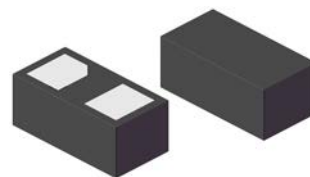
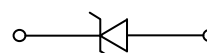


Features

- 30Watts 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	Symbol	Value	Unit
Peak Pulse Power ($T_p=8/20\mu S$)	P_{PP}	30	W
ESD Contact/Air Discharge (IEC-61000-4-2)	V_{ESD}	10/18	kV
Peak Pulse Current ($T_p=8/20\mu S$)	I_{PP}	3	A
Maximum Lead Solder Temperature (10 Second Duration)	T_L	260	$^\circ C$
Junction Temperature	T_J	-55 To +125	$^\circ C$
Storage Temperature	T_{STG}	-55 To +150	$^\circ C$

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

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse Stand-Off Voltage	V_{RWM}	-	-	-	3.3	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	$I_{PP}=3.0A$	-	10	-	V
Trigger Voltage (IEC 61000-4-2)	V_T	$V_{ESD}=8kV$	-	135	-	V
Clamping Voltage (IEC 61000-4-2)	V_C	$V_{ESD}=8kV$	-	20	-	V
Junction Capacitance	C_J	$V_R=0V, f=1MHz$	-	0.3	-	pF

Typical Characteristic Curves

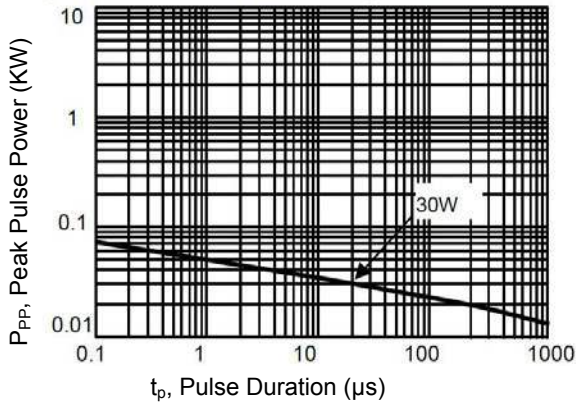


Figure 1. Peak Pulse Power Rating Curve

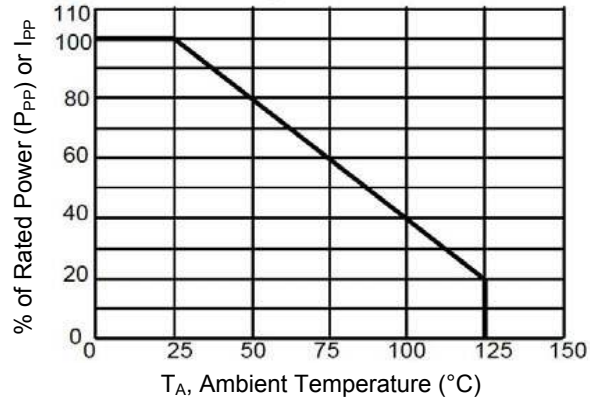


Figure 2. Pulse Derating Curve

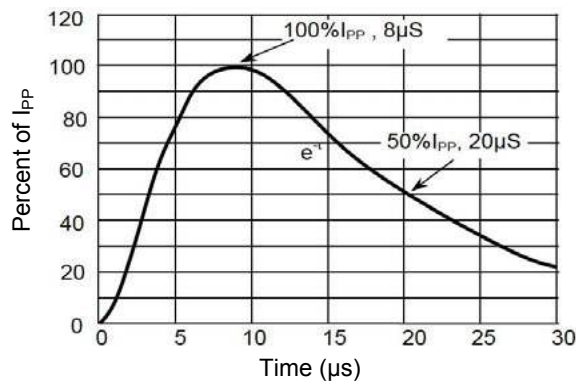


Figure 3. Pulse Waveform - 8/20µs

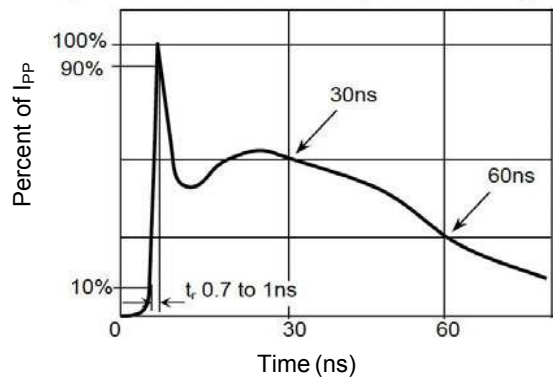


Figure 4. Pulse Waveform - ESD (IEC61000-4-2)

