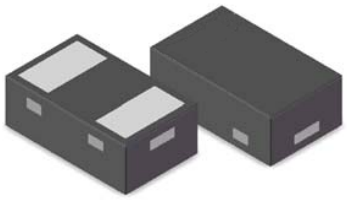
UltraLow Capacitance ESD/Transient Protection Diode

Features

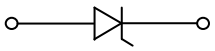
- SOD-882 package
- Low leakage current
- Low clamping voltage
- R2R + Zener technology
- Unidirectional configurations
- 30Watts peak pulse power (tp = 8/20μs)
- Ultra low capacitance (Cj=0.3pF typ.)
- Protection one data/power line to:
- IEC 61000-4-2 ±10kV contact ±18kV air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 3A (8/20μs)
- RoHS compliant

RoHS
COMPLIANT



Marking:

SOD-882



Schematic Diagram

Applications

- Thunderbolt, Display Port
- USB3.0, Firewire, DVI, HDMI, S-ATA
- Mobile HDMI Link, MDDI, MIPI, SWP / NFC

Absolute Maximum Ratings (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power (TP=8/20μS)	P_{PP}	30	W
ESD contact/air discharge (IEC-61000-4-2)	V_{ESD}	10/18	kV
Peak Pulse Current (tP = 8/20μS)	I_{PP}	3	A
Junction Temperature	T_J	-55 to +125	℃
Storage temperature	T_{STG}	-55 to +150	℃
MaximumLeadSolderTemperature(10secondduration)	T_L	260	℃

Electrical Specifications(T_A=25℃ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse stand-off Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	5.0			V
Reverse Leakage Current	I_R	V_R=5.0V		<1	100	nA
Clamping Voltage (IEC 61000-4-5)	V_C	I_{PP}=3A		10		V
Trigger Voltage (IEC 61000-4-2)	V_T	V_{ESD}=8kV		135		V
Clamping Voltage (IEC 61000-4-2)	V_C	V_{ESD}=8kV		15		V
Junction Capacitance	C_J	V_R=0V, f=1MHz		0.3		pF

Ratings and Characteristics Curves

(T_A = 25℃ unless otherwise noted)

