

➤ General Description

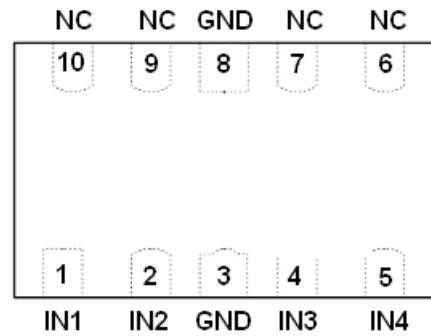
The PAE1524P is a 4-channel ultra-low capacitance rail clamp ESD protection diode array. Each channel consists of a pair of ESD diodes to direct positive or negative ESD current to either positive or negative rail. Zener diodes are integrated between the positive and negative power rails of the array. In a typical application, the negative rail pin (assigned as GND) is connected to system ground. Positive ESD current flows through the ESD ground, diode and Zener diode and the positive ESD voltage is clamped to the Zener voltage.

The PAE1524P is ideal for protecting high-speed data.

➤ Feature

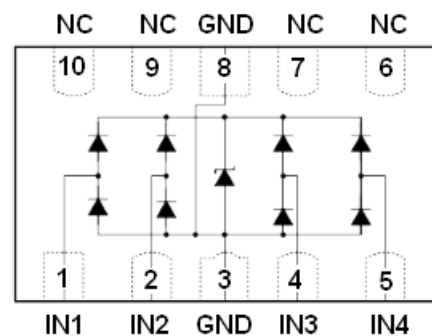
- 4 channels of ESD protection
- Provides ESD protection to IEC61000-4-2 level 4
±15 KV air discharge
± 8 KV contact discharge
- Channel I/O to GND capacitance: 0.6pF(Max)
- Channel I/O to I/O capacitance: 0.45pF(Max)
- Low clamping voltage
- 5V low operating voltage
- Improved Zener structure
- Optimized package for easy high speed data lines PCB layout
- ROHS compliant

➤ DFN-10



➤ Application

- High Definition Multi-Media Interface Protection
- USB 3.0 Power and Data Line Protection
- Monitors and Flat Panel Displays Notebook Computers
- Video Line Protection & Base Stations
- HDSL, IDSL Secondary IC Side Protection
- Microcontroller Input Protection
- LCD and camera modules
- 10/100/1000 Ethernet



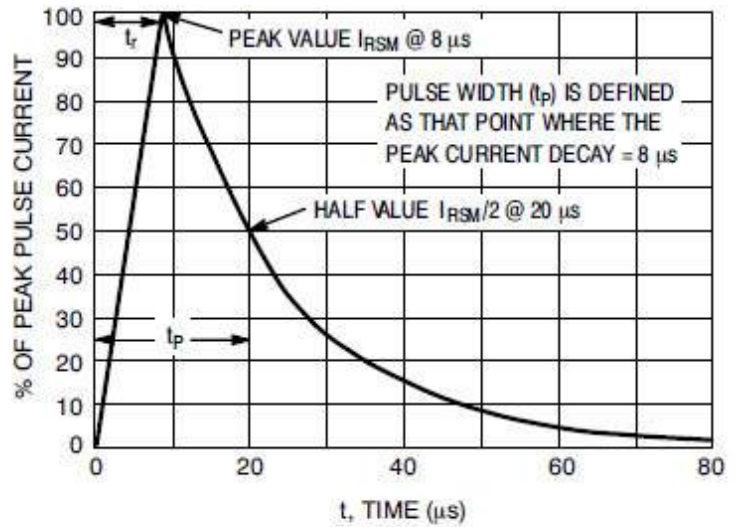
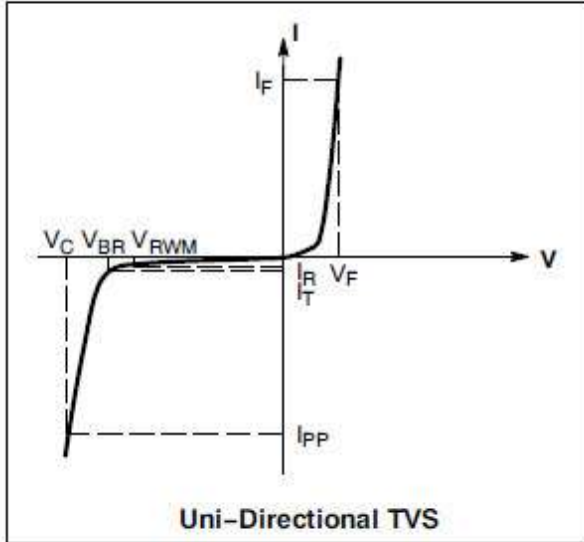
➤ Maximum Ratings (T_A=25°C Unless otherwise specified)

