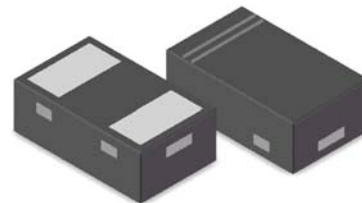


GSEWT3U003

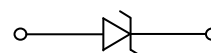
Ultra Low Capacitance ESD TVS

Features

- 30 Watts peak pulse power ($t_p = 8/20\mu\text{s}$)
- Unidirectional configuration
- R2R + Zener technology
- Low clamping voltage
- Low leakage current
- Ultra low capacitance ($C_J = 0.3\text{pF typ.}$)
- Protection one data/power line to:
 IEC 61000-4-2 $\pm 10\text{kV}$ contact $\pm 18\text{kV}$ air
 IEC 61000-4-4 (EFT) 40A (5/50nS) IEC
 61000-4-5 (Lightning) 3A (8/20 μs)



Package: SOD-882



Schematic Diagram

Applications

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

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power ($T_P = 8/20\mu\text{s}$)	P_{PP}	30	W
ESD Contact/air Discharge (IEC-61000-4-2)	V_{ESD}	10/18	kV
Peak Pulse Current ($t_P = 8/20\mu\text{s}$)	I_{PP}	3	A
Junction Temperature	T_J	-55 to +125	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^\circ\text{C}$
Maximum Lead Solder Temperature(10 second duration)	T_L	260	$^\circ\text{C}$

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise specified)

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

Typical Characteristic Curves

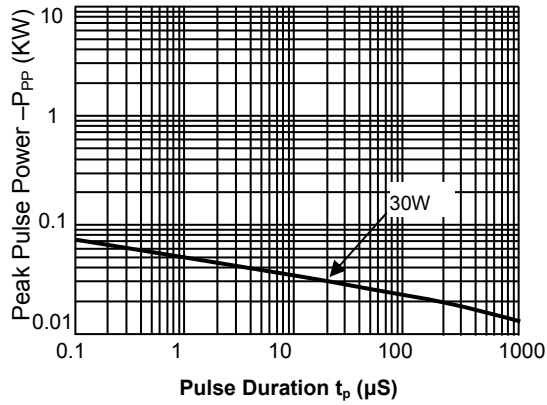


Figure 1. Peak Pulse Power Rating Curve

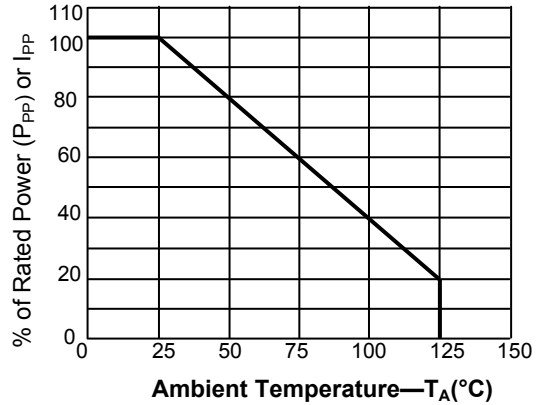


Figure 2. Pulse Derating Curve

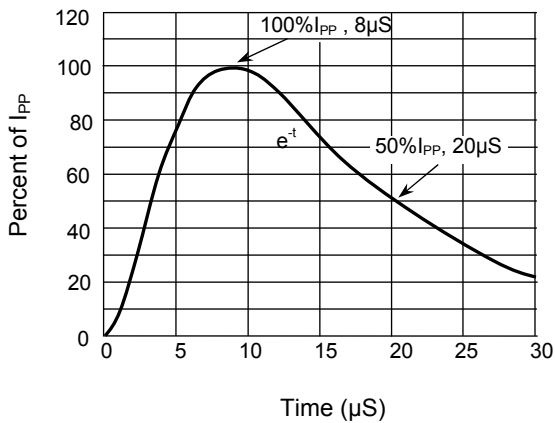


Figure 3. Pulse Waveform-8/20μS

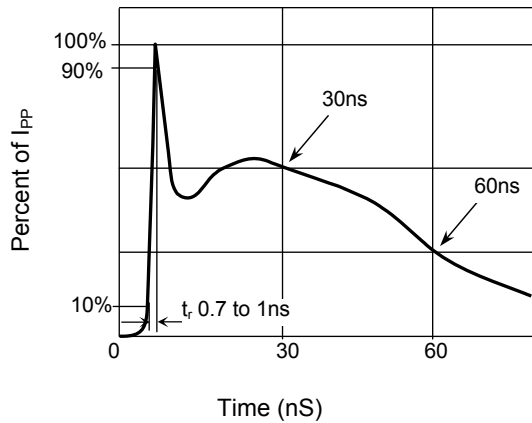


Figure 4. Pulse Waveform-ESD(IEC61000-4-2)

