

# High Voltage EO Modulator Driver

(up to  $\pm 400V$ )



DATASHEET

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## Features

- $\pm 400 V$  High Voltage
- 10ns Rise/Fall
- Analog Response

## Applications

- EO Device Control

The HVED Series Analog High Voltage Drivers provides up to  $\pm 200 V$  with 1 MHz bandwidth or  $\pm 400 V$  with 0.5 MHz bandwidth, ideal for driving non-resonant EO phase modulators to modulate optical signals at wavelengths up to 1060 nm. A polarity alternation feature minimizes charge buildup from photorefractive effects, particularly at shorter wavelengths and higher power.

The drivers include an adjustable DC bias up to 50 V for precise performance tuning. For example, with a sweep range of -200 V to +200 V and a 10 V DC bias, the output shifts to -190 V to +200 V (clipping the positive side), while a range of -100 V to +100 V adjusts to -90 V to +110 V. This bias flexibility allows precise control, optimizing electro-optic device functionality.

For amplitude modulation, polarized light is essential because the modulation process relies on controlling the intensity of light based on its polarization state. By incorporating input and output polarizers, the extinction ratio (ER) of the device is significantly improved.

## Specifications

Parameter	Min	Typical	Max	Unit
Output Voltage	0	$\pm 220$	$\pm 400$	V
Rise/Fall Time <sup>[1]</sup>		7	10	ns
Bias Voltage	0		50	V
Delay Time			200	ns
Repetition Rate		0.5	1 <sup>[4]</sup>	MHz
Pulse Jitter	1		20	ps
Operating Temperature	-5		40	$^{\circ}C$
Power Input	100		240	ACV
Power Consumption			10	W
Control Input	0		5	V
Humidity 90%		noncondensing		
Storage Temperature	-40		85	$^{\circ}C$

### Notes:

[1]. At 10-90% level. Also affect by amplitude and capacitor load. For 400V output, 0.5MHz repetition rate

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### Mechanical Footprint Dimensions (mm)

\*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

### Ordering Information

Prefix	Max Voltage	Package	Configuration	Repetition *
HVED-	$\pm 220V = 22$ $\pm 400V = 44$ Special = 00	Benchttop = 1 PCB = 2 Special = 0	Standard = 1 Special = 0	1MHz = 1 0.5MHz = 2 Special = 0

\* 1MHz only available for 220V version