GFT7021

40ps to 250ps Pulse Generator

Features

- Generate short pulses:
  - 40 ps to 250 ps tunable width (step of 1 ps)
  - >2 V amplitude into 50 Ω
- External clock: Repetition rate up to 3 GHz
- Operate from 110 / 220 V

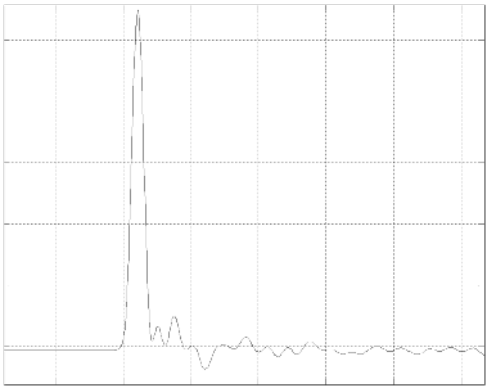
Applications

- Driving LN modulator
- RF comb source
- Semiconductor device testing
- Time calibration of instrument

GFT7021

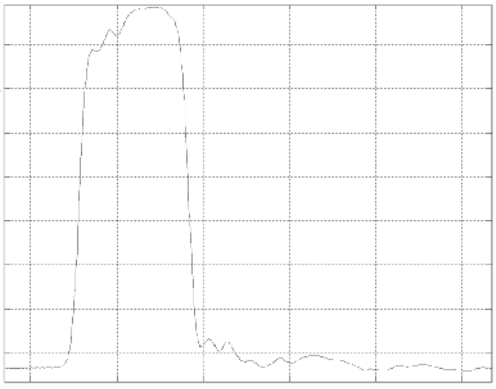
Description

GFT7021 is an external clock triggered short pulse generator. This compact module delivers up to 2 V under 50 Ω, 40 ps to 250 ps width pulses.



(0.4 V/div, 0.2 ns/div)

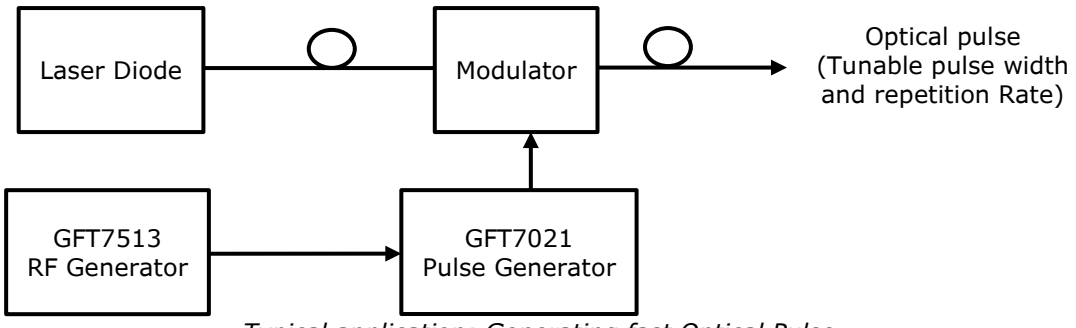
40ps width (FWHM), 2.22V Amplitude



(0.4 V/div, 0.2 ns/div)

273 ps width (FWHM) 3.262 V Amplitude

GFT7021 is ideal solution for generating fast Rise-Time optical pulses by driving LN modulators. The pulse width is simple adjust between 40 to 250 ps thanks to a mechanical knob.



Typical application: Generating fast Optical Pulse

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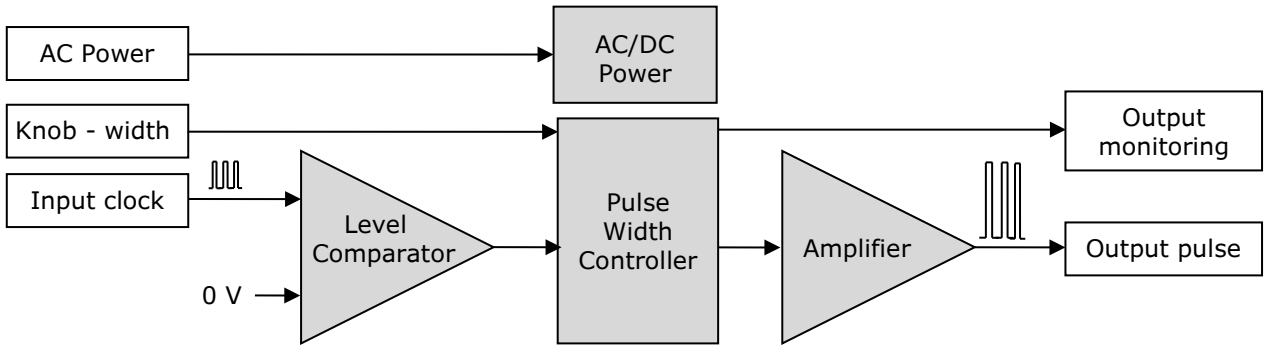
Specifications

