

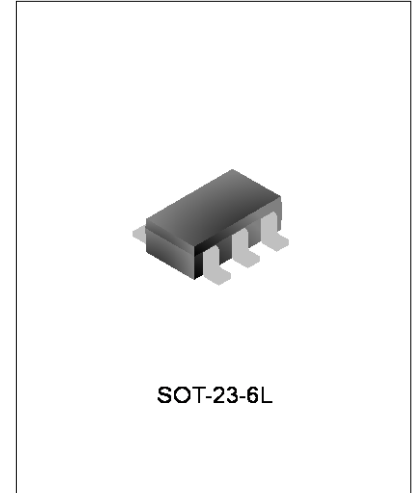
5-Channel Low Capacitance ESD Protection Diodes Array

General Description

The GG1045A6 is a 5-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 Zener diode and the positive ESD voltage is clamped to the Zener voltage.

The GG1045A6 is ideal to protect high speed data lines.



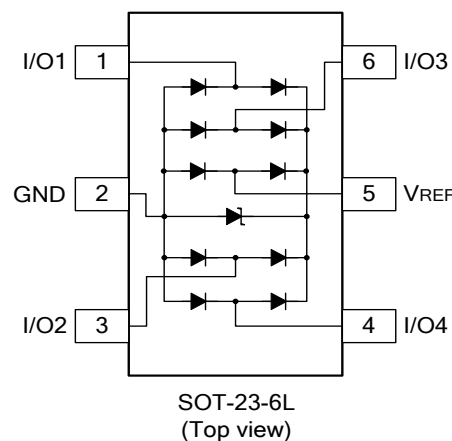
Features

- 5 channels of ESD protection
- Provides ESD protection to IEC61000-4-2 level 4
 - ±15kV air discharge
 - ±12kV contact discharge
- Channel I/O to GND capacitance: 0.9pF(Max)
- Channel I/O to I/O capacitance: 0.5pF(Max)
- Low clamping voltage
- Improved Zener structure
- SOT-23-6L package
- 5V Low operating voltage
- RoHS compliant