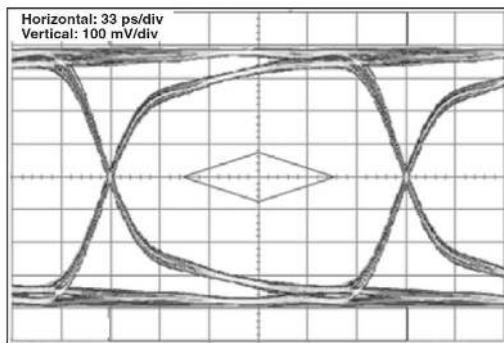


Figure 5. Eye Diagram - USB3.0 Mask at 5.0Gbps per Channel (with GSEN3U303)

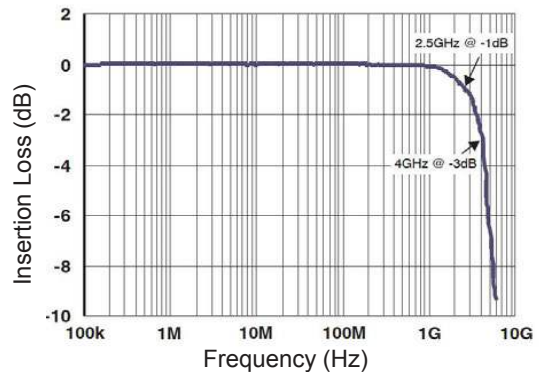


Figure 6. Insertion Loss S21 - I/O to GND

Typical Characteristic Curves

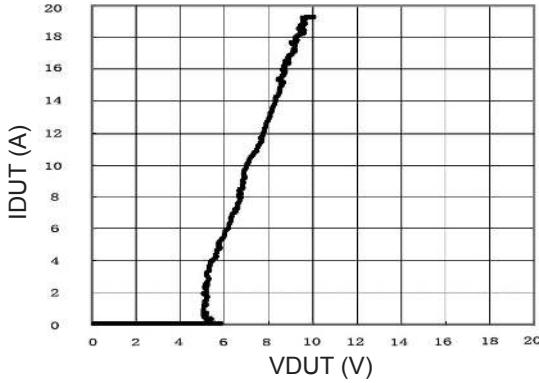
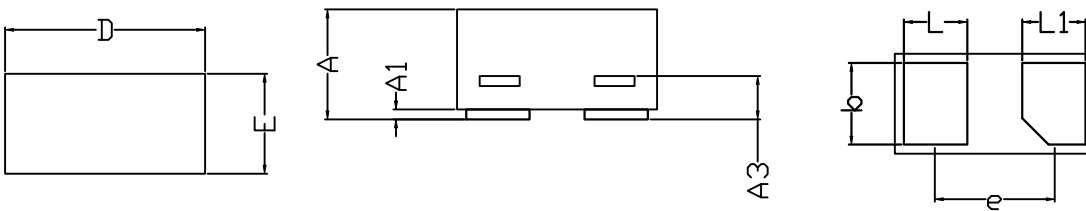


Figure 7. Transmission Line Pulse ($t_p=100ns$)

Package Outline Dimensions (DFN0603)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.230	0.330	0.009	0.013
A1	0.000	0.050	0.000	0.002
A3	0.102 REF		0.004 REF	
D	0.550	0.650	0.022	0.026
E	0.250	0.350	0.010	0.014
b	0.215	0.275	0.008	0.011
L	0.160	0.220	0.006	0.009
L1	0.160	0.220	0.006	0.009
e	0.355 BSC		0.014 BSC	

Order Information

Device	Package	Marking	Quantity	HSF Status
GSEN3U303	DFN0603	U	15,000pcs / Reel	RoHS Compliant