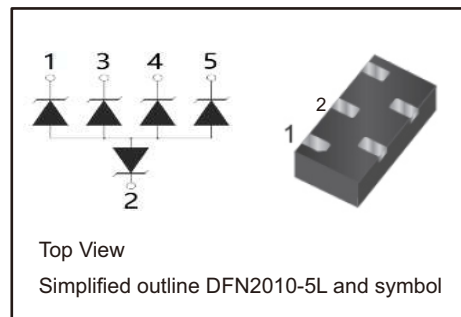


Transient Voltage Suppressors for ESD Protection

FEATURES

- Protects up to 4-Lines operating at 5V
- Transient protection for each line according to IEC61000-4-2(ESD): $\pm 8\text{kV}$ (contact) $\pm 15\text{kV}$ (air)
- Low leakage current

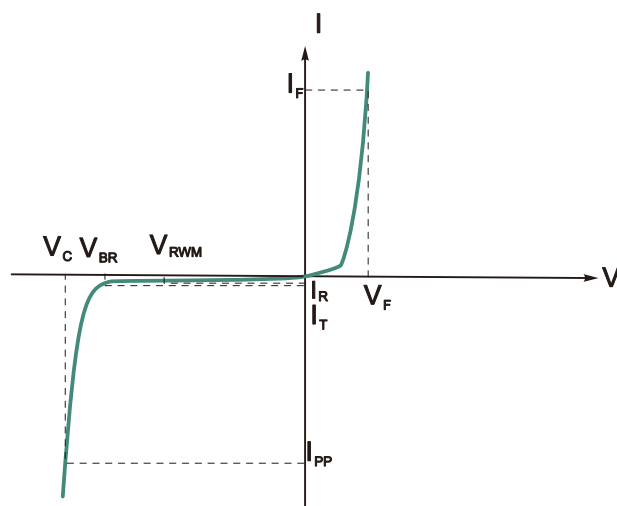


Applications

- High Definition Multi-Media Interface;
- USB 1.1/2.0/3.0/3.1 Interfaces;
- Projection TV Monitors and Flat Panel Displays;
- Portable electronics.

Electronics Parameter

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





MAXIMUM RATINGS(Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μS)	Ppk	50	W
Peak Pulse Current	Ipp	3	A
ESD per IEC 61000-4-2(Air)	VESD	±15	KV
ESD per IEC 61000-4-2(Contact)		±8	
Operating Temperature Range	TJ	-55~+125	°C
Storage Temperature Range	Tstg	-55~+150	°C

ELECTRICAL CHARACTERISTICS(Ta=25°C unless otherwise noted)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse Stand-off Voltage	VRWM				5.0	V
Breakdown Voltage	VBR	IT=1mA	6.0			V
Reverse Leakage Current	IR	V=VRWM, Ta=25°C			0.2	μA
Clamping Voltage	VC	IPP=1A, tp=8/20μs		11	14	V
		IPP=3A, tp=8/20μs		15	20	
Junction Capacitance	Cj	VR=0V, f=1MHz _(IO-GND)		0.2	0.3	pF
Junction Capacitance	Cj	VR=0V, f=1MHz _(IO-IO)		0.2	0.3	pF



