

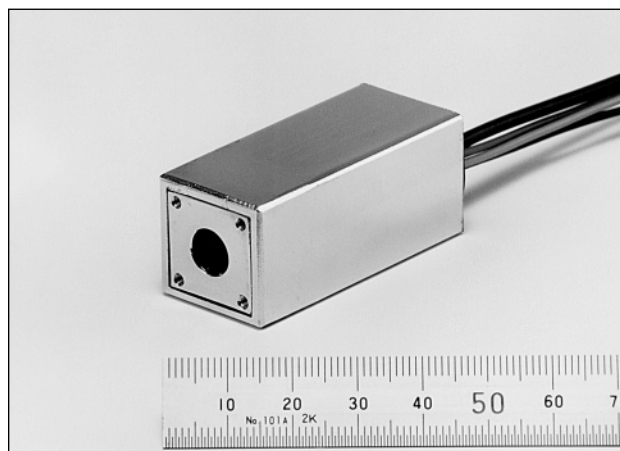
PRELIMINARY

UV LASER SENSOR MODULE

H8496, H8497 series

OVER VIEW

UV Laser Sensor Modules provide high sensitivity in the VUV to UV region. Excellent solar blind characteristics eliminate the need for visual cut-off filters, thus extending the service life of the module. The phototube is assembled in a compact, easy-to-use TO-8 style package, along with a high voltage power supply that operates by low voltage input. The H8497 further incorporates an amplifier for voltage output.



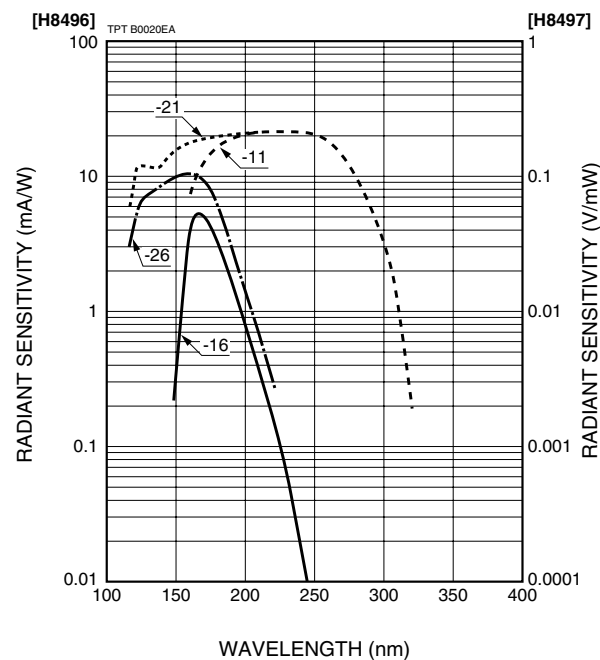
FEATURES

- Solar Blind
- Compact
- Low Voltage Operation
- High Sensitivity in VUV Range
- High Speed Response
- High Stability

APPLICATIONS

- UV Laser Monitor
 - Excimer laser
 - YAG laser (4 ω : 266 nm, 5 ω : 213 nm)
- Excimer Lamp Monitor
- Mercury Lamp Monitor

Spectral Response



HAMAMATSU

SELECTION GUIDE

●GENERAL

Parameter		-11	-16	-21	-26	Unit
Spectral Response		160 to 320	160 to 220	115 to 320	115 to 220	nm
Wavelength of Maximum Response		200	170	200	160	nm
Photocathode	Material	Cs-Te	Diamond	Cs-Te	Diamond	—
	Minimum Effective Area	φ8	φ6	φ8	φ6	mm
Window Material		Synthetic silica	Synthetic silica	MgF ₂	MgF ₂	—
Weight		Approx. 75				g

●H8496 series Current output type (without an amplifier)

H8497 series Voltage output type (with an amplifier)

MAXIMUM RATINGS (Absolute Maximum Values)

●H8496

Parameter		-11	-16	-21	-26	Unit
Supply Voltage		+16				V dc
Peak Output Current		60				mA
Average Output Current		40				μA
Excimer Laser Measurement Range F ₂ Laser ^(A)	Peak Power	—	—	3.3	6	W
	Pulse Energy	—	—	33	60	nJ
Ambient Temperature	Operating	+5 to +40				°C
	Storage	-20 to +50				°C

