

WWPE0566PB-E

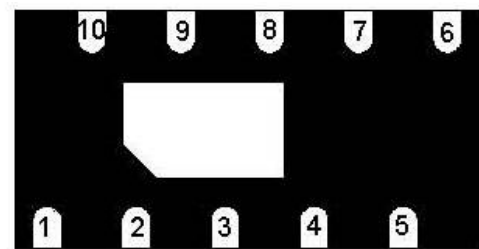
Ultra Low Capacitance Array for USB3.0 ESD Protection

The WWPE0566PB-E provides a typical line to line capacitance of 0.4pF and low insertion loss up to 5GHz providing greater signal integrity making it ideally suited for USB 3.0 applications, such as Digital TVs, DVD players, Computer, set-top boxes ,MID and MDDI applications in mobile computing devices.

It has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from overvoltage caused by ESD(electrostatic discharge), CDE (Cable Discharge Events),and EFT (electrical fast transients).

Features

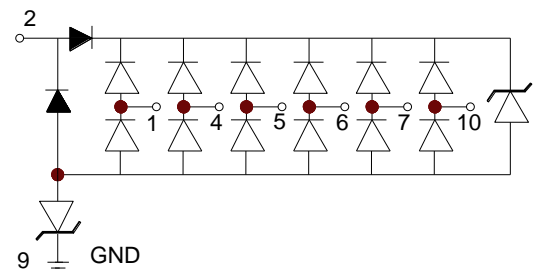
- Protects six I/O lines and one Vcc line
- Low capacitance
- Working voltages : 5V
- Low leakage current
- Low capacitance (<1.0pF) for high-speed interfaces
- No insertion loss to 5.0GHz
- Response Time is < 1 ns
- Meets MSL 1 Requirements
- **Solid-state silicon avalanche technology**
- ROHS compliant
- WeiPan technology



DFN4120-10L

Main applications

- USB 3.0/3.1
- HDMI1.4
- MDDI
- IEEE 1394 Firewire Ports
- Projection TV Monitors and Flat Panel Displays
- Computers
- 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) 3A (8/20µs)

Ordering Information

Device	Qty per Reel	Reel Size
WWPE0566PB-E	3000	7 Inch

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P _{PPP}	50	Watts
Peak Pulse Current(tp=8/20μs waveform)	I _{PP}	3	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.

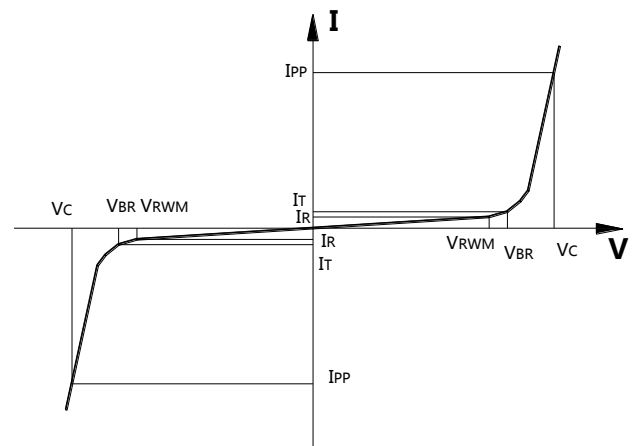
1. Non-repetitive current pulse, per Figure 1.

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

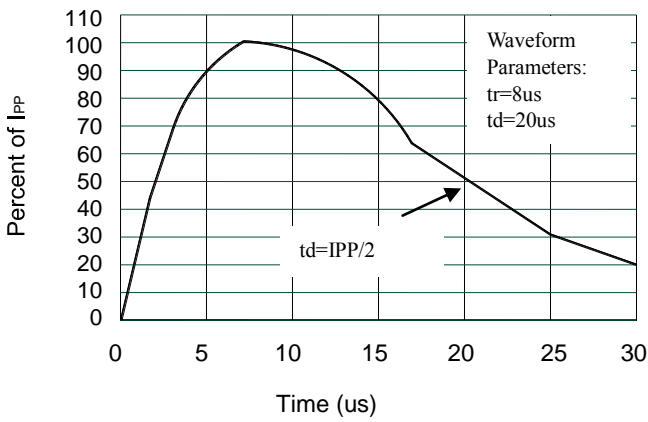
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
V _{RWM}	Reverse Working Voltage	Any I/O to Ground			5.0	V
V _{BR}	Reverse Breakdown Voltage	I _T = 1mA, Any I/O to Ground	6.0			V
I _R	Reverse Leakage Current	V _{RWM} = 5V, Any I/O to Ground			1	μA
V _C	Clamping Voltage	I _{PP} = 1A, tp =8/20μs, any I/O pin to Ground			12.0	V
		I _{PP} = 3A, tp =8/20μs, any I/O pin to Ground			17.0	V
C _J	Junction Capacitance	V _R = 0V, F = 1MHz between I/O pins		0.4	0.5	pF
		V _R = 0V, F = 1MHz, any I/O pin to Ground		0.8	1.0	pF

