



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

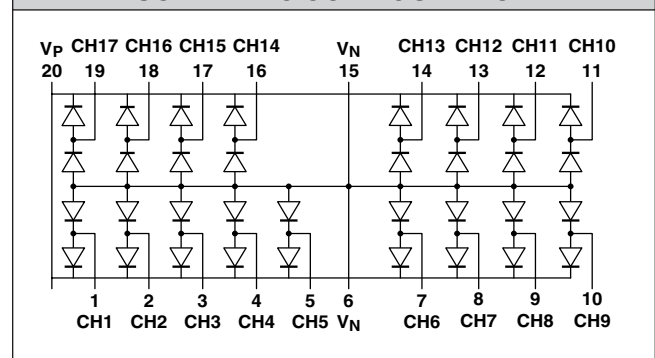
any other external connection. The PDN002 will effectively discharge up to 13 KV (human body mode, 100pf through 1.5K Ω).

STANDARD SPECIFICATIONS (ABSOLUTE MAXIMUM RATINGS)

Parameter	Symbol	Rating
Supply Voltage	$V_P - V_N$	-0.3V to 12V
Voltage at any channel input, $V_N = \text{GND}$	V_{SIGNAL}	-0.5 ... V_P to 0.5V
Channel clamp current (continuous)	I_{CLAMP}	$\pm 15\text{mA}$
Channel clamp current (peak, $\leq 20\text{ns}$)	I_{CLAMP}	$\pm 8.7\text{mA}$
Power Dissipation, $T_A = 25^\circ\text{C}$		1W
Storage Temperature	T_{STG}	-65 ... 150 $^\circ\text{C}$

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 ($T_A = 0^\circ$ to 70°C)

Parameter	Conditions	Min	Typ	Max
Diode forward voltage	$I_F = 10\text{mA}$ $I_F = 100\text{mA}$		0.8V	0.9V 1.5V
Channel leakage	$V_N \leq V_{\text{IN}} \leq V_P$ $V_P - V_N = 12\text{V}$		0.1 μA	10 μA
Channel capacitance	$V_{\text{IN}} = V_N + (V_P - V_N)/2$ $V_P - V_N = 12\text{V}$		30pF	50pF
Peak clamp voltage	$V_{\text{IN}} = \pm 13\text{KV}$ 100pF thru 1.5K Ω	$V_N - 32\text{V}$		$V_P + 32\text{V}$
Number of ESD pulses per input	$V_{\text{IN}} = \pm 13\text{KV}$ 100pF thru 1.5K Ω	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	