



GFT4218

8 fast High Voltage Pulse Generator

Features

- 8 simultaneous high voltage pulses with 20 ps RMS jitter
 - 4 output pulses are
 - + 100V amplitude
 - 6 ns Rise time under 50 Ω
 - 125 ns fixed width
 - 4 output pulses are
 - -100 V amplitude
 - 6 ns Fall time under 50 Ω
 - 125 ns fixed width
- External trigger
- Trigger out
- cPCI, 6U, 1 slot, compact packaging

Applications

- Components Test
- Automated Test Equipment (ATE)
- System Laser Timing Control
- Multichannel Application
- High Voltage Pulse Application
- Physics Application



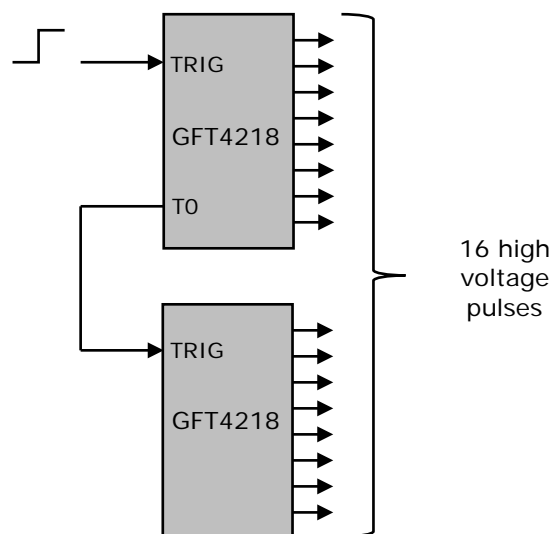
Description

The GFT4218 is an external triggered high Voltage Generator. It provides eight simultaneous high voltage pulse with an output to output jitter less than 25 ps.

Lemo outputs connector deliver 100 V level, 5 ns rise time under 50 Ω . IN option output pulse amplitude can be up to 200 V.

One input channel is used to trigger off all the output channels.

One T0 Output is used to mark zero delay. This output can also allow to synchronize several GFT4218 High Voltage Pulse generator by daisy chaining several modules. (See below two daisy chained modules example).



Two synchronized GFT4218 Generators



GFT4218

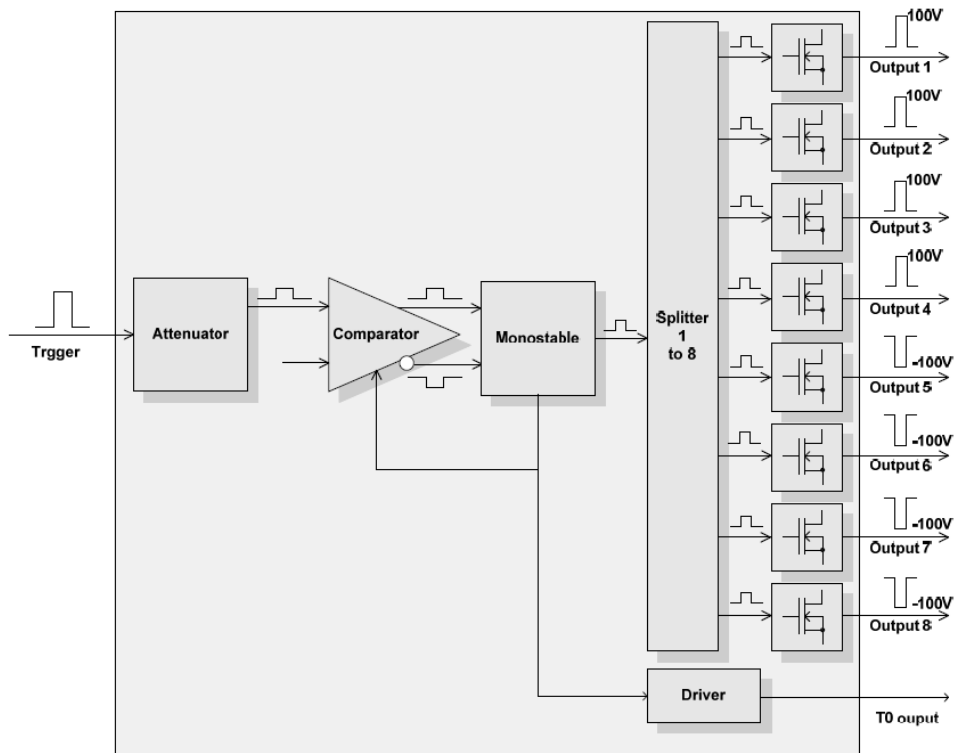
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Specifications