Typical Characteristics

Fig.1 Pulse Waveform

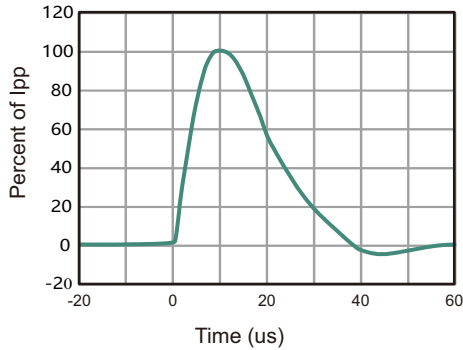


Fig.2 Contact discharge current waveform per IEC61000-4-2

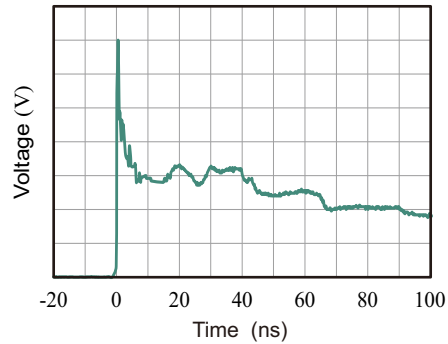


Fig.3 Power Derating Curve

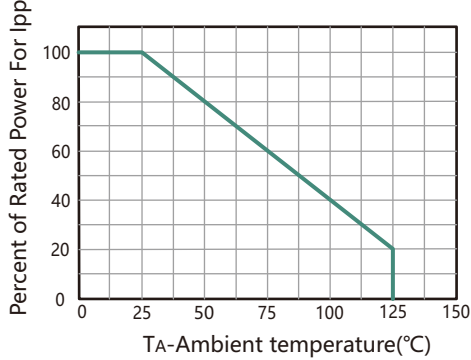


Fig.4 Peak Pulse Power vs. Pulse Time

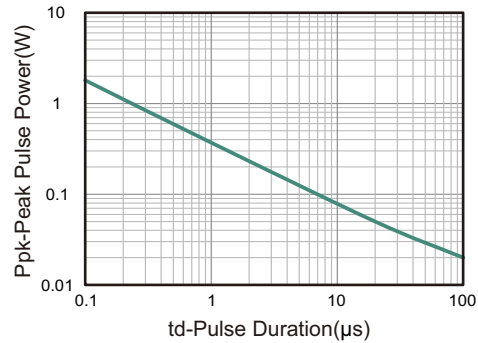


Fig.5 Clamping Voltage vs. Peak Pulse Current

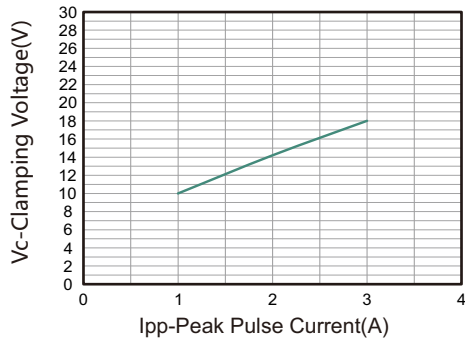
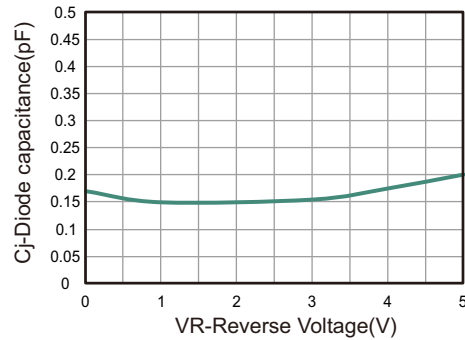


