

High Voltage EO Modulator Driver

(up to $\pm 400\text{V}$)



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Features

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

Applications

- EO Device Control

The HVED Series Analog High Voltage Drivers provides up to $\pm 200\text{ V}$ with 1 MHz bandwidth or $\pm 400\text{ V}$ 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.

Specifications

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

Notes:

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

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Rev 01/17/25

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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 | Benchtop = 1 PCB = 2 Special = 0 | Standard = 1 Special = 0 | 1MHz = 1 0.5MHz = 2 Special = 0 |

*1MHz only available for 220V version