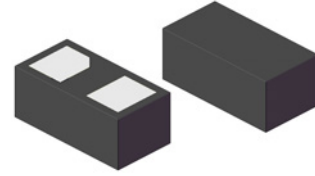


### Features

- 35 Watts peak pulse power ( $T_P=8/20\mu s$ )
- DFN0603 package
- Snap-Back technology
- Low clamping voltage
- Low leakage current
- Ultra low capacitance (0.25pF typical)
- ESD Protection for high-speed data lines to:
  - IEC 61000-4-2  $\pm 10kV$  contact  $\pm 12kV$  air
  - IEC 61000-4-4 (EFT) 40A (5/50ns)
  - IEC 61000-4-5 (Lightning) 5A (8/20 $\mu s$ )
- RoHS compliant



**DFN0603**



**Schematic Diagram**

### Applications

- USB 3.0, USB 2.0, MHL
- HDMI 2.0, Display Port 1.3, eSATA
- Unified Display Interface (UDI)
- Digital Visual Interface (DVI)
- 1G/2.5G/5G/10G Ethernet

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

Parameter	Symbol	Max.	Unit
Peak Pulse Power ( $T_P=8/20\mu S$ )	$P_{PP}$	35	W
Peak Pulse Current ( $T_P=8/20\mu S$ )	$I_{PP}$	5	A
Junction Temperature Range	$T_J$	-55 to +125	$^\circ C$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^\circ C$



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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	$V_{RWM}$	-	-	-	5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1\text{mA}$	5.5	6.8	12	V
Reverse Leakage Current	$I_R$	$V_R=5.0\text{V}$	-	0.001	0.1	$\mu\text{A}$
Trigger Voltage	$V_T$	$I_{PP}=5\text{A}$ , $T_P=8/20\mu\text{S}$	-	9	-	V
Clamping Voltage	$V_C$	$I_{PP}=5\text{A}$ , $T_P=8/20\mu\text{S}$	-	6.5	-	V
Clamping Voltage (TLP 8A)	$V_C$	IEC 61000-4-2 Level 2 ( $\pm 4\text{ kV}$ Contact, $\pm 4\text{ kV}$ Air)	-	4.5	-	V
Clamping Voltage (TLP 16A)	$V_C$	IEC 61000-4-2 Level 4 ( $\pm 8\text{ kV}$ Contact, $\pm 8\text{ kV}$ Air)	-	6	-	V
Dynamic Resistance	$R_{DYN}$	$I_T=0\sim 30\text{A}$ , $T_P=\text{TLP}$	-	0.25	-	$\Omega$
Junction Capacitance	$C_J$	$V_R=0\text{V}$ , $f=1\text{MHz}$	-	0.25	0.35	pF
		$V_R=0\text{V}$ , $f=1\text{GHz}$	-	0.18	-	pF
		$V_R=0\text{V}$ , $f=5\text{GHz}$	-	0.17	-	pF
		$V_R=0\text{V}$ , $f=10\text{GHz}$	-	0.16	-	pF