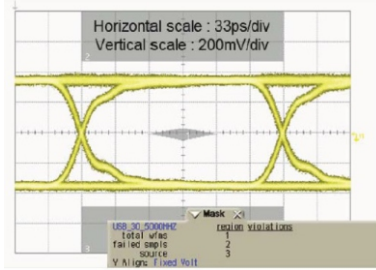
Fig.6 Capacitance vs. Reverse voltage





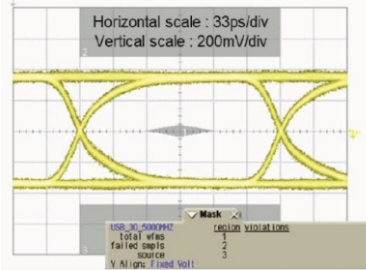
Typical Characteristics

Fig.7 Eye Diagram-USB3.0 mask at 5.0Gbps



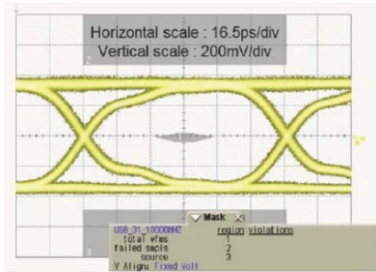
Without Component

Fig.8 Eye Diagram-USB3.0 mask at 5.0Gbps



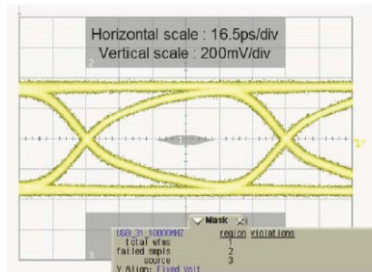
Without Component

Fig.9 Eye Diagram-USB3.1 mask at 10.0Gbps



Without Component

Fig.10 Eye Diagram-USB3.1 mask at 10.0Gbps



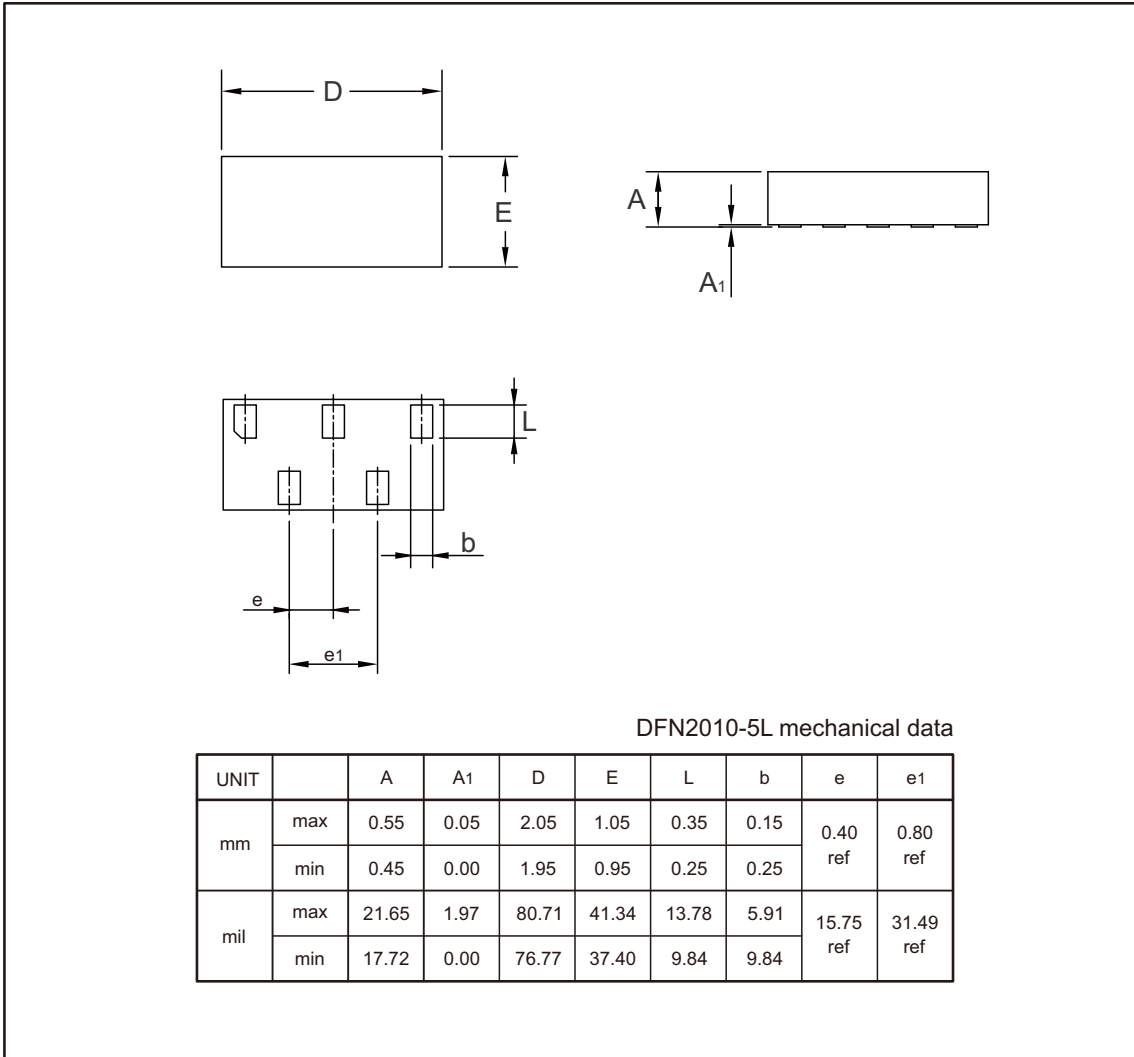
Without Component



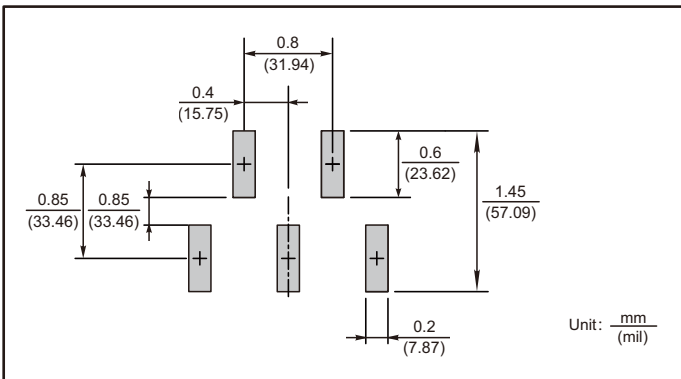
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

DFN2010-5L



The recommended mounting pad size



Marking

Type number	Marking code
ESDZULC5V0DKA5PA	4R2N

Notes:

1. This Footprint is for reference purpose only.



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