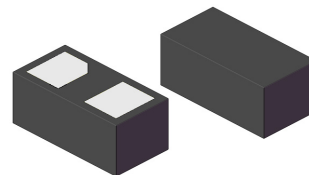


# GSESUC3V3D0603-2U

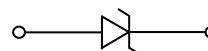
## Ultra Low Capacitance ESD TVS

### Features

- DFN0603 package
- Unidirectional configurations
- R2R + Zener technology
- Low clamping voltage
- Low leakage current
- Ultra low capacitance (Cj=0.3pF typ.)
- Protection one data/power line to:
  - IEC 61000-4-2 ±15kV contact ±15kV air
  - IEC 61000-4-4 (EFT) 40A (5/50ns)
  - IEC 61000-4-5 (Lightning) 5A (8/20µs)
- RoHS compliant



**DFN0603-X1**



**Schematic Diagram**

### Applications

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

### Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise specified)

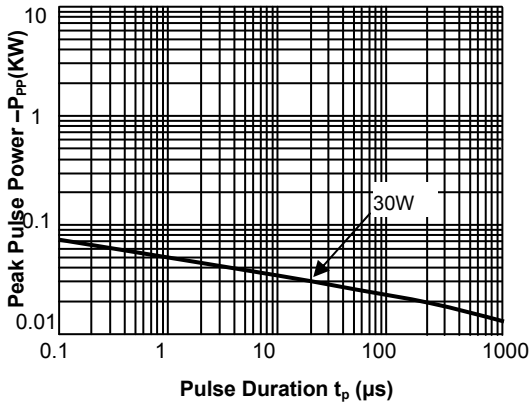
Parameter	Symbol	Value	Unit
Junction Temperature	T <sub>J</sub>	-55 to +125	°C
Storage Temperature	T <sub>STG</sub>	-55 to +150	°C
Lead Soldering Temperature	T <sub>L</sub>	260 (10sec.)	°C
Peak Pulse Current ( t <sub>P</sub> = 8/20µS )	I <sub>PP</sub>	3	A
IEC 61000-4-2 Contact (ESD)	VESD	±10	kV
IEC 61000-4-2 Air (ESD)	VESD	±15	kV

### Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)

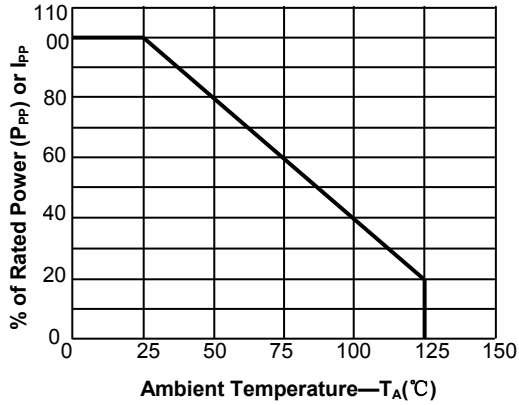
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse Stand-off Voltage	V <sub>RWM</sub>		-	-	3.3	V
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>T</sub> =1mA	5.0	-	-	V
Reverse Leakage Current	I <sub>R</sub>	V <sub>R</sub> =5V	-	<1	100	nA
Clamping Voltage (IEC 61000-4-5)	V <sub>C</sub>	I <sub>PP</sub> =3A, T <sub>P</sub> =8/20µS	-	10	-	V
Trigger Voltage (IEC 61000-4-2)	V <sub>T</sub>	V <sub>ESD</sub> =8kV	-	135	-	V
Clamping Voltage (IEC 61000-4-2)	V <sub>C</sub>	V <sub>ESD</sub> =8kV	-	20	-	V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> =0V, f=1MHz	-	0.3	-	pF