## Typical Characteristic Curves

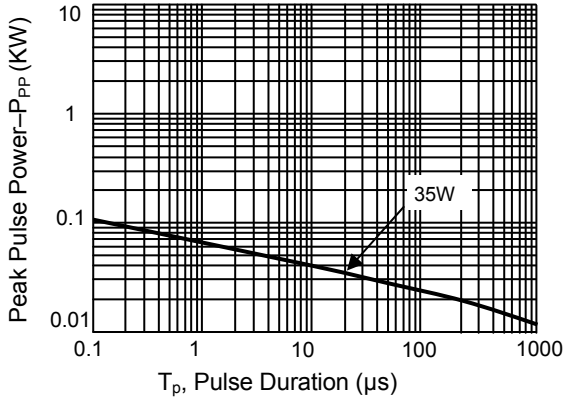


Figure 1. Peak Pulse Power Rating Curve

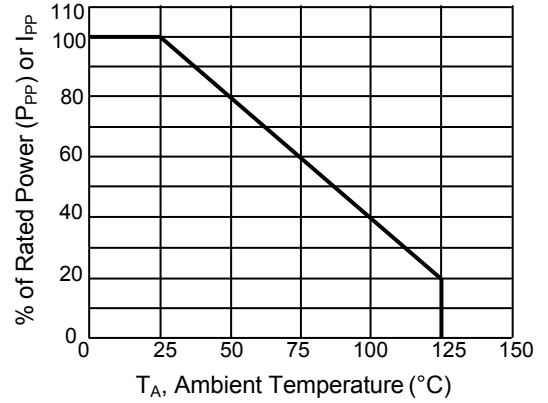


Figure 2. Pulse Derating Curve

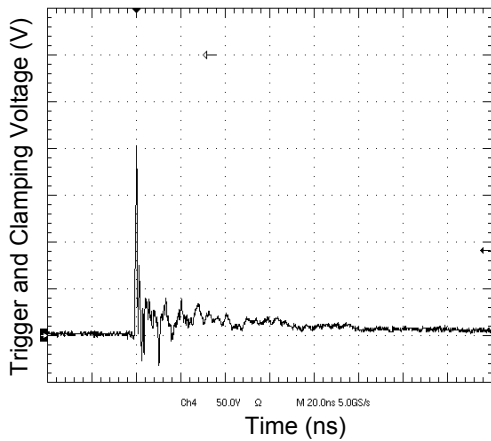


Figure 3. IEC61000-4-2 +8kV Contact Discharge

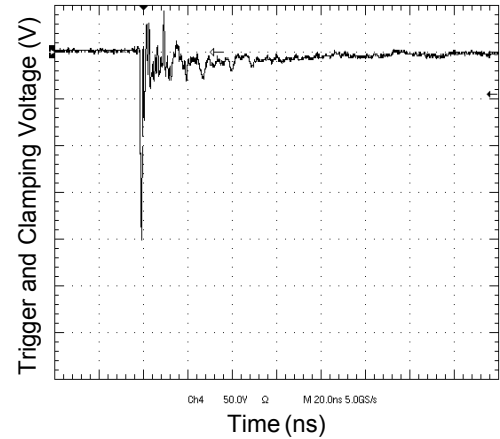


Figure 4. IEC61000-4-2 -8kV Contact Discharge

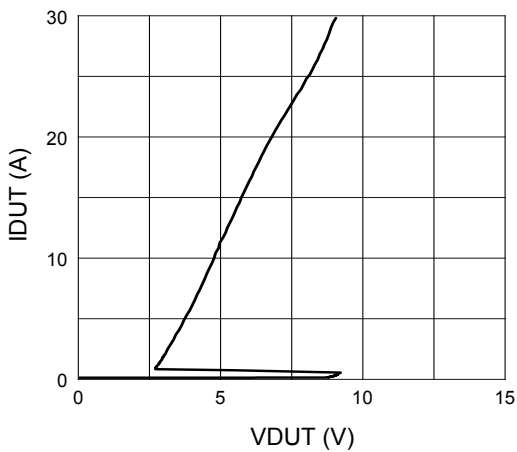


Figure 5. Transmission Line Pulse ( $T_p=100ns$ )

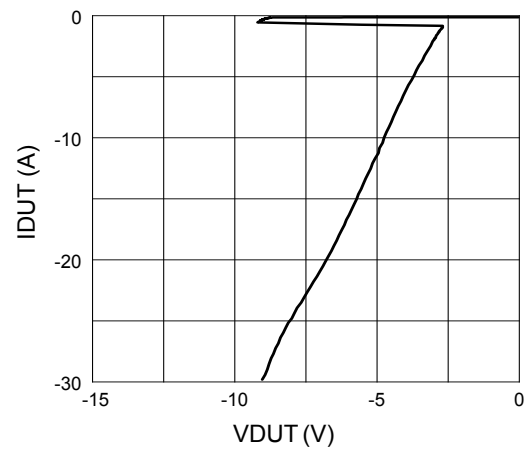
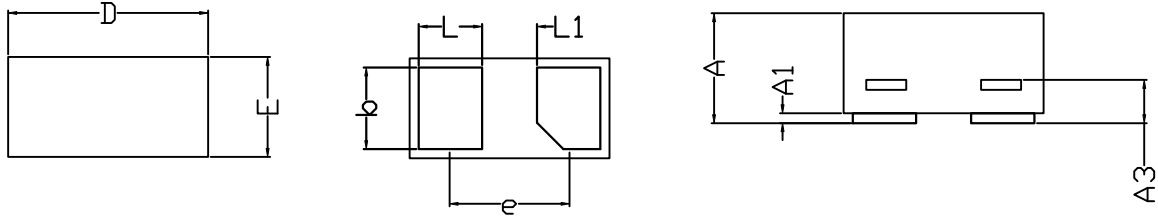


Figure 6. Transmission Line Pulse ( $T_p=100ns$ )

## Product 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
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	0.300	0.230	0.012	0.010
L1	0.130	0.230	0.005	0.010
e	0.355 BSC		0.014 BSC	

## Order Information

MPN	Package	Marking	Quantity	HSF Status
GSEN5B003	DFN0603	C	10,000pcs / Reel	RoHS compliant