Trigger Input	
Threshold	+ 1 V
Slope	Positive
Impedance	50 Ω
Max input voltage	50 V
Repetition rate	< 1 kHz
Trigger Delay	< 15 ns (insertion delay)
High Voltage Outputs	
Number	8 simultaneous outputs
RMS jitter	< 20 ps rms (T0 to any output)
Repetition Rate	< 1 kHz
Drift	< 20 ps / °C
Amplitude output T1 to T4	+100 V
Amplitude Output T5 to T8	-100 V
Load	50 Ω
Rise time / Fall time	< 6 ns
Skew	< 1 ns
Fixed Width	125 ns typ. (100 ns min, 150 ns max)
Connector	LEMO
T0 Output	
Amplitude	3 V
Load	50 Ω
Rise time	< 5 ns
General	
Size	cPCI, 6U, 1 slot
Power	+3.3 V, + 5 V, +12 V, - 12 V
Options 1	
Fixed amplitude output 30 to 200 V (ajusted in factory)	

Functional Overview

Block Diagram



Operating

A rising edge on external Trigger Input starts the generator.

After an insertion delay a pulse appears on each output channel and T0 output.

Comparator and monostable

Comparator allows to detect the rising edge of the input pulse and the monostable allows to calibrate the width of the Output pulses.

Splitter 1 to 8

A high speed digital splitter distributes the calibrate pulse to the 8 outputs amplifiers.

Outputs

- T1 to T4 Outputs provide a +100 V amplitude positive pulse
- T5 to T8 Outputs provide a -100 V amplitude negative pulse

The outputs are designed to drive an external 50 Ω load.

The skew between all outputs are below 1ns

- T0 Output is low level and mark zero delay to Outputs.



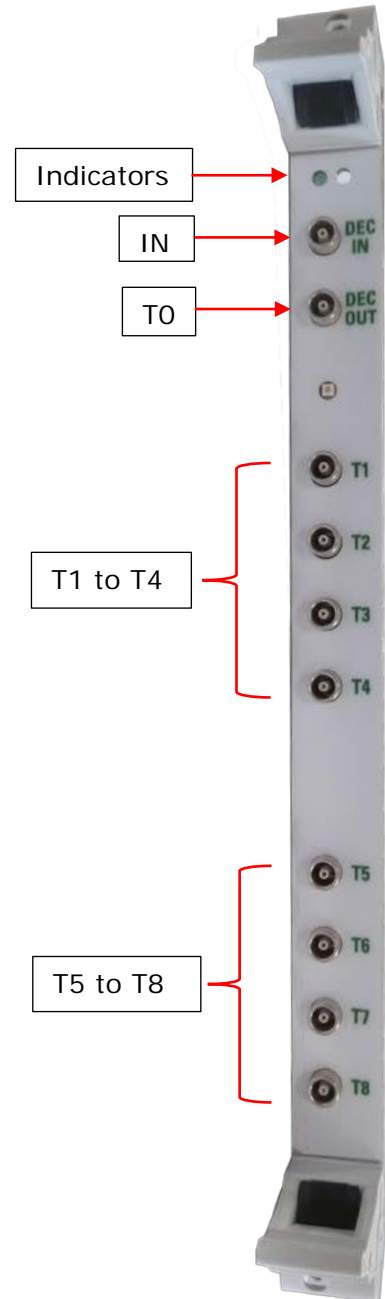
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Front and Rear Panel

Connectors, Indicators

Front Panel	
<i>Indicators</i>	
GREEN	Flick at same rate as Input trigger
RED	Lights when power is ON
<i>Connectors</i>	
IN	Input trigger: Lemo connector
T0	T0 output: Lemo connector
T1 to T4	Outputs pulse amplitude = +100 V: Lemo connector
T5 to T8	Outputs pulse amplitude = -100 V : Lemo connector
REAR Panel	
Interface	PCI bus: cPCI connector



Ordering information

Model	Description
GFT4218	High Voltage Pulse generator base version
GFT4218-1	High Voltage Pulse generator with option 1