

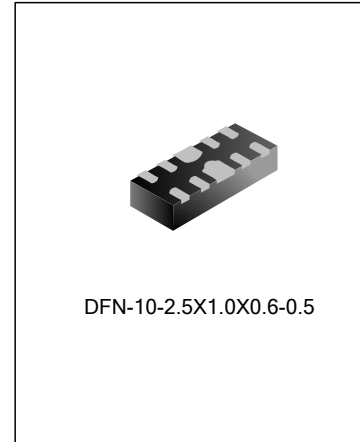
4 Channel Ultra Low Capacitance ESD Protection Diode Array

General Description

The GG099PG is a 4-channel ultra low capacitance rail clamp ESD protection diode array. Each channel consists of a pair of ESD diodes that steer positive or negative ESD current to either the positive or negative rail. A Zener diode is integrated into the array between the positive and negative supply rails.

In a typical application, the negative rail pin (assigned as GND) is connected with system ground. The Positive ESD current is steered to the ground through an ESD diode and a Zener diode and the positive ESD voltage is clamped to the Zener voltage.

The GG099PG is ideal to protect high speed data lines.



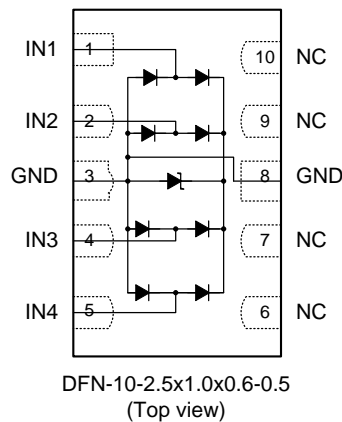
Features

- 4 channels of ESD protection
- Provides ESD protection to IEC61000-4-2 level 4
 - ±17kV air discharge
 - ±12kV contact discharge;
- Channel I/O to GND capacitance: 0.9pF(Max)
- Channel I/O to I/O capacitance: 0.45pF(Max)
- Low clamping voltage
- 5V low operating voltage
- Improved Zener structure
- Optimized package for easy PCB layout of high speed data lines

Applications

- HDMI / DVI ports
- Display Port interface
- 10M / 100M / 1G Ethernet
- USB 2.0 interface
- VGA interface
- Set-top box
- Flat panel Monitors / TVs
- PC / Note book

