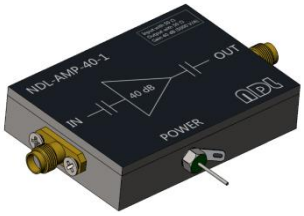
新器件实验室
Novel Device Laboratory



NDL – Preamplifiers

Introductions

SiPM has become increasingly popular in high-energy physics, nuclear medicine and other fields involving low-level-light detection. The detector requires low-noise preamplifier to maximize the signal coupling between the sensor and the readout electronics. The NDL developed a low-noise transimpedance amplifier sensitive to single-photon signals. The main advantages of NDL Preamplifiers are as follows:

- **Single Power Supply**
- **High Speed and Ultra-low noise**
- **Cost Effective**
- **Impedance Match**
- **Compatible with Most Commercial SiPMs**
- **Compact Structure and Convenient to Use**

Specifications

Parameter	NDL-AMP-40-1	NDL-AMP-20-2
Supply Voltage(Vs)	5 V (2.7 V ~ 5.5 V)	5 V (2.7 V ~ 5.5 V)
Supply Current	30 mA	30 mA
Gain	40 dB (5000 V/A)	20 dB (500 V/A)
Bandwidth (3dB)	330 MHz	680 MHz
Output Max Peak-Peak Voltage	1 V	1 V
Input/Output Impedance	50 Ω	50 Ω
Number of Channels	1 ch	2 ch
Input/Output Connector	SMA	SMA
Power Supply Jack	Feedthru Capacitor	SMA
Operating Temperature Range	-40 °C - 125 °C	-40 ℃ - 125 ℃

Test Conditions: Vs = 5 V, Temperature = 20 °C, Load Impedance = 50 Ω.

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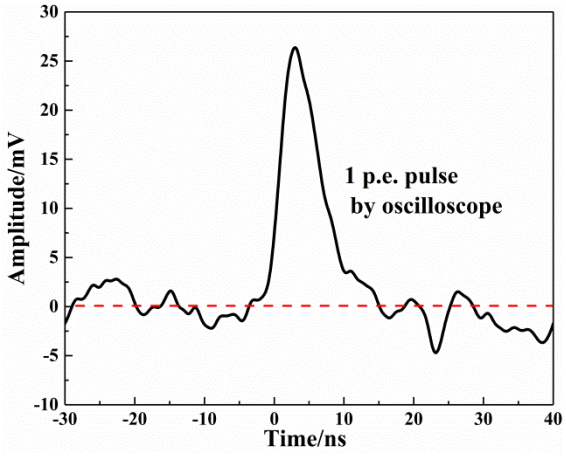
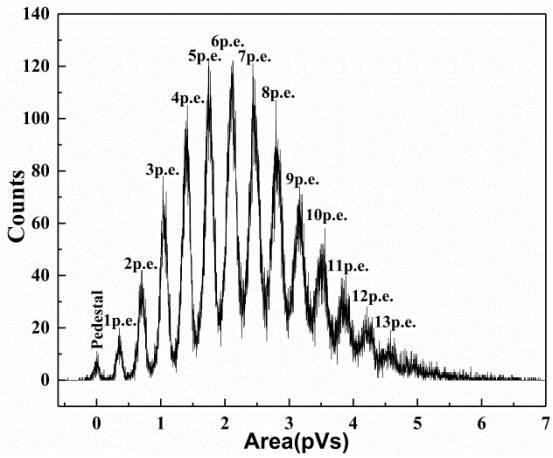
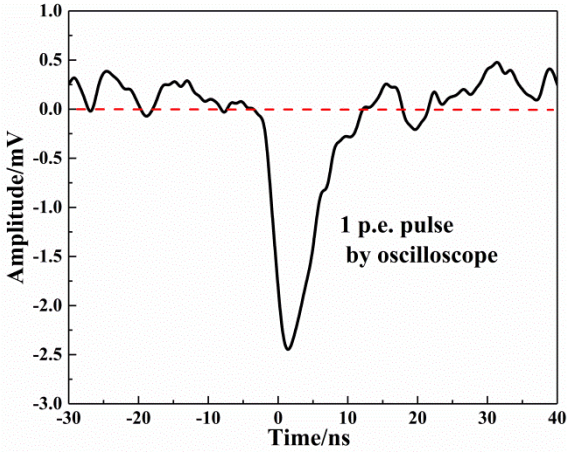
Characteristic Curves

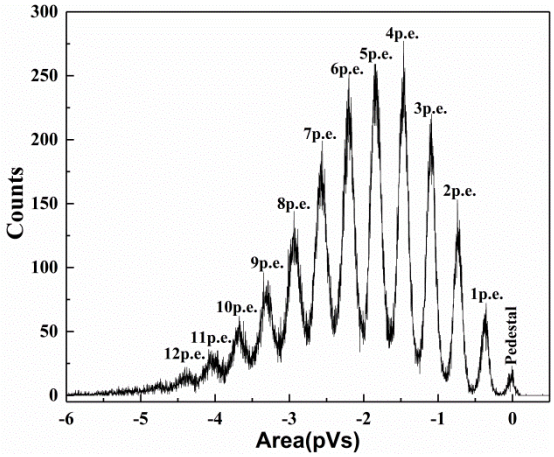
NDL - AMP - 40 - 1





NDL - AMP -20 - 2





Test Conditions: NDL SiPM 11-3030C-T at overvoltage=5 V， Vs = 5 V, Temp.=20 °C, Load Impedance = 50 Ω.

Dimensional outlines (unit: mm)

NDL - AMP - 40 - 1	NDL - AMP - 20 - 2