

Octal Constant Fraction Differential Discriminator APN408

MADE IN JAPAN

Equipped with 8ch 24bit counter, USB communication function

NIM

APN408 has a differential type CF (Constant-Fraction) discriminator of 8 ch which convert analog input pulse to logic pulse at two thresholds. APN408 can be a simplified pulse-amplitude analysis by the combination of built-in counter.

- **Input channel** 8 ch
- **Input** 0 ~ -5V
- **Time walk** $\leq \pm 75\text{ps}$
- **Shaping delay** 1ns / 2ns / 5ns / 10ns
- **Blocking** 10ns \leq Block time \leq 400ns
- **Functional pulse count** 100MHz 24bit counter 8 ch
- **Output** Negative Fast-NIM/Differential ECL

Overview

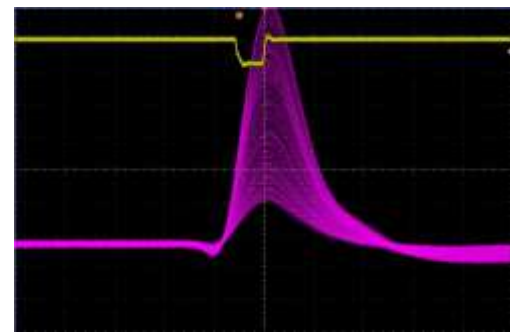
The CF discriminator improve detected signal of time resolution, because the amplitude distribution of input pulse doesn't influence to peak position and output of discrimination of time lag. This property is especially effective to discriminate a slow signal of rise. The input signal of dynamic range (100 : 1) obtained the discrimination output of jitter $\pm 75\text{ps}$ or less. The input signal is a negative timing pulse signal from 0 to -5V. The delay (1 / 2 / 5 / 10ns) selectable for input signal. The delay can also be a combination of other time at options. The UL/LL discrimination level and block time configure from connected PC by USB connection. The walk level is adjusted automatically. The logic pulse output to outside by Negative Fast-NIM or Differential ECL.



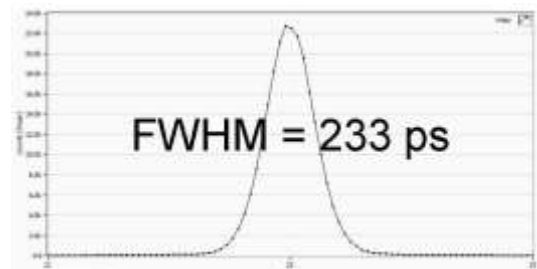
APN408 (Front) APN408 (Rear)

Specifications

Input channel	8 ch
Input	0 ~ -5V
Discriminator (UL / LL) range	0 ~ -4V
Time walk	$\leq \pm 75\text{ps}$
Shaping delay	1ns / 2ns / 5ns / 10ns (standard)
Blocking	10ns \leq Block time \leq 400ns
Output	Negative Fast-NIM/Differential ECL (Ch1~8/Common OR)
Functional pulse count	100MHz 24bit counter 8ch
Control input	Gate/Veto (each 1 point TTL level)
Interface	USB2.0 (Mini-B USB receptacle 2m)
Power supply	+12V or +24V (6W : The selection by inside switch), -24V (16W)
External dimensions	NIM-standard single-width module
Weight	About 1,000g
Environmental condition	Operating temperature: 0 to 40 °C, No dew condensation
PC application	ULD / LLD / Block time / Counter control
PC requires	Operating systems: Windows 7 (32bit/64bit) / Vista / XP (SP3)



waveform
(Upper: NIM Pulse, Lower: CFD monitor)



Histogram
LaBr₃(Ce) scintillator vs LaBr₃(Ce) scintillator

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

TechnoAP

Design and fabrication of electronic circuit associated with measurement control and radiation measurement

TechnoAP Co., Ltd.

+81-29-350-8011

+81-29-352-9013

2976-15 Mawatari, Hitachinaka-shi, Ibaraki, 312-0012, Japan

<http://www.techno-ap.com>

order@techno-ap.com

Updated on 2017/03/29