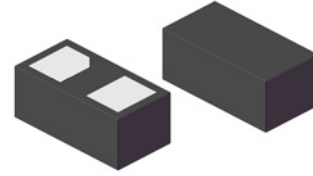
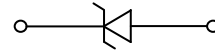


Features

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



DFN0603



Schematic Diagram

Applications

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

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

Parameter	Symbo	Value1	Unit
Peak Pulse Power ($T_P=8/20\mu S$)	PPP	30	W
ESD Contact/Air Discharge (IEC-61000-4-2)	V_{ESD}	10/18	kV
Peak Pulse Current ($t_P = 8/20\mu S$)	I_{PP}	3	A
Junction Temperature	T_J	-55 to +125	$^\circ C$
Storage Temperature	T_{STG}	-55 to +150	$^\circ C$
Maximum Lead Solder Temperature(10 second duration)	T_L	260	$^\circ C$

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

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	V_{RWM}		-	-	3.6	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	4.0	-	-	V
Reverse Leakage Current	I_R	$V_R=3.6V$	-	-	100	nA
Clamping Voltage (IEC 61000-4-5)	V_C	$I_{PP}=3A, T_P=8/20\mu S$	-	10	-	V
Clamping Voltage (IEC 61000-4-2)	V_C	$V_{ESD} =8kV (I_{TLP} =16A)$	-	12	-	V
Dynamic Resistance	R_{dyn}	$I_{TLP}=0A\sim 20A$	-	0.29	-	Ω
Junction Capacitance	C_J	$V_R=0V, f=1MHz$	-	0.3	0.5	pF

Typical Characteristic Curves

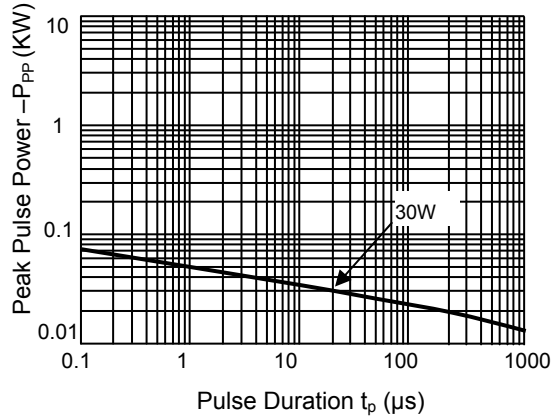


Figure 1. Peak Pulse Power Rating Curve

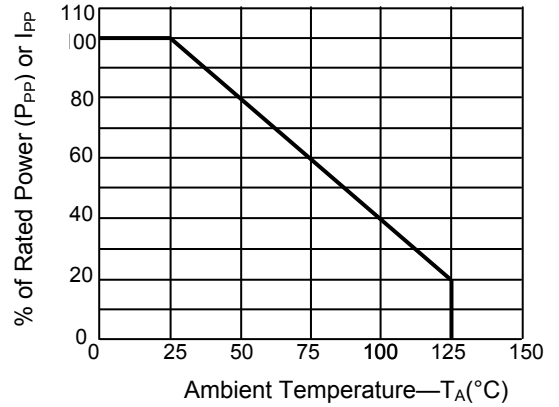


Figure 2. Pulse Derating Curve

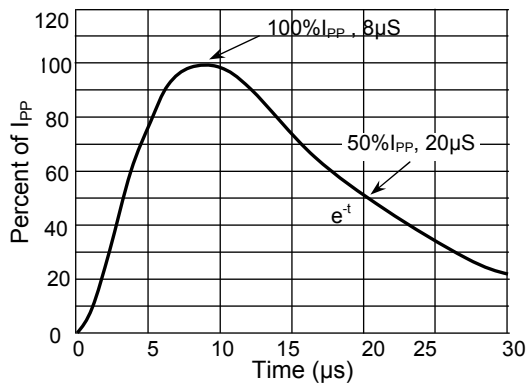


Figure 3. Pulse Waveform-8/20μs

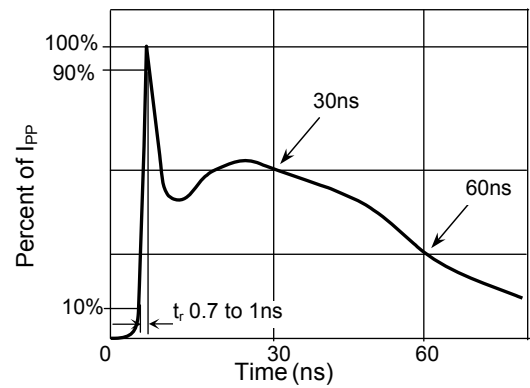


Figure 4. Pulse Waveform-ESD(IEC61000-4-2)