Parameter	Symbol	Typical	Unit
Peak Pulse Power (t _p = 8/20 μs)	P _{pk}	150	W
Peak Pulse Current (t _p = 8/20 μs)	I _{pp}	5	A
ESD per IEC 61000 – 4 – 2 (Air)	V _{ESD1}	±15	KV
ESD per IEC 61000 – 4 – 2 (Contact)	V _{ESD2}	±8	KV
Operating Junction Temperature	T _J	-55 ~ 125	°C
Storage Temperature Range	T _{STG}	-55 ~ 150	°C

➤ Electrical Characteristics (T_A=25°C Unless otherwise specified)

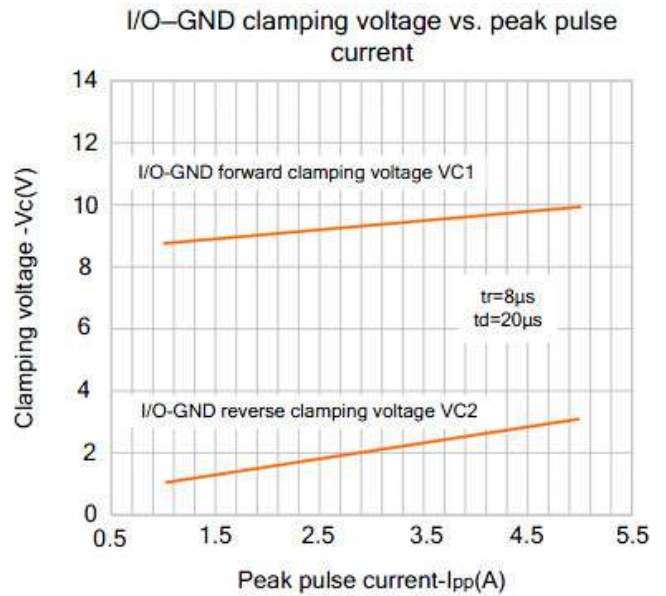
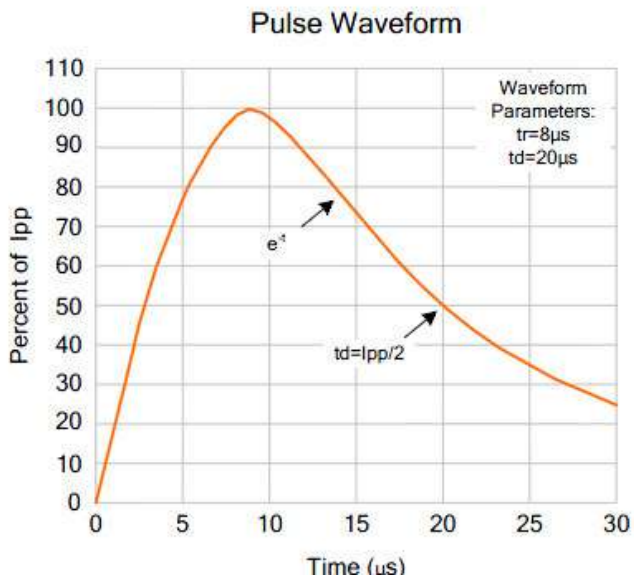
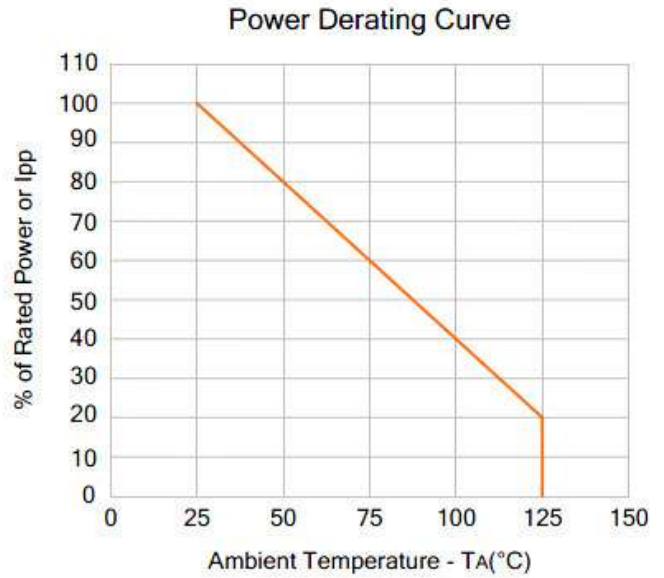
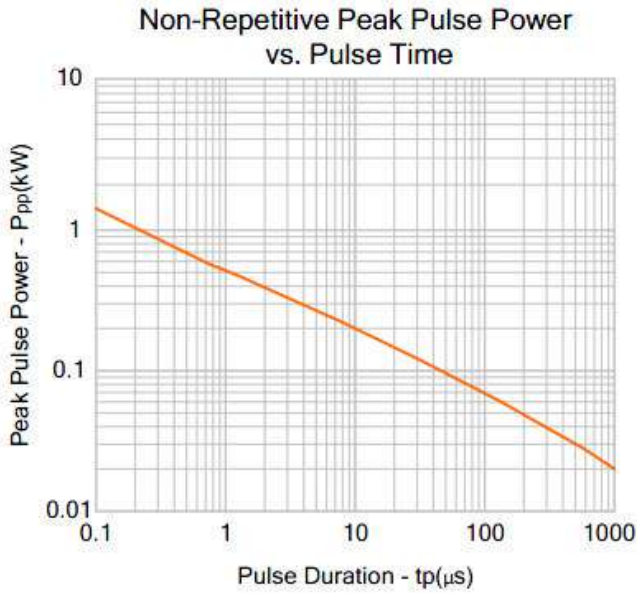
Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Reverse Working Voltage	V _{RWM}	Any Pin to GND			5	V
Forward Voltage	V _F	I _F = 10mA	0.4	0.8	1.5	V
Reverse Breakdown Voltage	V _{BR}	I _t = 1mA Any Pin to GND	6			V
Reverse Leakage Current	I _R	V _{RWM} = 5V , T = 25K Any Pin to GND		0.03	1	μA
Positive Clamping Voltage	V _{C1}	I _{pp} = 1A , t _p = 8/20 μs Positive pulse Any Pin to GND		8.5	12	V
Negative Clamping Voltage	V _{C2}	I _{pp} = 1A , t _p = 8/20 μs Negative pulse Any Pin to GND		1.8		V
Junction Capacitance Between Channel	C _{j1}	V _R = 0V , f = 1MHz Between I/O Pin		0.35	0.45	pF
Junction Capacitance Between I/O to GND	C _{j2}	V _R = 0V , f = 1MHz Any Pin to GND		0.5	0.6	pF

