

FASTPULSE TECHNOLOGY, INC.

LASERMETRICS® Division

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MODEL 8025RS & 8025RS-H

HIGH VOLTAGE PULSE GENERATORS

The 8025RS & 8025RSH Variable Width High Voltage Pulse Generators utilize highly reliable MOSFET, solid state elements to provide adjustable width, high voltage pulses with fast, symmetrical rise and fall times. The instruments are useful with electro-optic light modulators such as Lasermetrics' Series 1040, 1050, 1145, 1147 and 1150 Pockels cells in many applications: laser pulse gating/picking, slicing, and shaping; and Q-Switching with post-lasing suppression. These instruments are also compatible with other low capacitance, two terminal devices such as piezoelectric transducers.

The 8025RS Series employs a differential high voltage MOSFET switching amplifier which is triggered from an external event or synchronizing signal. Two trigger inputs are available: a high level 300 Ohm, 5 to 24 volt input; and a 50 Ohm, 5 volt, TTL compatible input with selectable polarity.

The 8025RS Series provides output voltages which are adjustable by means of a front panel control or analog input voltage and meter. Output pulse voltage is insensitive to trigger voltage amplitude. An output pulse will be generated when the trigger voltage exceeds the minimum level specified to activate the input circuits. Duty cycles >90% are available.

Over the full range of delays and pulse widths, rise and fall times are maintained at less than 15 nanoseconds for output pulse amplitudes greater than 1.0 kV.



RoHS 

Two modes of operation are available:

DIRECT mode: internal delay and pulse width functions are disabled and the output pulse width follows the width of the input trigger pulse. Pulse width range in the DIRECT mode is from about 50 nsec to infinity. Pulse width can be changed from pulse to pulse.

SELECT mode: an output pulse is activated by the leading edge of the trigger pulse. When set to the SELECT mode, a front panel adjustable in/out delay enables the user to delay the occurrence of the output pulse and select where, in the optical pulse, slicing, gating, or Q-switching occurs. Output pulse widths are continuously adjustable from less than 0.1 microsec. to 999.9 microsec.

Both models include the "VC" option for external analog control of the output high voltage.

Nominal Specifications	8025RS	8025RS-H
Voltage Range, Output Pulse	1 kV to 5 kV	1 kV to 4 kV
Pulse Repetition Frequency, Max.	500 pps	1000 pps
VC Control Voltage Ratio	1 Volt in per 500 Volts Out	
Delay Range, Input-Output – SELECT	100 ns to ~ 999.9 microsec in 3 ranges	
Output Pulse Width Range – SELECT	100 ns to ~ 999.9 microsec in 3 ranges	
Intrinsic Delay, Input-Output – DIRECT	< 80 ns	
Delay Range, Input-Output – DIRECT	< 80 ns to infinity – Externally Controlled	
Output Pulse Width Range – DIRECT	~ 50 ns to infinity – Externally Controlled	
Output Rise and Fall Times $t_r = t_f$	< 15 ns	
Jitter (Input to Output)	< 3 ns	
Jitter (Pulse Width)	< 3 ns	
Power Requirements	115/230 Volts, 50/60 Hz, 60 Watts	
Cabinet Dimensions, Rack Mountable	19" W x 4.75" H x 17" D (3U Size)	
Weight, nominal	22 lbs (10 kg)	