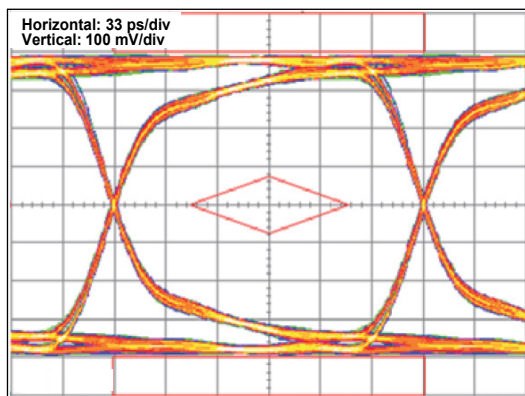


Figure 5. Eye Diagram - USB3.0 mask at 5.0Gbps per channel (with GSEN3U003)

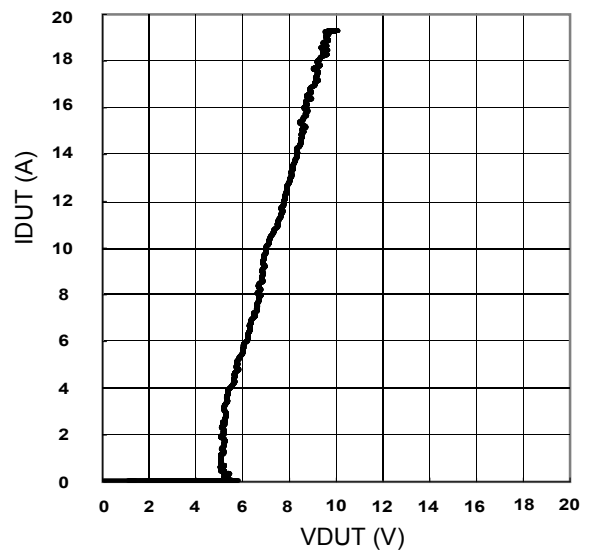
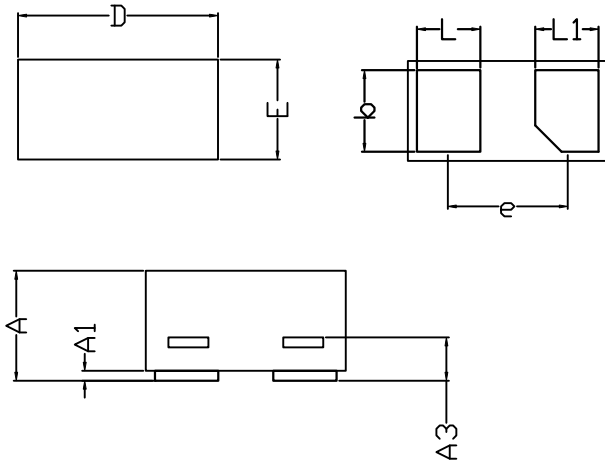


Figure 6. Transmission Line Pulse ($t_p=100ns$)

Product Dimensions (DFN0603)



Symbol	Dimensions in millimeters		
	Min	Nom	Max
A	0.230	-	0.330
A1	0.000	-	0.050
A3	0.102 REF		
D	0.550	0.600	0.650
E	0.250	0.300	0.350
b	0.180	0.240	0.280
L	0.120	0.180	0.230
L1	0.120	0.180	0.230
e	0.355 BSC		

Order Information

MPN	Package	Marking	Quantity	HSF Status
GSEN3U003	DFN0603	U	15000pcs / Reel	RoHS compliant