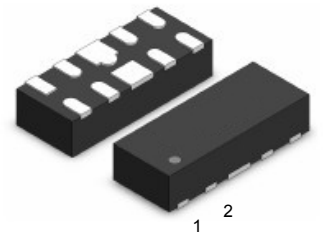
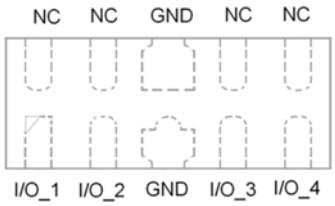
GSECL5U002
Ultra Low Capacitance TVS Diode Array

Features

- Ultra low capacitance: 0.2pF typical (I/O to I/O)
- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Up to 4 lines protects
- Complies with following standards:
  -IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±25kV
  Contact discharge: ±20kV
  -IEC61000-4-5 (Lightning) 4A (8/20μs)



DFN2510

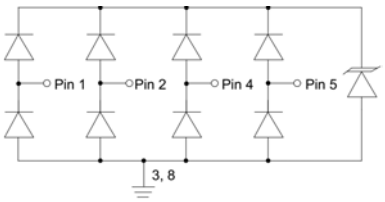


Mechanical Characteristics

- Package: DFN2510
- Lead finish: Matte tin

Applications

- HDMI 1.3/1.4/2.0, USB 2.0/3.0 and MDDI ports
- Monitors and flat panel displays
- Set-top box and digital TV
- Video graphics cards
- Digital visual interface (DVI)
- Notebook computers
- PCI express and serial SATA ports



Schematic Diagram

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P_{pk}	48	W
Peak Pulse Current (8/20μs)	I_{pp}	4	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	±25	kV
ESD per IEC 61000-4-2 (Contact)		±20	
Operating Temperature Range	T_J	-55 to +125	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}	Any I/O pin to ground	-	-	5	V
Breakdown Voltage	V_{BR}	I_T=1mA, any I/O pin to ground	6	-	-	V
Reverse Leakage Current	I_R	V_{RWM}=5V, any I/O pin to ground	-	-	0.5	μA
Clamping Voltage	V_C	I_{PP}=4A (8 x 20μs pulse), any I/O pin to ground	-	10	12	V
Junction Capacitance	C_J	V_R=0V, f=1MHz, between I/O pins	-	0.2	0.3	pF
		V_R=0V, f=1MHz, any I/O pin to ground	-	0.3	0.5	

Typical Characteristic Curves (T_A=25°C unless otherwise specified)