➤ Electrical Parameter

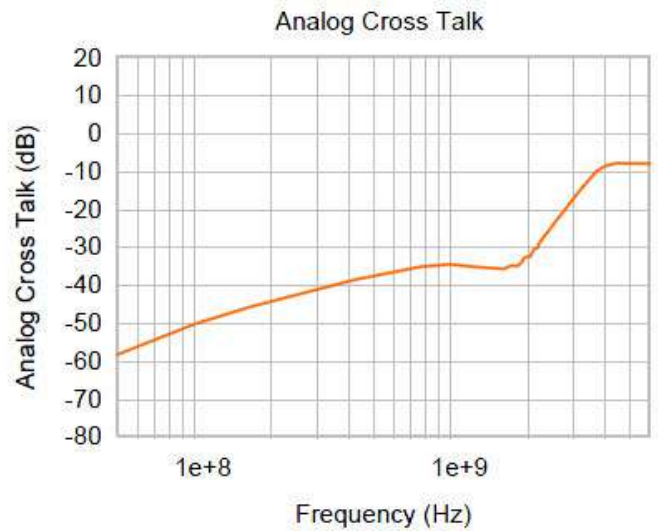
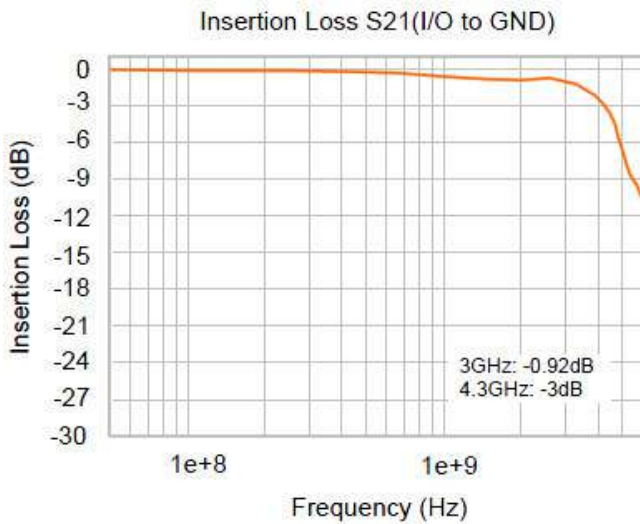
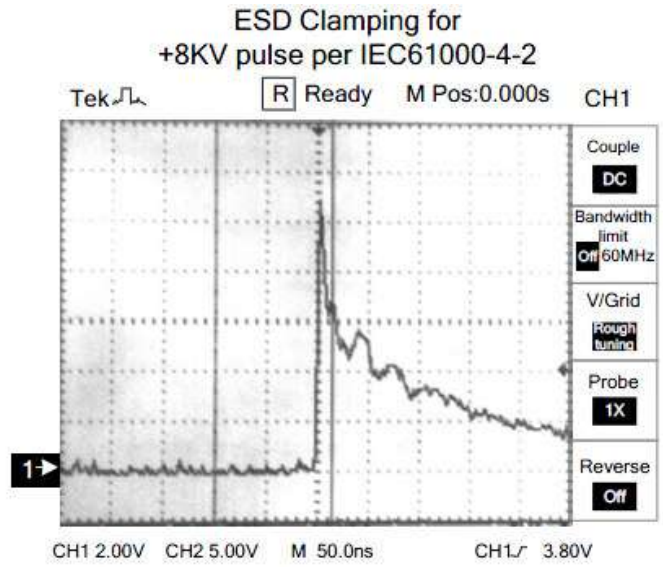
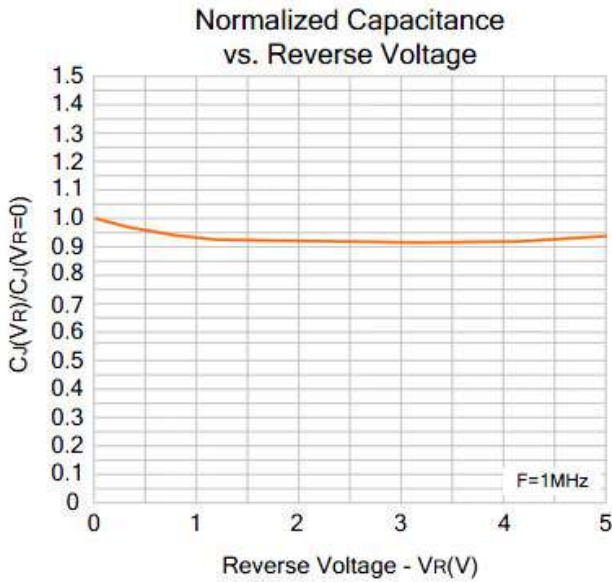


Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ IPP
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ VRWM
I_T	Test Current
V_{BR}	Breakdown Voltage @ IT
I_F	Forward Current
V_F	Forward Voltage @ IF