Fig.1 Peak Pulse Power Rating Curve

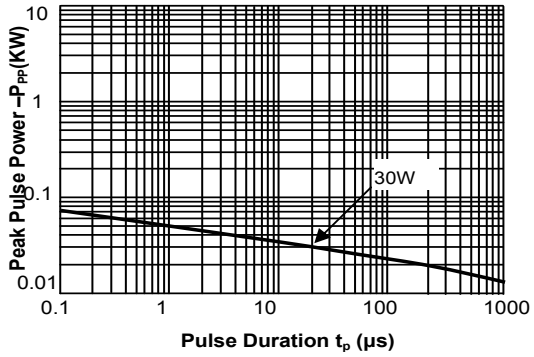


Fig.2 Pulse Derating Curve

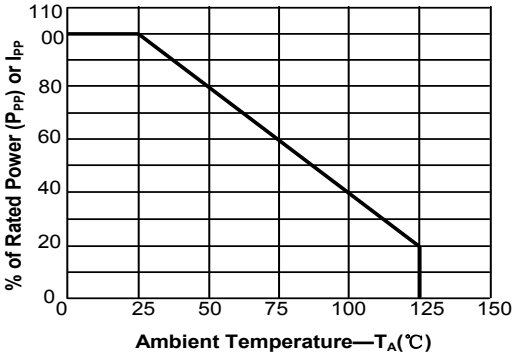


Fig.3 Pulse Waveform-8/20μs

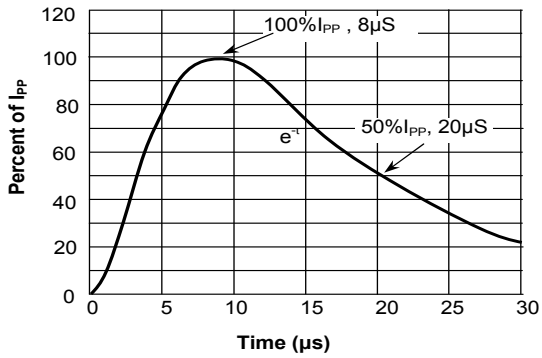


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

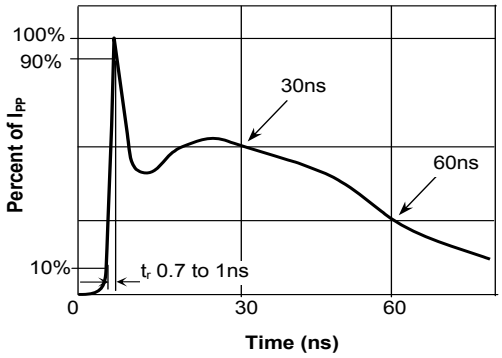


Fig.5 IEC61000-4-2 +8kV Contact Discharge

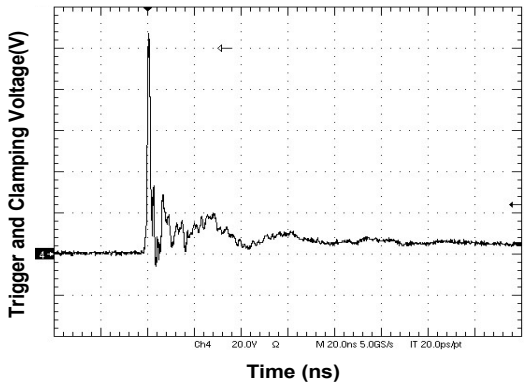


Fig.6 IEC61000-4-2 -8kV Contact Discharge

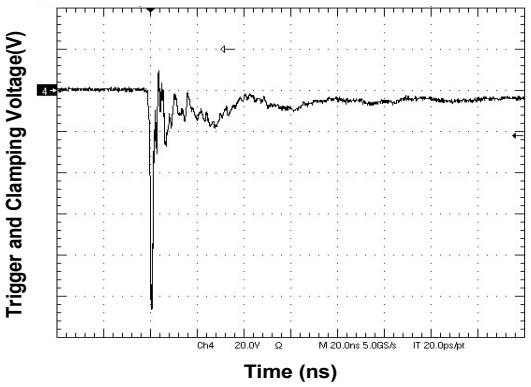


Fig.7 Eye Diagram - USB3.0 mask at 5.0Gbps per channel (with SESUC3V3D882-2U)

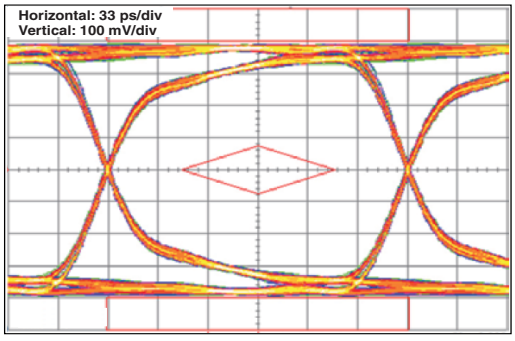
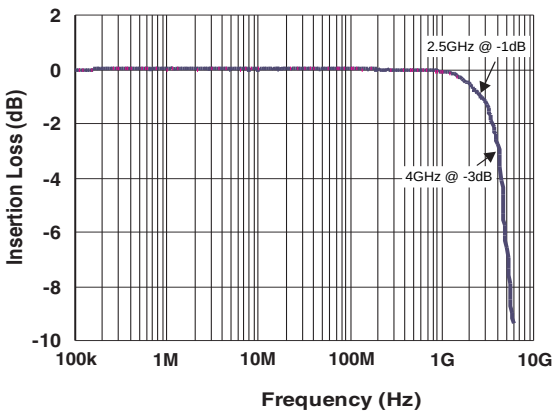
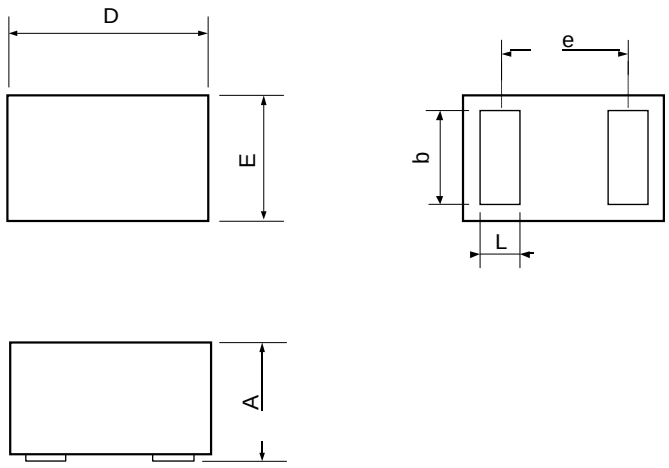


Fig.8 Insertion Loss S21 - I/O to GND



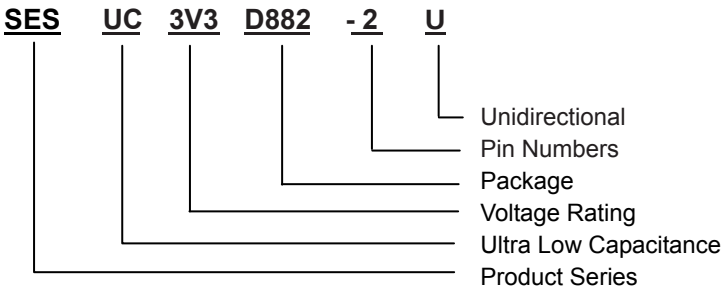
Package Outline Dimensions

millimeters



Symbol	Milimeter		
	min	nom	max
D	0.95	1.00	1.05
E	0.55	0.60	0.65
A	0.45	0.50	0.55
b	0.45	0.50	0.55
L	0.20	0.25	0.30
e	0.65BSC		

Part Number System



Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.01	First issue

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