**Typical Characteristic Curves**

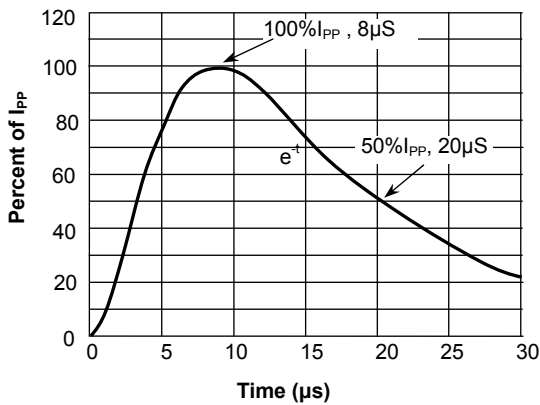
**Fig.1 Peak Pulse Power Rating Curve**



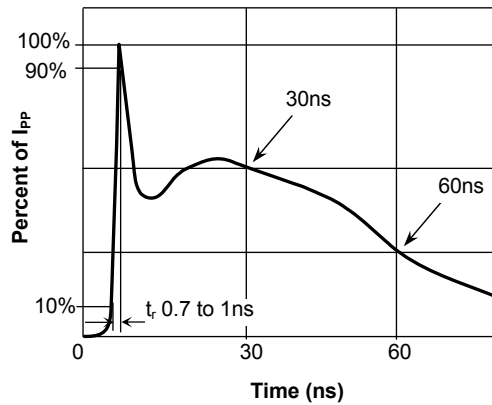
**Fig.2 Pulse Derating Curve**



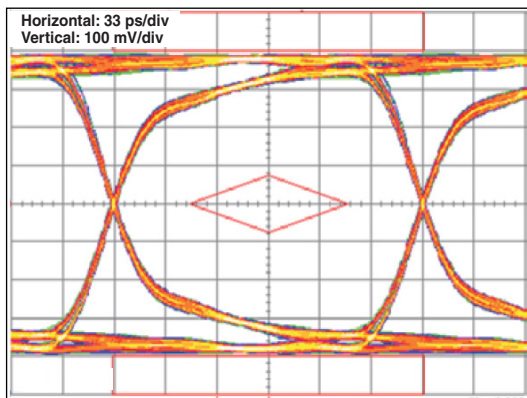
**Fig.3 Pulse Waveform-8/20μs**



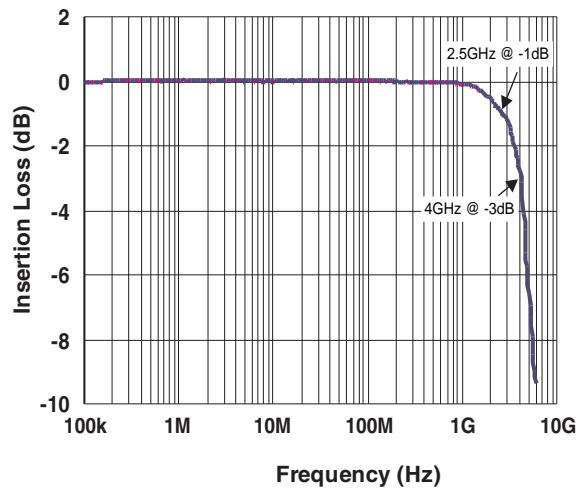
**Fig.4 Pulse Waveform-ESD(IEC61000-4-2)**



**Fig.5 Eye Diagram - USB3.0 mask at 5.0Gbps per channel (with GSESUC3V3D0603-2U)**



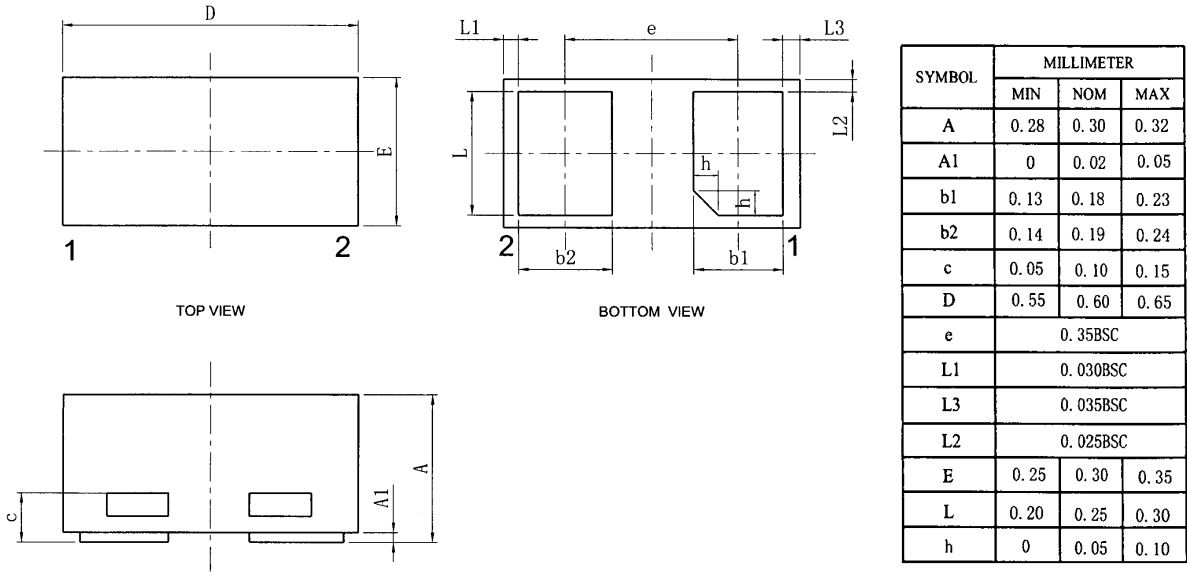
**Fig.6 Insertion Loss S21 - I/O to GND**



**GSESUC3V3D0603-2U**  
**Ultra Low Capacitance ESD TVS**

**Package Outline Dimensions**

**DFN0603-X1**



**Order Information**

Device	Package	Marking	Quantity	HSF Status
GSESUC3V3D0603-2U	DFN0603-X1	E	15000pcs / Reel	RoHS Compliant