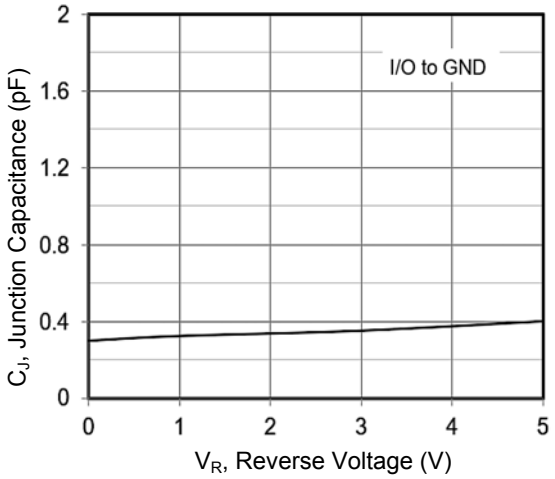


Figure 1. Junction Capacitance vs. Reverse Voltage

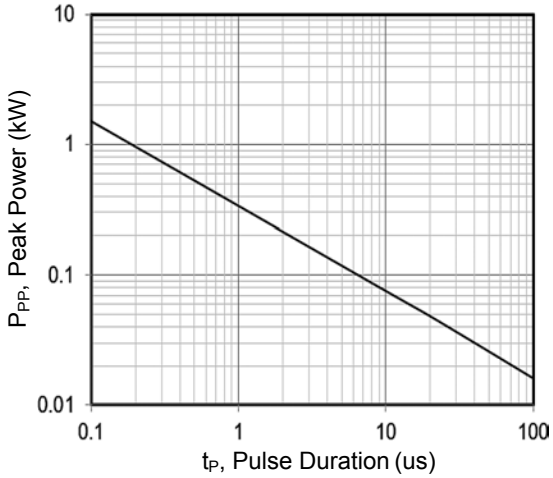


Figure 2. Peak Pulse Power vs. Pulse Duration

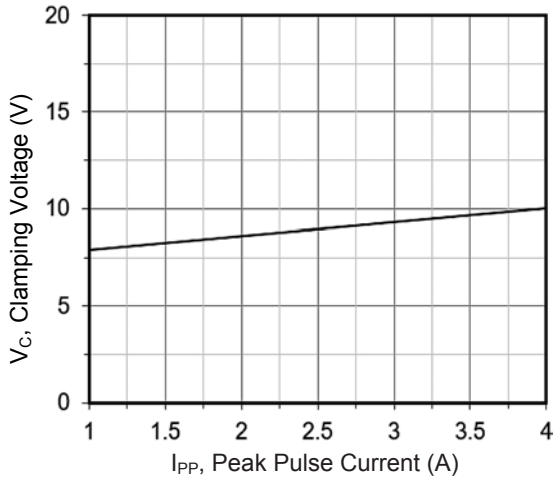


Figure 3. Clamping Voltage vs. Peak Pulse Current

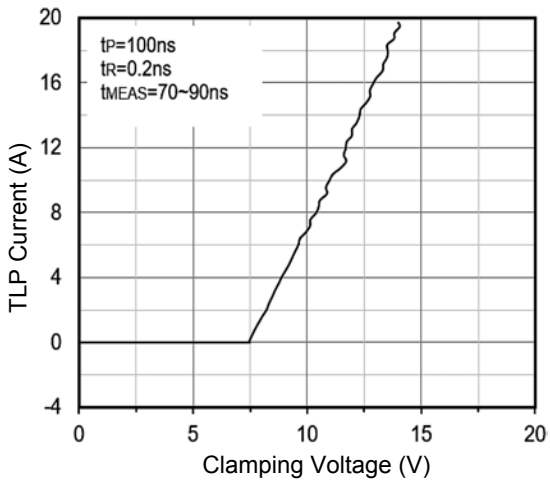


Figure 4. TLP Measurement

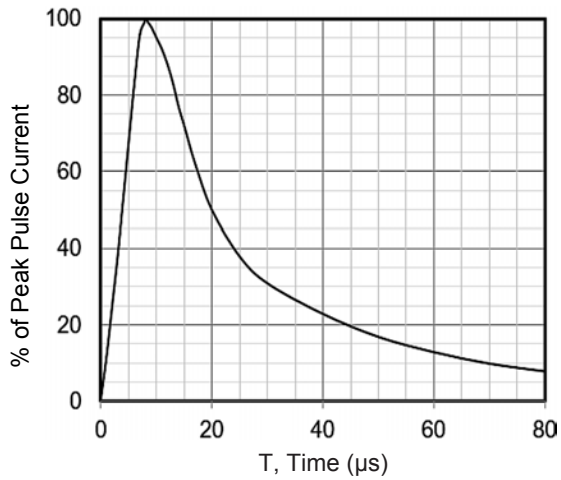


Figure 5. 8 x 20μs Pulse Waveform

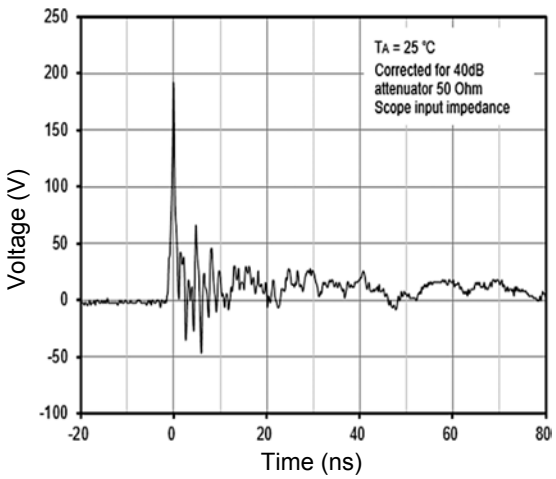
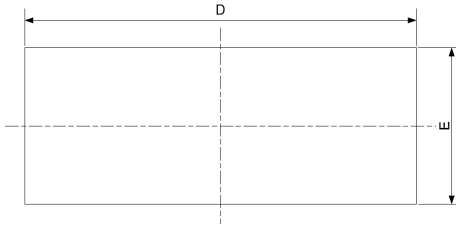
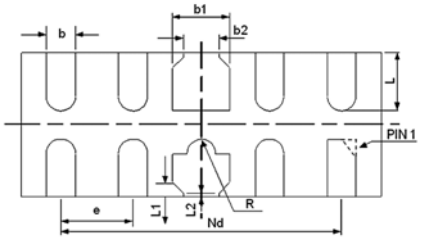


Figure 6. ESD Clamping Voltage
8kV Contact per IEC61000-4-2

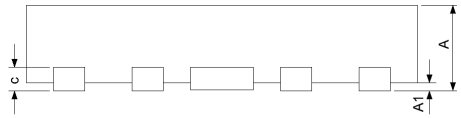
Package Outline Dimensions (DFN2510)



TOP VIEW



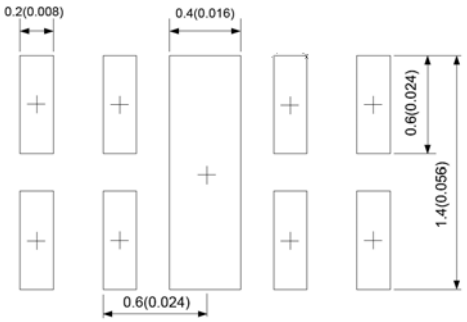
BOTTOM VIEW



SIDE VIEW

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.450	0.600	0.018	0.024
A1	0.000	0.050	0.000	0.002
b	0.150	0.250	0.006	0.010
b1	0.350	0.450	0.014	0.018
b2	0.200	0.300	0.008	0.012
c	0.100	0.200	0.004	0.008
D	2.450	2.550	0.096	0.100
e	0.500 BSC		0.020 BSC	
Nd	2.000 BSC		0.079 BSC	
E	0.950	1.050	0.037	0.041
L	0.330	0.450	0.013	0.018
L1	0.075 REF		0.003 REF	
L2	0.050 REF		0.002 REF	
R	0.050	0.150	0.002	0.006

Recommended Pad Layout



Dimensions in millimeters and (inches)

Order Information

Device	Package	Marking	Carrier	Quantity
GSECL5U002	DFN2510	0504R	Tape & Reel	3,000 Pcs / Reel