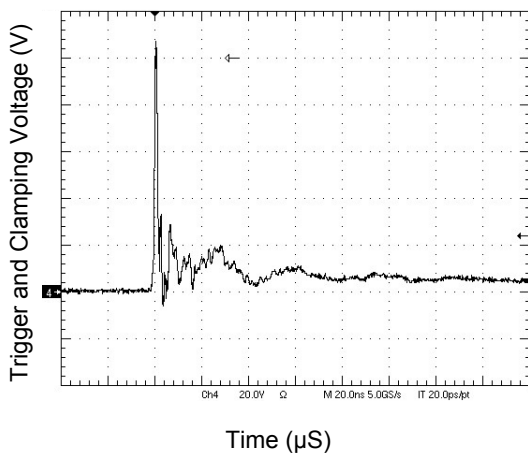


Figure 5. IEC61000-4-2 +8kV Contact Discharge

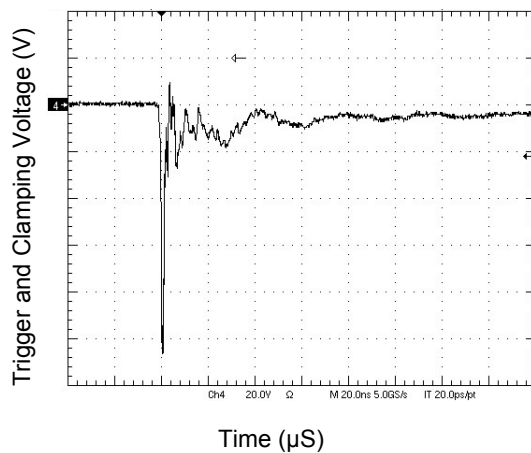


Figure 6. IEC61000-4-2 -8kV Contact Discharge

Typical Characteristic Curves

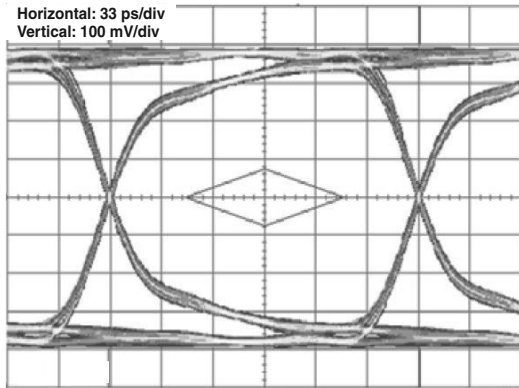


Figure 7. Eye Diagram - USB3.0 Mask at 5.0Gbps per Channel (with GSESUC3V3D882-2U)

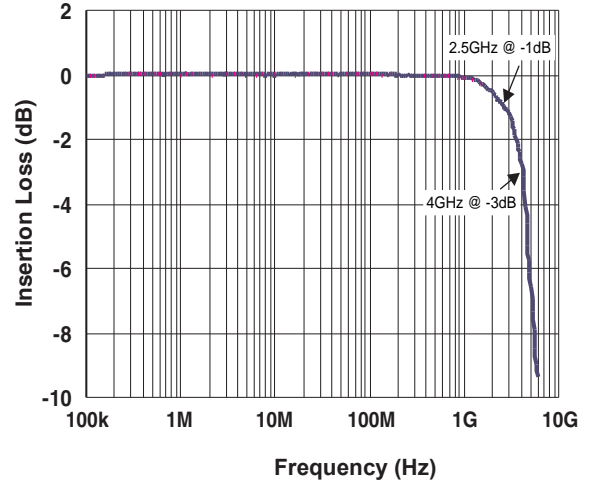
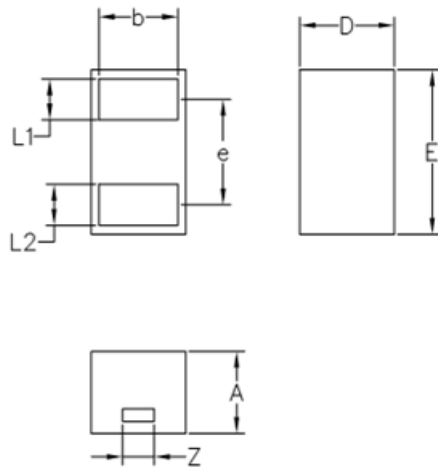


Figure 8. Insertion Loss S21 - I/O to GND

Package Outline Dimensions

SOD-882



Symbol	Dimensions in millimeters		
	Min	Nom	Max
D	0.55	0.60	0.65
E	0.95	1.00	1.05
L1	0.20	0.25	0.30
L2	0.20	0.25	0.30
A	0.45	0.50	0.55
Z	0.15	0.20	0.25
b	0.45	0.50	0.55
e	0.64 BSC		

Order Information

Device	Package	Marking	Carrier	Quantity	HSF Status
GSEWT3U003	SOD-882	-	Tape & Reel	10,000pcs/reel	RoHS compliant