



*The Pulse Of The Future*

## DEI HV1000 Pulse Generator

- Output Voltage > 850V
- Output Current > 17A
- Rise Time < 7ns at 850V
- Minimum Pulse Width < 55ns
- Pulse Width, Amplitude and Frequency Agile

General Information

Specifications and Output Wave Forms

Product Photo

### General Information

The HV1000 Pulser is a state-of-the-art high frequency, high power module designed to address numerous applications that require very fast and clean high voltage or current pulses such as driving laser diodes, instrument calibration, component testing, beam steering and gating PMTs and MCPs.

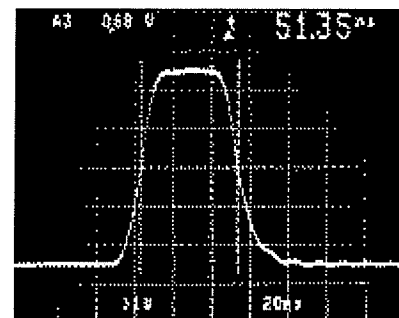
The versatile and economical HV1000 features DEI's patented FAST POWER® MOSFET as the high voltage switch.

Designed to operate into a load impedance of 50 Ohms, the HV1000 requires an external high voltage DC supply (950V maximum) and a gate signal. The output pulse width and frequency are controlled by the gate signal. The unit is available in either positive or negative polarity.

### Specifications and Output Wave Forms

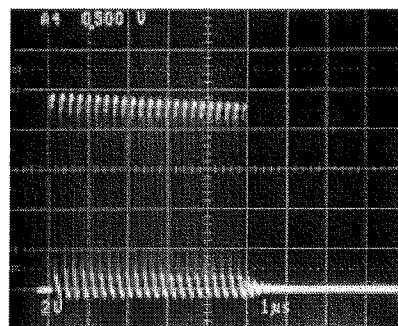
#### Specifications Measured into 50 Ohms

Output	
Maximum Value	850 volts
Minimum Value	0 volts
Maximum Current	17 amperes (850V/50 Ohms)
Means of Adjustment	Controlled by input high voltage
Connector Type	BNC, side panel



<b>High Voltage Input</b>	
Maximum Value	950 volts DC
Minimum Value	0 volts DC
Connector Type	Type N, side panel
<b>Output Pulse Characteristics</b>	
Pulse Rise Time	Negative Polarity: 6ns @ 850V (10-90%) Positive Polarity: 10ns @850V (10-90%)
Pulse Width	55ns to 10µs, controlled by input trigger
Pulse Recurrence Frequency	Single shot to 1MHz, 5MHz burst, controlled by input trigger
Over/undershoot	< 5%
Jitter	< 100ps shot-to-shot
Delay Between Gate and Output Pulse	< 40ns
<b>Gate</b>	
Gate Source	External
Gate Input	+5V ±1V into 50 Ohms
Gate Rise Time	< 6ns
Connector Type	BNC, side panel
<b>General</b>	
Input AC Power	110/220VAC 50/60Hz, factory set
Dimensions:	8.32"L x 4.22"W x 1.72"D
Weight:	Approximately 3.5lbs
Specifications subject to change without notice.	
<b>Ordering:</b> HV1000 is the part number and description. Output polarity is factory set. When ordering, please specify positive or negative polarity and AC line voltage.	
<b>Note:</b> The user controls the voltage on the external power supply, therefore proper precautions must be taken by the user not to exceed the maximum 950V input voltage rating. The user must take proper precautions to avoid short circuits in the output. The extremely fast speed of the MOSFET switch in the HV1000 precludes the use of conventional current sensing/feedback loop short circuit protection.	

Minimum Pulse Width, 20ns/div, Vin=950V, RL = 50 Ohms



4.5 MHz Burst; 900V into 50 Ohms

**Speed, Power, Frequency**

Vin	Vout	tr(Neg)	tr(Pos)	I(out)	P(Peak)	Duty Cycle (Max)
105V	100V	3ns	5ns	2.0A	0.20KW	10%
525V	475V	4ns	7ns	9.5A	4.50KW	4%
950V	850V	5ns	10ns	17.0A	14.5KW	1%

**Pulse Droop**

(All measurements into 50 Ohms)

Vin	Pulse Width	Percentage Droop
950V	1.0µs	3.0%
950V	10.0µs	24.0%
525V	1.0µs	1.5%
525V	10.0µs	16.0%
105V	1.0µs	<0.5%
105V	10.0µs	7.0%

**Product Photo**




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