17 Channel ESD Protection Array

Features

- 17 channel live ESD protection up to 13KV
- EMI/RFI noise filter for high frequencies

Applications

- Live ESD protection for printer port up to 13KV
- Protection of IC terminals which are exposed to ESD discharge during operation
- Serial port ESD protection

Product Description

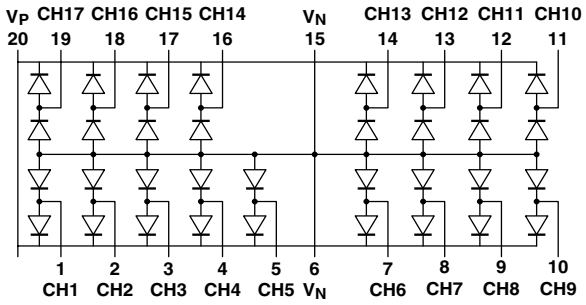
The PDN002 is a general purpose ESD array which is well-suited to ensure protection of sensitive IC terminals which may be exposed through pin connections "to the outside world." These include parallel printer ports, and any other external connection. The PDN002 will effectively discharge up to 13 KV (human body mode, 100pf through 1.5KΩ).

STANDARD SPECIFICATIONS (ABSOLUTE MAXIMUM RATINGS)

Parameter	Symbol	Rating
Supply Voltage	VP – VN	–0.3V to 12V
Voltage at any channel input, VN = GND	V_{SINGAL}	–0.5 …VP to 0.5V
Channel clamp current (continuous)	I_{CLAMP}	±15mA
Channel clamp current (peak, ≤ 20ns)	I_{CLAMP}	±8.7mA
Power Dissipation, T_A = 25°C		1W
Storage Temperature	T_{STG}	–65 … 150°C

The absolute maximum ratings are limiting values, to be applied individually, beyond which the device may be permanently damaged. Functional operation under any of these conditions is not guaranteed. Exposing the device to its absolute maximum rating may affect its reliability.

SCHEMATIC CONFIGURATION



DIODE CHARACTERISTICS (T_A = 0° to 70°C)

Parameter	Conditions	Min	Typ	Max
Diode foward voltage	IF = 10mA IF = 100mA		0.8V	0.9V 1.5V
Channel leakage	VN ≤ V_{IN} ≤ VP VP – VN = 12V		0.1µA	10µA
Channel capacitance	V_{IN} = VN +(VP – VN)/2 VP – VN = 12V		30pF	50pF
Peak clamp voltage	V_{IN} = ±13KV 100pF thru 1.5KΩ	VN – 32V		VP + 32V
Number of ESD pulses per input	V_{IN} = ±13KV 100pF thru 1.5KΩ	100		

STANDARD PART ORDERING INFORMATION

Package		Ordering Part Number		
Pins	Style	Tubes	Tape & Reel	Part Marking
20	SOIC	PDN002S/T	PDN002S/R	PDN002S
20	QSOP	PDN002Q/T	PDN002Q/R	PDN002Q

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