Pin Configuration



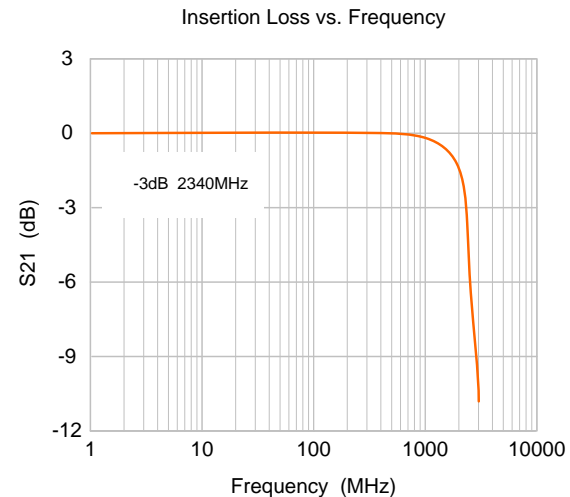
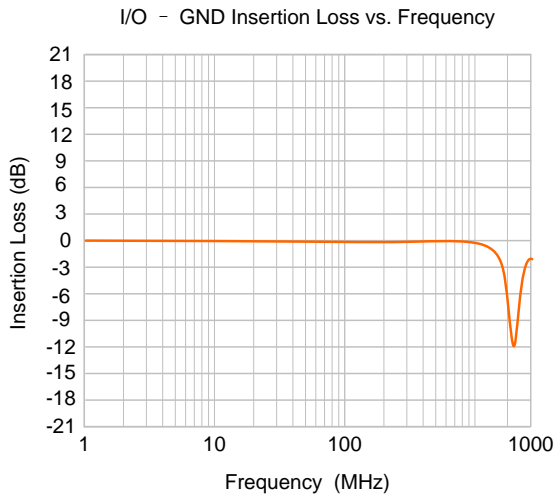
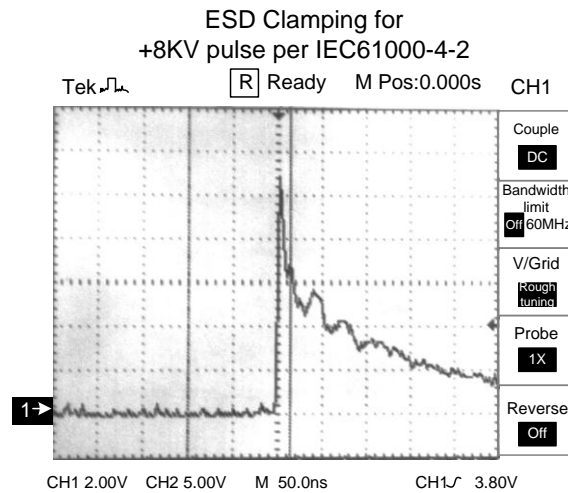
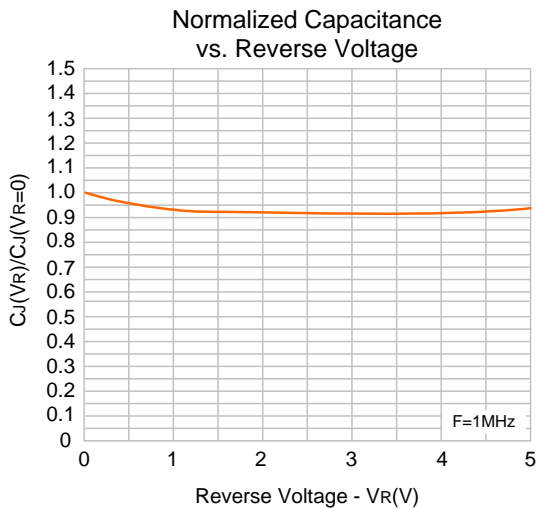
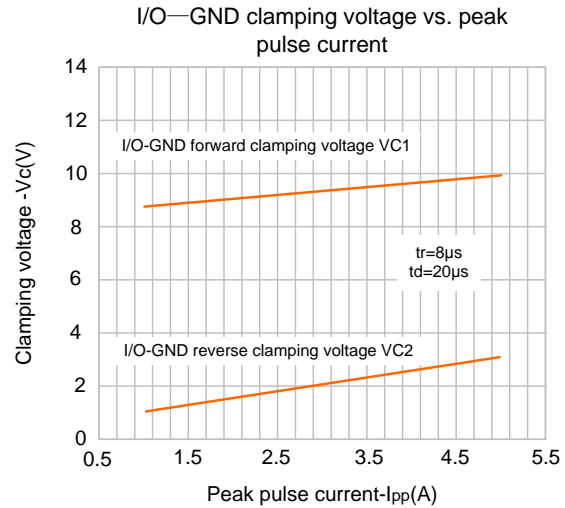
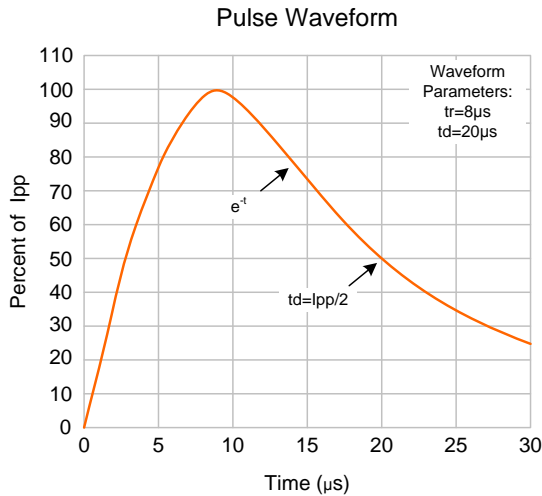
Absolute Maximum Ratings