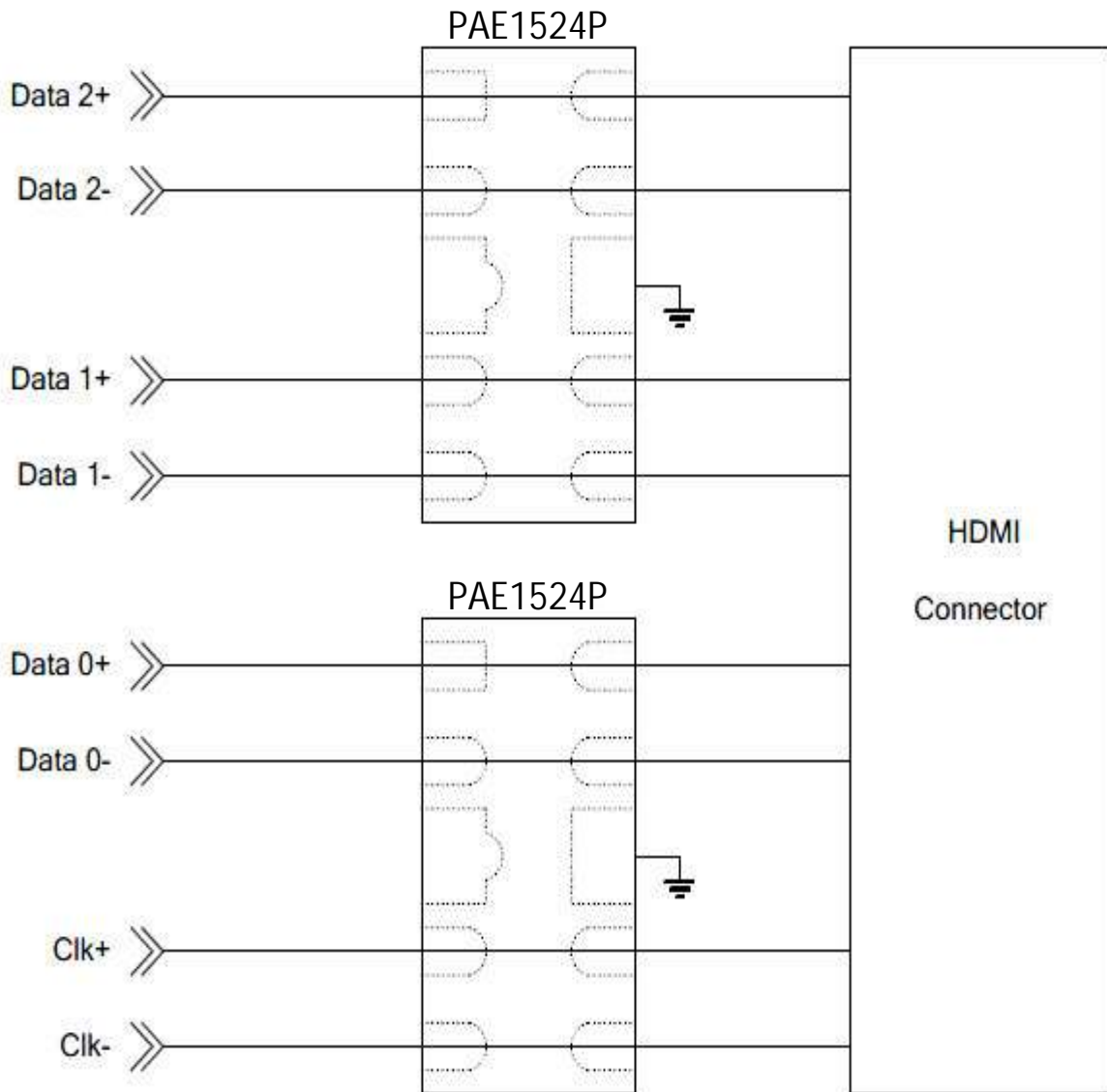
➤ Typical Characteristics



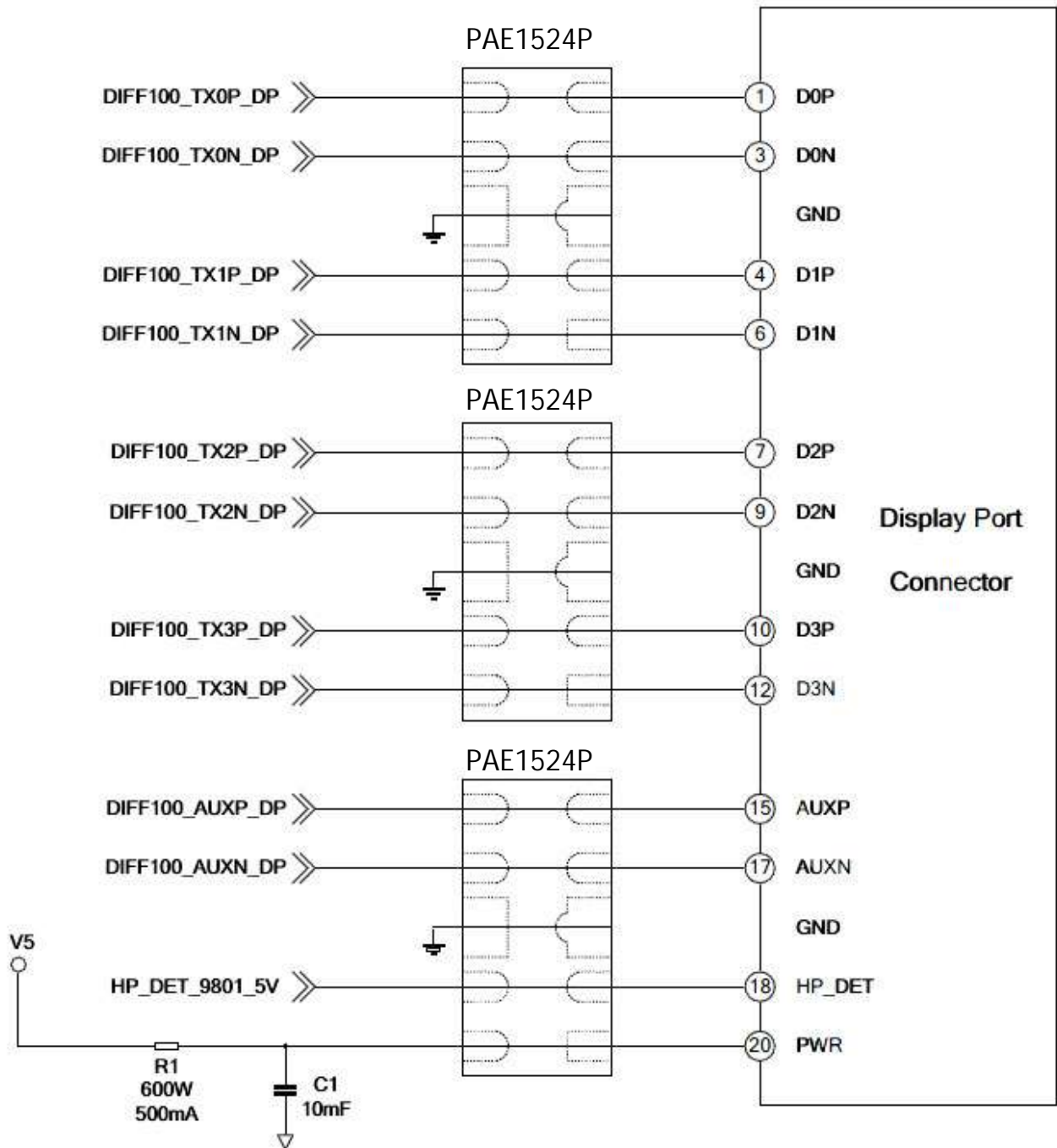
➤ Typical Characteristics



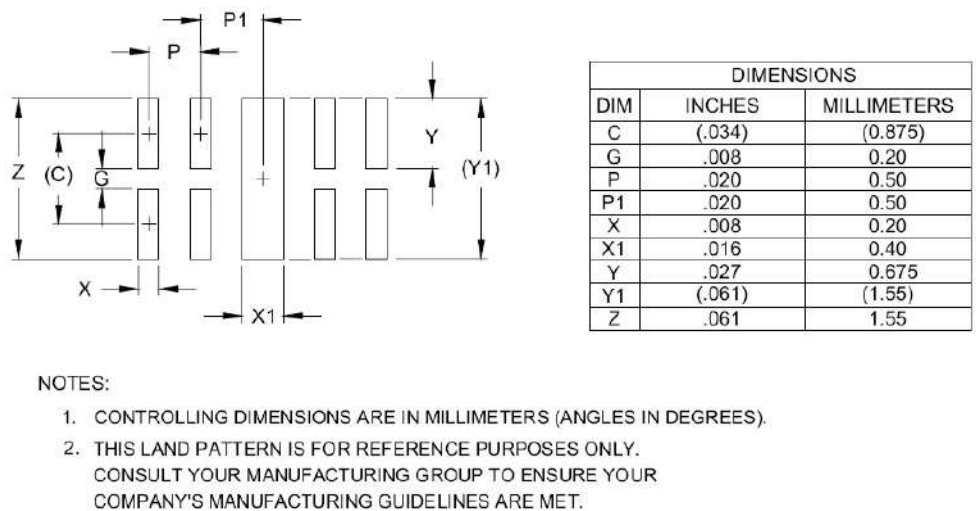