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

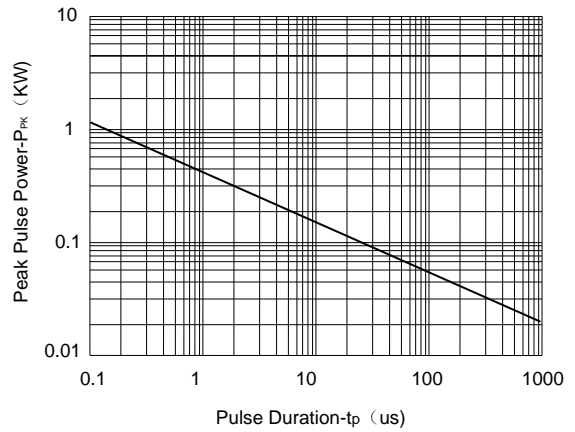
Symbol	Parameter
V _{RWM}	Working Peak Reverse Voltage
V _{BR}	Breakdown Voltage @ I _T
V _C	Clamping Voltage @ I _{PP}
I _T	Test Current
I _{RM}	Leakage current at V _{RWM}
I _{PP}	Peak pulse current
C _O	Off-state Capacitance
C _J	Junction Capacitance



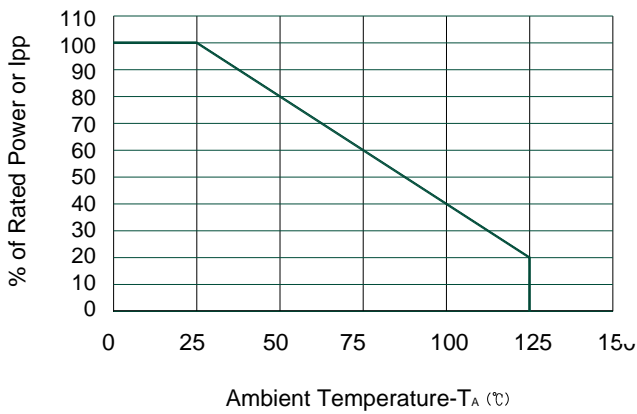
Typical electrical characterist applications



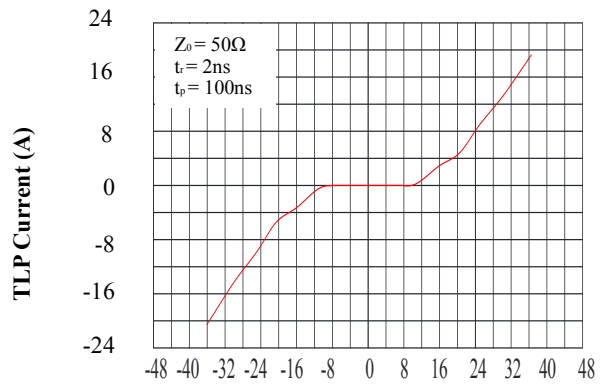
Pulse Waveform



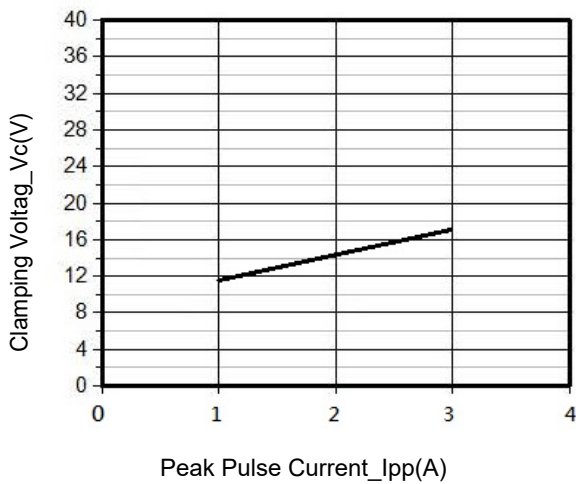
Non-Repetitive Peak Pulse Power vs. Pulse Time



Power Derating Curve



5V Single Channel TVS TLP Clamping Voltage



Clamping Voltage vs. Peak Pulse Current

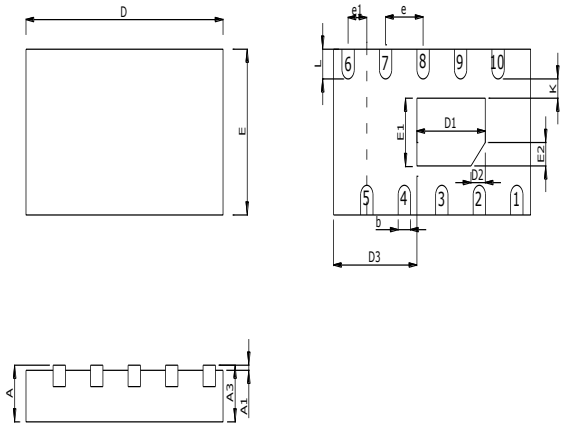
Package information

DFN4120-10L

Mechanical Data

Case: DFN4120-10L

Case Material: Molded Plastic. UL Flammability



Symbol	Millimeters	
	Min	Max
A	0.450	0.550
A1	0.000	0.050
A3	0.152(REF)	
D	4.050	4.150
E	1.950	2.050
D1	1.300	1.500
E1	0.700	0.900
D3	1.650	1.850
D2	0.200(REF)	
E2	0.200(REF)	
k	0.200(MIN)	
b	0.150	0.250
e	0.800(TYP)	
e1	0.350	0.450
L	0.250	0.350