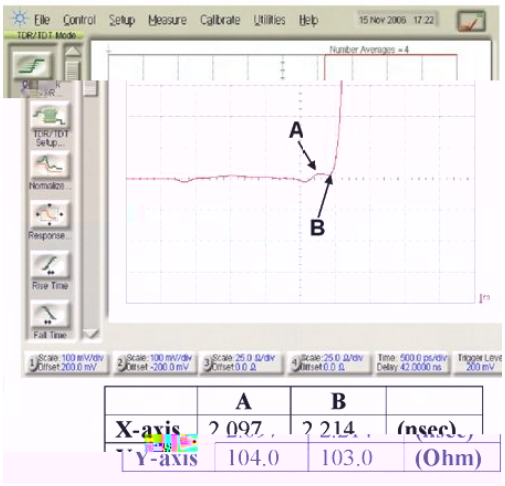


Figure 3: ESD0524P 4-Layer HDMI TDR Result

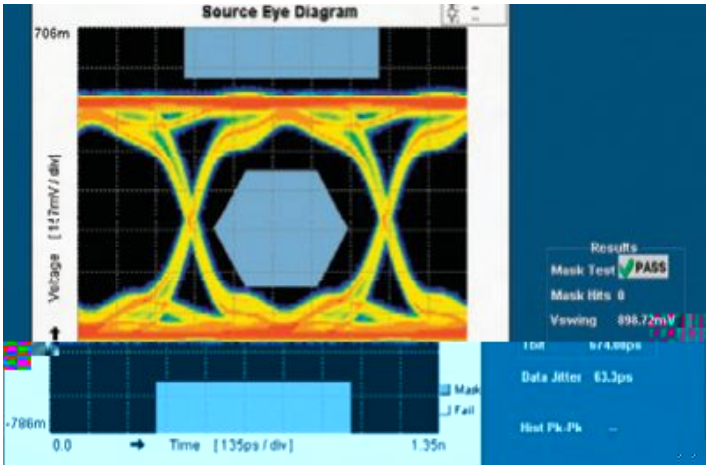


Figure 5: ESD0524P HDMI Eye Pattern Result (1.48Gbps)

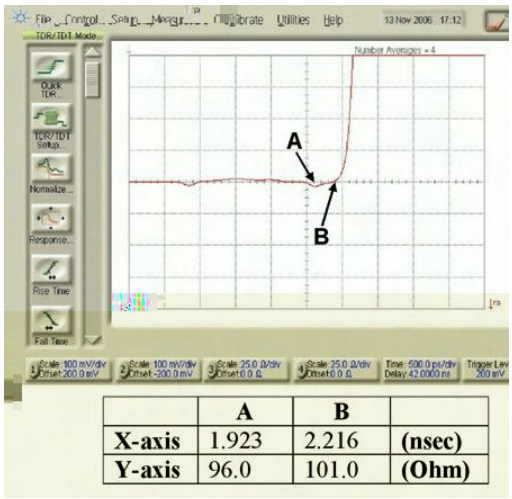


Figure 4: ESD0524P 2-Layer HDMI TDR Result

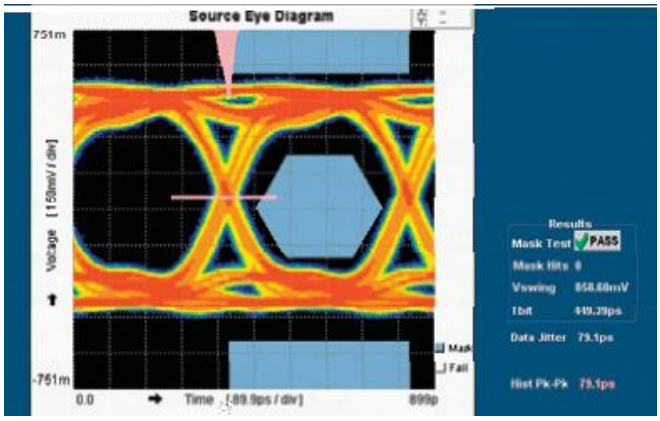


Figure 6: ESD0524P HDMI Eye Pattern Result (2.25Gbps)

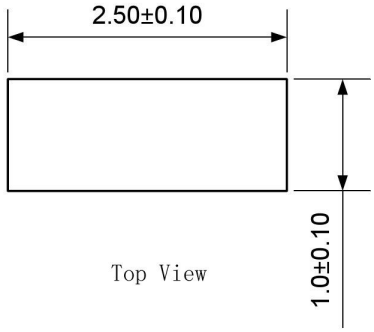
Absolute Maximum Ratings

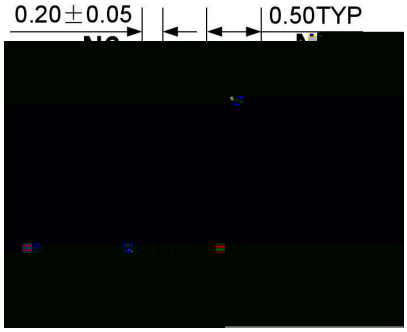
Parameter	Symbol	Value	Units
Peak Current (tp =8/20 μ s)	P_{PK}	150	W
Peak Current (tp =8/20 μ s)	I_{PP}	5	A
IEC61000-4-2 (Contact)	V_{ESD}	12	kV
IEC61000-4-2 (Air)	V_{ESD}	15	kV
Lead Soldering Temperature	T_L	260 (10 sec)	° C
Operating Temperature	T_J	-50 to +125	° C
Storage Temperature Range	T_{STG}	-50 to +150	° C

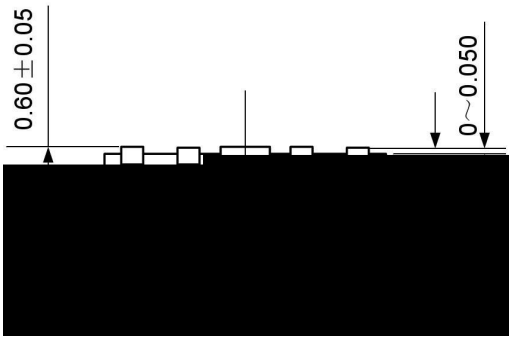
Electrical Characteristics (T =25 ° C)

Reverse Stand-off Voltage	V_{RWM}	Any I/O pin to ground			5	V
Reverse Breakdown Voltage	V_{BR}	It = 1mA Any I/O pin to ground	6			V
Reverse Leakage Current	I_R	V_{RWM} =5.0V, T=25 Any I/O pin to ground			1	μ A
Clamping Voltage	V_C	I_{PP} = 1A, t_P = 8/20μs Any I/O pin to ground		8.5	12	V
Junction Capacitance	C_J	V_R=0V, f = 1MHz Between I/0 pins		0.35		pF

DFN-10-2.5*1.0*0.6-0.5 (1)







DFN-10-2.5*1.0*0.6-0.5 (2)