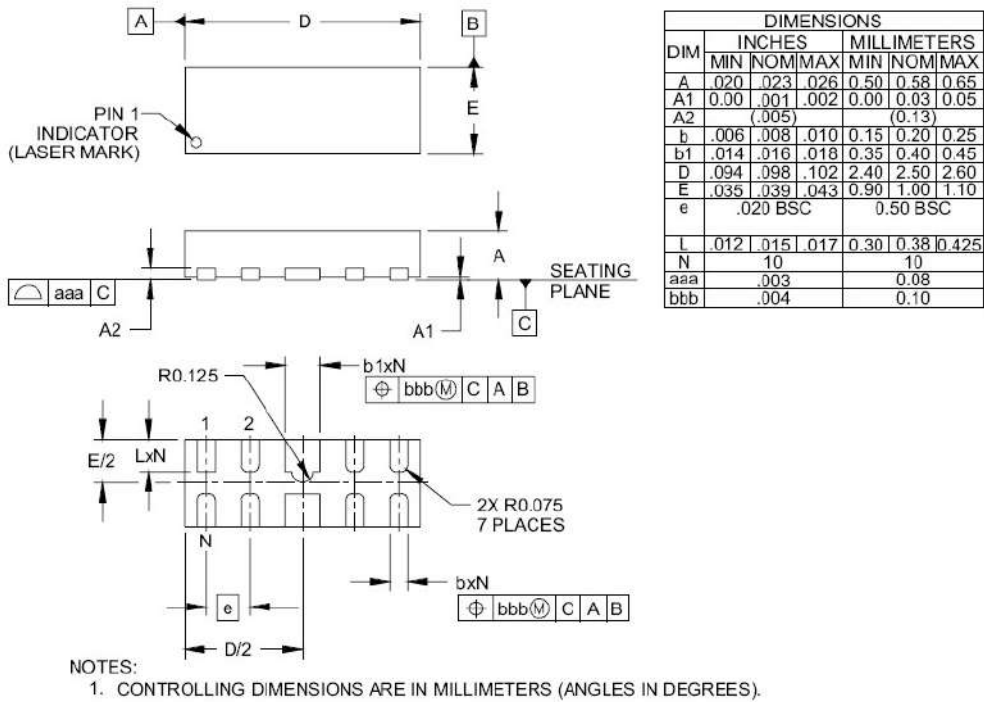
➤ Application Information
(HDMI Port Application)



➤ Application Information
(Display Port Application)



➤ Package Information (DFN-10)



➤ Ordering Information

Part Number	Description	Quantity
PAE1524P	DFN-10 Reel	3000 pcs

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