Characteristics	Symbol	Rating	Unit
Peak Pulse Power(8/20 μ s)	P _{PP}	150	W
Peak Pulse Current(8/20 μ s)	I _{PP}	5	A
ESD per IEC 61000-4-2(Air)	V _{ESD1}	± 17	kV
ESD per IEC 61000-4-2(Contact)	V _{ESD2}	± 12	kV
Operating Temperature Range	T _{opr}	-55 ~ +125	°C
Storage Temperature Range	T _{stg}	-55 ~ +150	°C

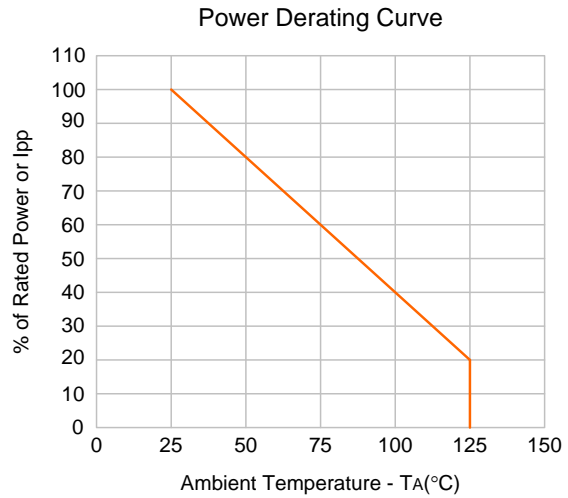
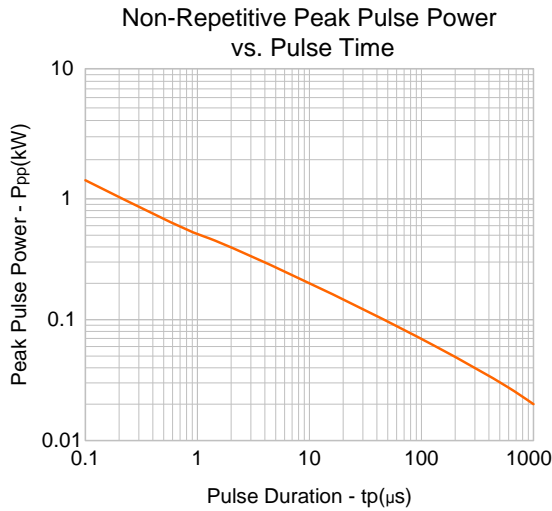
Electrical Characteristics (T_{amb}=25°C)

Characteristics	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Working Voltage	V _{RWM}	Any I/O pin to GND	--	--	5	V
Reverse Breakdown Voltage	V _{BR}	I _t =1mA; Any I/O pin to GND	6	--	--	V
Reverse Leakage Current	I _R	V _{RWM} =5V, T=25°C; Any I/O pin to GND	--	--	1	μ A
Positive Clamping Voltage	V _{C1}	I _{PP} =1A, t _p =8/20 μ s; Positive pulse; Any I/O pin to GND	--	8.5	12.0	V
Negative Clamping Voltage	V _{C2}	I _{PP} =1A, t _p =8/20 μ s; Negative pulse; Any I/O pin to GND	--	1.8	--	V
Junction Capacitance Between Channel	C _{J1}	V _R =0V, f=1MHz; Between I/O pins	--	0.35	0.45	pF
Junction Capacitance Between I/O And GND	C _{J2}	V _R =0V, f=1MHz; Any I/O pin to GND	--	--	0.9	pF

