

A101

A101 is a Spectroscopy amplifier with a NIM1 width. It adopts an active filter method for waveform shaping, bringing it closer to the ideal Gaussian shaping. The amplifier uses a discrete amplification circuit with the latest low-noise FETs, achieving an input noise characteristic of less than 5  $\mu$ V. Additionally, it features an active-gated baseline restoration, making it suitable for measurements at high count rates. A101 is particularly capable of achieving excellent resolution and linearity when used in measurements with HPGe semiconductor detectors.

Features

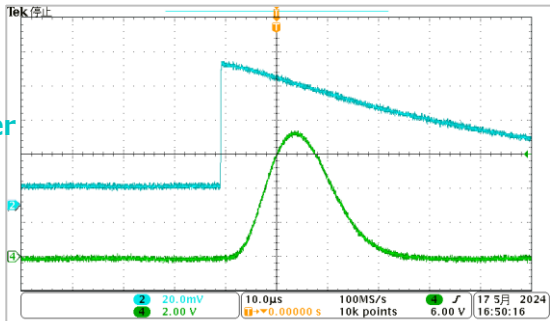
Gain Range	$\times 1 \sim 1500$
Waveform shaping	Semi-Gaussian Shaping Peaking Time $2.2\tau$ , Pulse width $6\tau$
Noise Characteristic	Input equivalent noise less than 5 $\mu$ V Gain $\geq 100$ at 2 $\mu$ s.
Integral Nonlinearity	$< \pm 0.05\%$ 2 $\mu$ sST
Baseline Restoration	Active Gated Auto-threshold Method
High Count Rate Characteristics	Peak width spread up to 15%, at 2 $\mu$ s, with an input count rate of 50 kcps.

Specifications

Input Polarity	POS / NEG
Attenuator	$\times 0.1 / \times 1.0$ Switching via internal board jumper
COARSE GAIN	$\times 20 / \times 50 / \times 100 / \times 200 / \times 500 / \times 1K$
FINE GAIN	$\times 0.5 \sim \times 1.5$
PZ ADJ	Pole-zero Adjustment, 40 $\mu$ s $\sim\infty$
DC	$\pm 40$ mV
Shaping Time	0.5/ 1/ 2/ 3/ 6/ 10 $\mu$ s
Input Characteristics	Range: $\pm 1.5$ V, Input impedance: 1 k $\Omega$
Output Characteristics	Positive polarity unipolar 0-10V, drive current $\pm 100$ mA
BUSY OUT	TTL Output
Preamplifier power supply	D-Sub 9, $\pm 12$ V, $\pm 24$ V (compliant with NIM standards)
Power consumption	+12V (160mA) +24V (40mA), -24V (40mA)
Dimensions weight	NIM1 width 34(W) x 221(H) x 249(D) mm, Approximately 975g

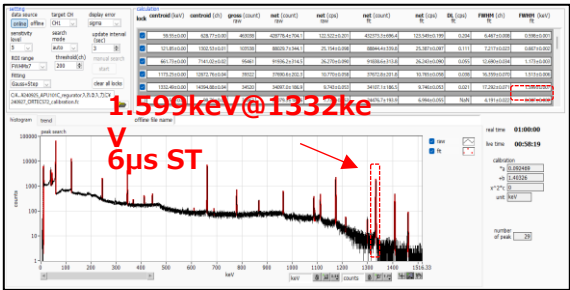
Input: Preamplifier output signal

Output: Semi-Gaussian shaping

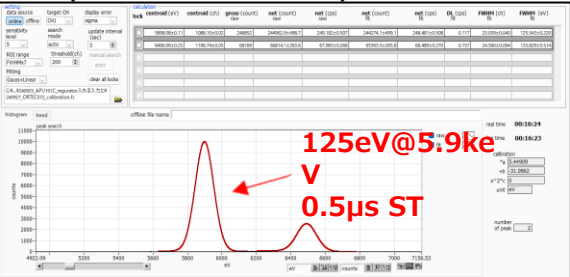


Rear

HPGe semiconductor detector



SDD (Silicon Drift Detector)



\*Images is for illustration purpose.  
\*Please note that contents may change without prior notice.