Input Clock	
Signal Shape	Sine or Square
Sensitivity	> -20 dBm
Internal termination	50 Ω
Threshold	+ 0 V
Repetition rate	1 MHz to 3 GHz
Connector	SMA
Output pulse	
Pulse shape	Impulse
Width (FWHM)	Tunable 40 ps to 250 ps continuously with the knob (resolution << 1 ps)
Rise Time	< 30 ps
Amplitude	> 2 V pp into 50 Ω
Frequency stability	10 ppm (additive)
Insertion Delay	< 5 ns
Jitter RMS	< 2 ps
Connector	K – compatible SMA
Output Monitoring	
Amplitude	400 mV / 50 Ω
Width	40 ps to 250 ps
Connector	K – compatible SMA
General	
Size (W x H x D)	270 mm x 82 mm x 202 mm
Power Supply	AC 90 to 240 V / 10 W max

Functional Overview

Block diagram

GFT7021 includes the X following functions: a level comparator, a pulse width controller, an amplifier and an AC/DC power:



Block diagram

Level Comparator

The “Level Comparator” allows to detect the rising edge of the input clock to trigger the programmable width controller.

Pulse Width Controller

The “Pulse Width Controller” calibrates the width of the output pulse. Value of the width may be adjusted with the front panel knob.

Amplifier

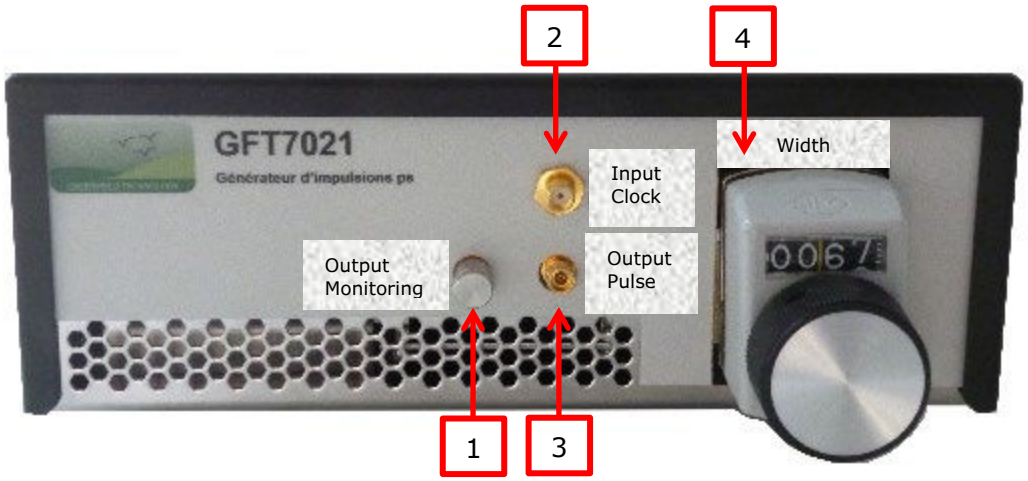
The high speed “Amplifier” calibrates the amplitude of the output pulse. This amplifier is specially designed to drive an external 50 Ω load.

AC/DC power

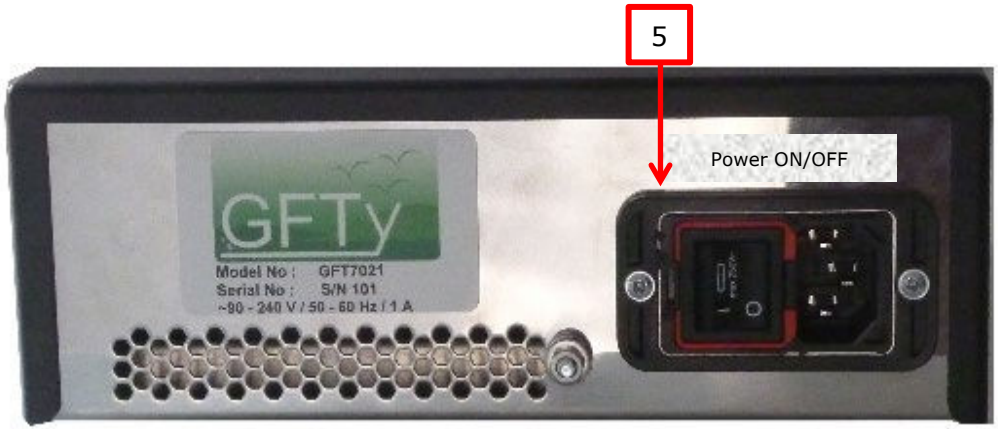
The “AC/DC power” convert the AC voltage to the DC voltage.

Product Interface

Front Panel



Rear Panel



Interface

Front Panel		Rear Panel	
Connectors		**Switch**	
1	Output Pulse: K connector	5	Power ON /OFF switch: AC power plug (90 – 240 V)
2	Input clock: SMA connector		
3	Output Monitoring: K connector		
Switch			
4	Knob: Tune Pulse Width		

Ordering Information

Model	Description
GFT7021	Base version: 40ps to 250 ps Pulse Generator

Ordering example: GFT7021 (model GFT7021)