Typical Characteristics



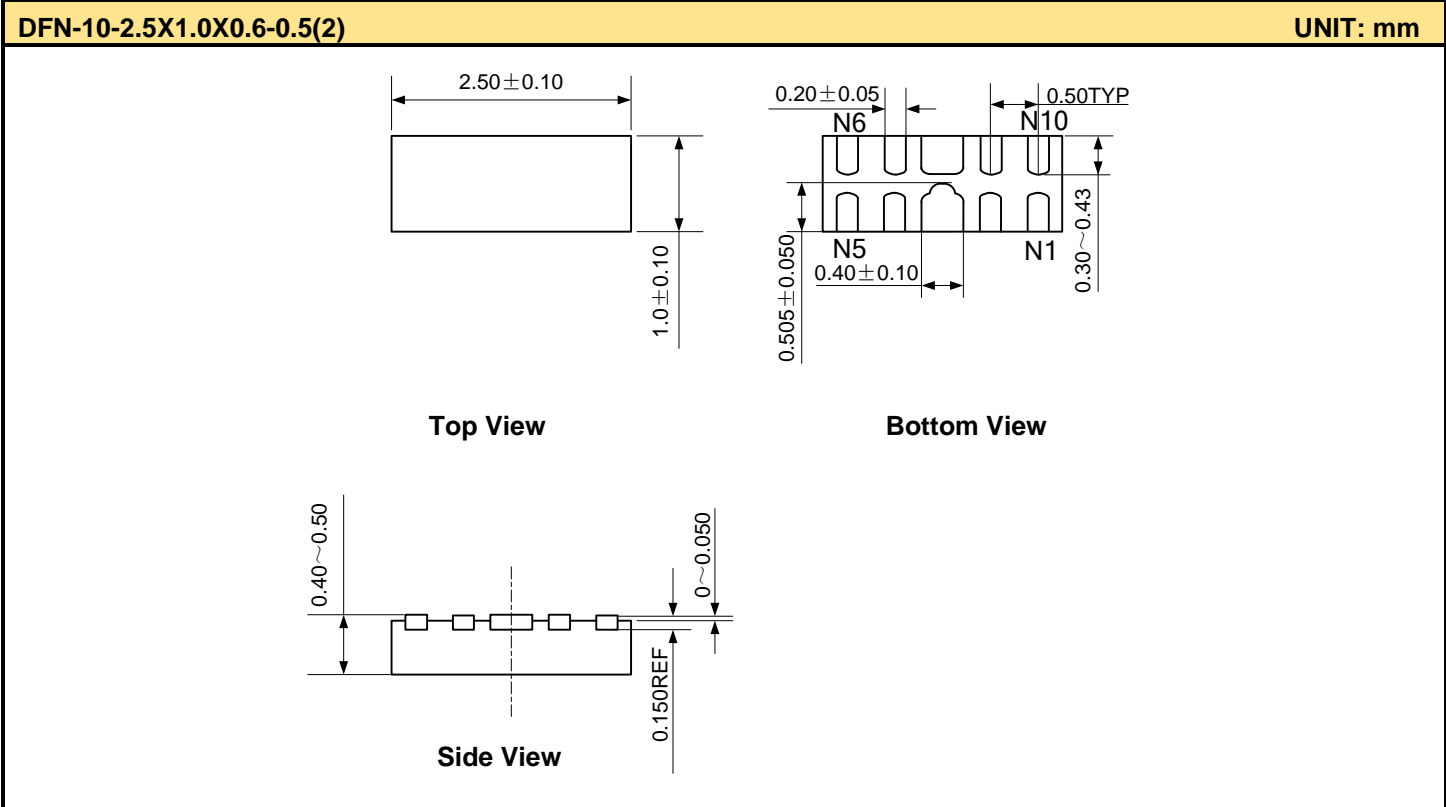
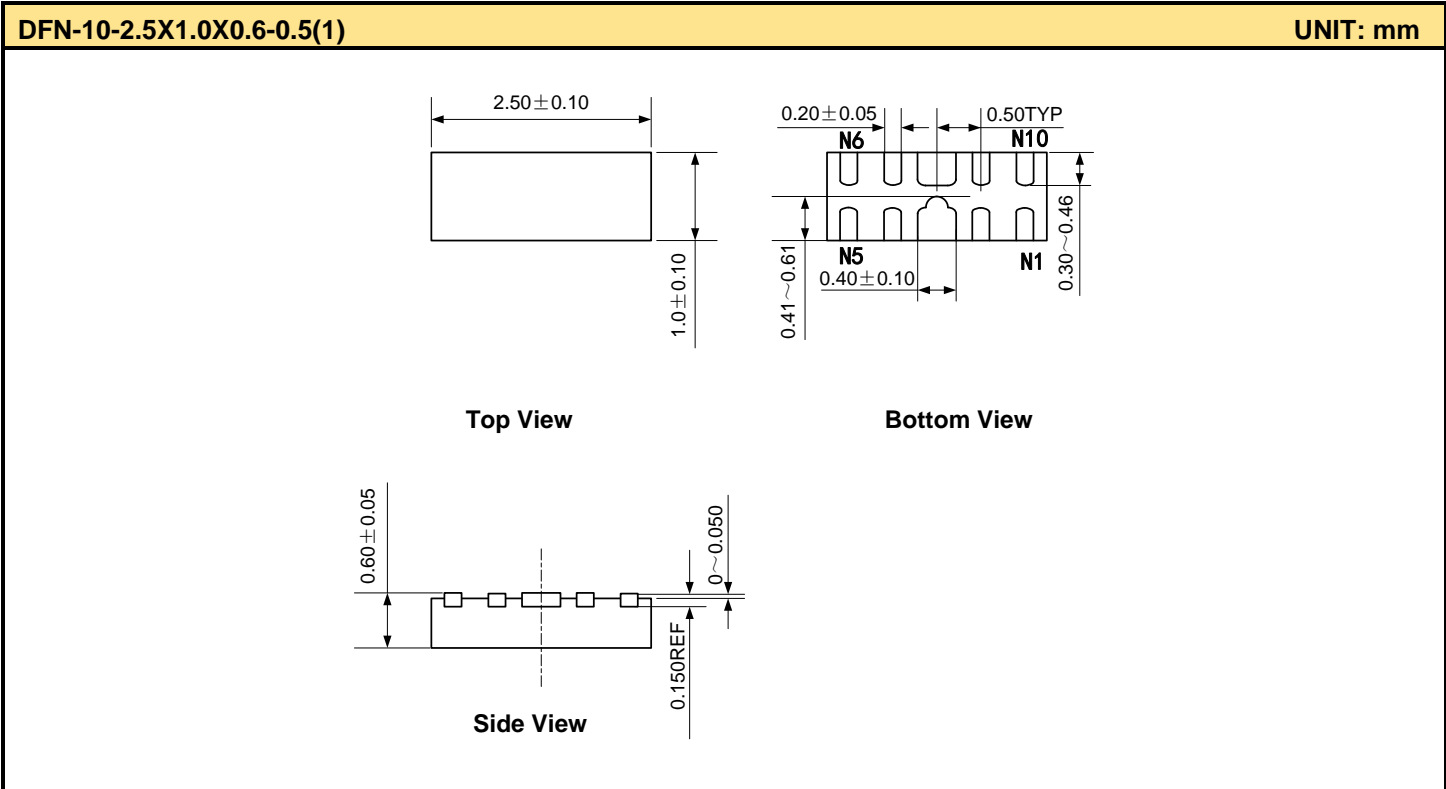
Typical Characteristics



Ordering Information

Part No	Package	Marking	Material	Packing
GG099PGTR	DFN-10-2.5x1.0x0.6-0.5	09	Halogen free	Tape&Reel

Package Outline



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