Applications

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

Pin Configuration



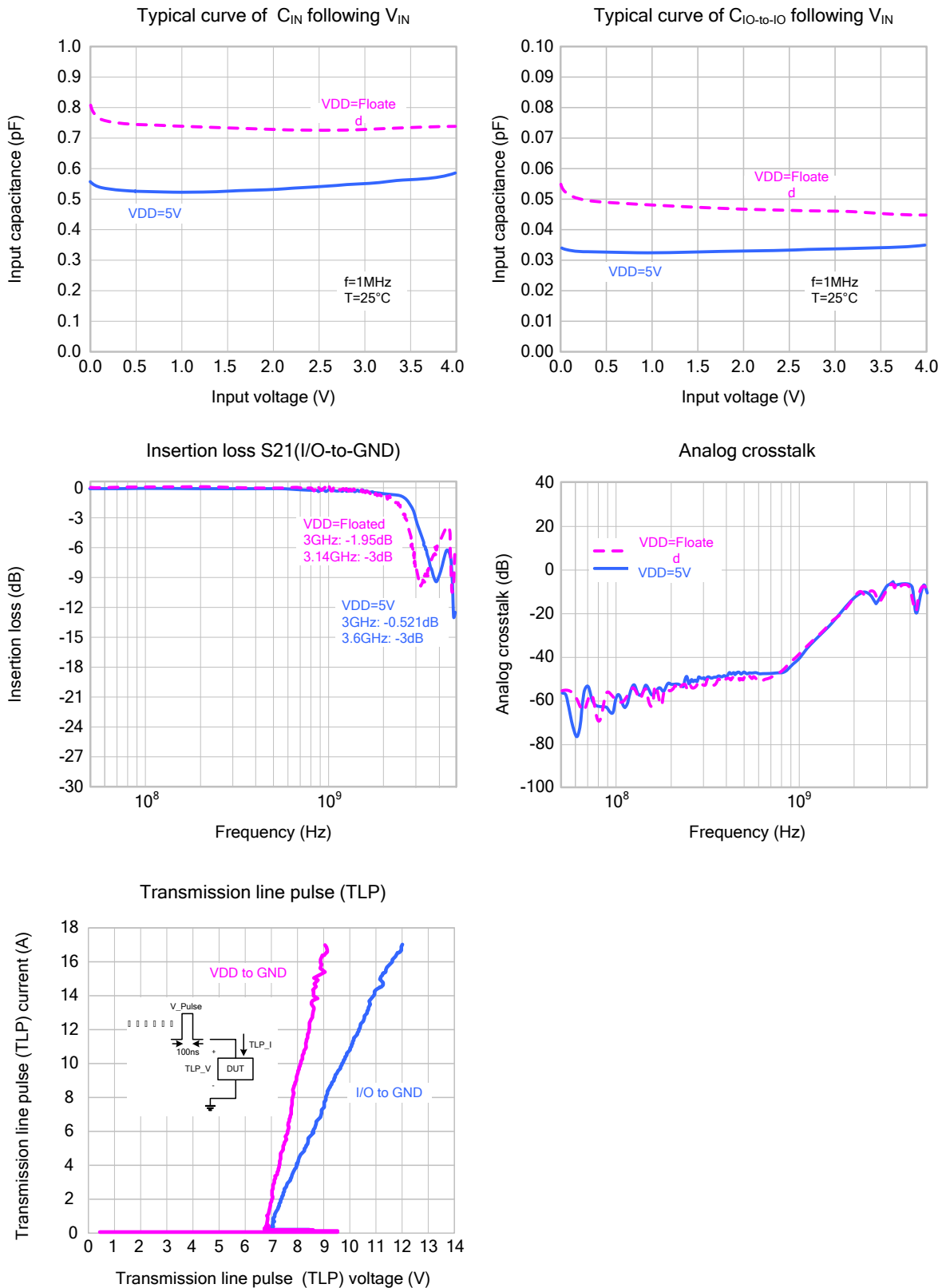
Absolute Maximum Ratings

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
Maximum ESD Capability	IEC 61000-4-2(Air)	V _{ESD1}	\pm 15kV	kV
	IEC 61000-4-2(Contact)	V _{ESD2}	\pm 12kV	kV
Operating Temperature Range		T _{opr}	-55 ~ +125	$^{\circ}$ C
Storage Temperature Range		T _{stg}	-55 ~ +150	$^{\circ}$ C

Electrical Characteristics (T_{amb}=25 $^{\circ}$ 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 $^{\circ}$ 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	0.5	pF
Junction Capacitance Between I/O And GND	C _{J2}	V _R =0V, f=1MHz; Any I/O pin to GND	--	--	0.9	pF

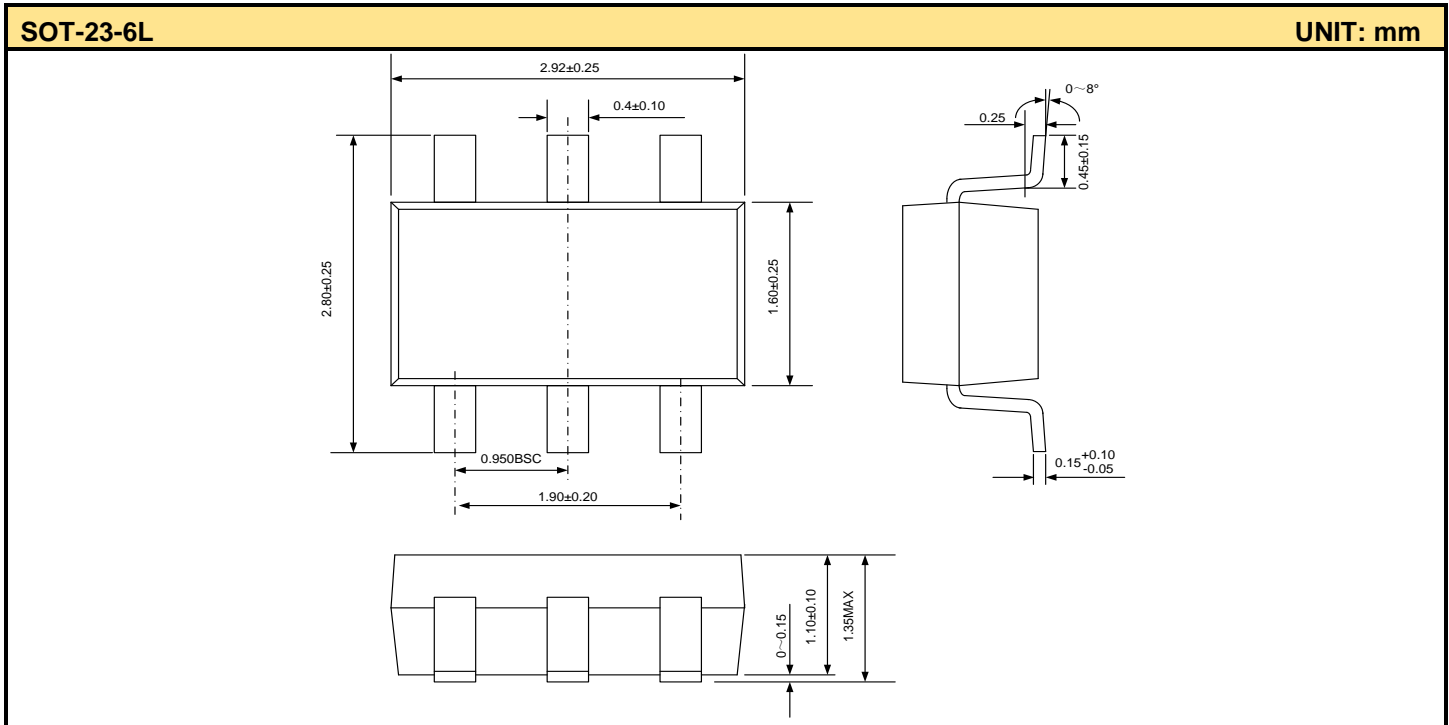
Typical Characteristics



Ordering Information

Part No.	Package	Marking	Material	Packing
GG1045A6	SOT-23-6L	45A6	Pb free	Tape&Reel

Package Outline



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