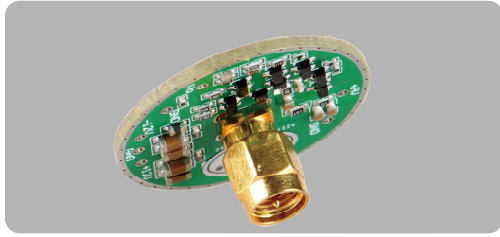


### 1. Overview



The EP-AP5105G low noise charge sensitive preamplifier is a preamplifier for semiconductor detectors designed and manufactured using discrete components. The charge sensitive preamplifier works on the basis of RC discharge and resistive-capacitive coupling, and can be matched with small-area and large-area semiconductor detectors such as PIPS and gold-silicon surface barriers, etc. It has a compact size and is easy to be embedded in different applications, and can be widely used in on-line radioactivity aerosol monitors, radon detectors, fission debris meters and other applications.

### 2. Performance parameter

▶ Dimensions	.....	33Φ×18H mm after adding SMA connector
▶ Power supply	.....	±12V Dual power input
▶ Output Signal Dynamic Range	.....	±10V MAX
▶ Output signal polarity	.....	opposite to the input signal
▶ Signal Gain	.....	200mV/MeV
▶ Rising time	.....	<60ns
▶ Signal output	.....	Exponential pulse signal
▶ Input stage	.....	Built-in field effect tube
▶ Input coupling method	.....	AC coupling
▶ High voltage input	.....	0~+500V input, adjusted according to the detector
▶ Integral nonlinearity	.....	0.01% when the output signal is between -2V~+2V
▶ Operating temperature	.....	-20 C to +60 C, relative humidity 5% to 60%

### 3. Electromechanical interface

▶ Power supply interface	.....	Pad soldering on PCB
▶ High voltage power supply	.....	Pad soldering on PCB
▶ Detector interface	.....	Standard SMA male chassis (other interfaces can be customized)

### 4. Performance testing

The following figure shows the raw waveform signal of <sup>238</sup>Pu measured by EP-AP5105 matched with EP-300FD type PIPS.

● Figure 2 <sup>238</sup>Pu raw waveform