NOTE: (A) Wavelength: 157 nm, Pulse width: 10 ns, Frequency: 1 kHz

●H8497

Parameter		-11	-16	-21	-26	Unit
Supply Voltage		±16				V dc
Peak Output Voltage ^(B)		5				V
Average Output Voltage ^(C)		0.4				V
Ambient Temperature	Operating	+5 to +40				°C
	Storage	-20 to +50				°C

NOTE: (B) At input light pulse width: 800 ns

(C) CW light input

SPECIFICATIONS

●H8496

Parameter		-11	-16	-21	-26	Unit
Radiant Sensitivity ^(D) (Typ.)		22	5	22	10	mA/W
Rise Time		450				ps
Dark Current (Max.)		10				pA
Output Signal Polarity		positive				—
Recommended Operating Voltage		+11.5 to +15.5				V

NOTE: (D) At maximum response wavelength

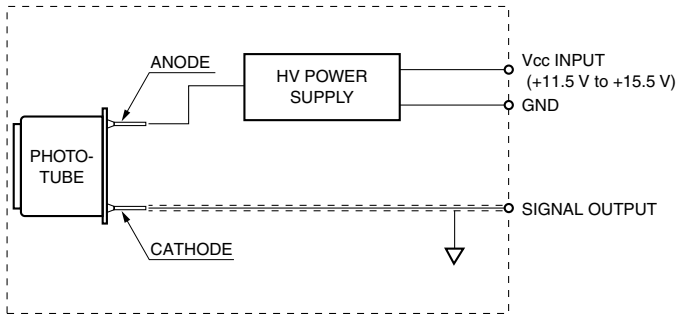
●H8497

Parameter		-11	-16	-21	-26	Unit
Radiant Sensitivity ^(E) (Typ.)		0.22	0.05	0.22	0.10	V/mW
Offset Voltage (Max.)		10				mV
Current Voltage Conversion Factor		0.01				V/μA
Frequency Bandwidth		0 to 1 MHz				—
Output Signal Polarity		positive				—
Recommended Operating Voltage		±11.5 to ±15.5				V

NOTE: (E) At maximum response wavelength and CW light input

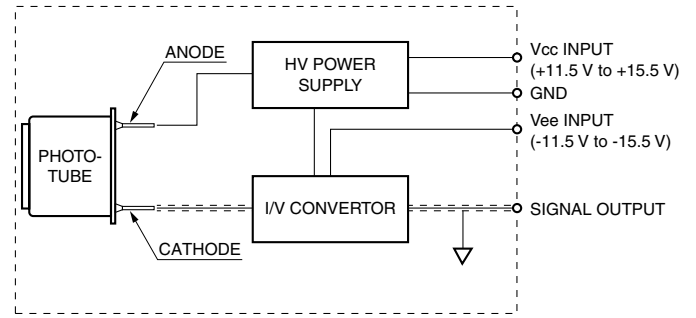
INTERNAL DIAGRAM

●H8496



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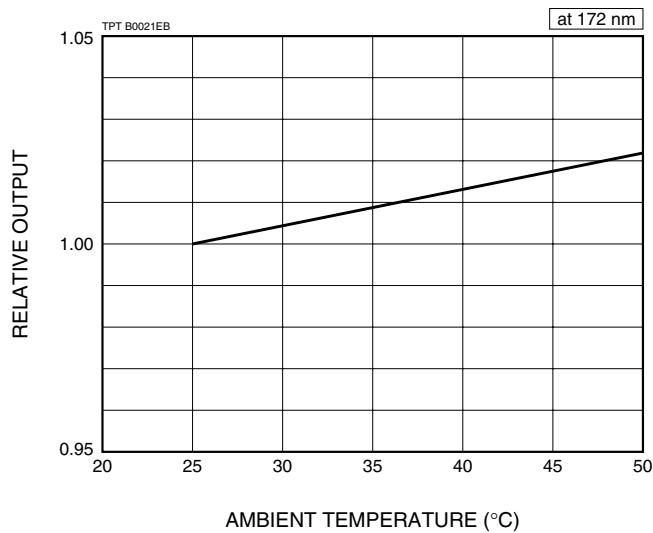
●H8497



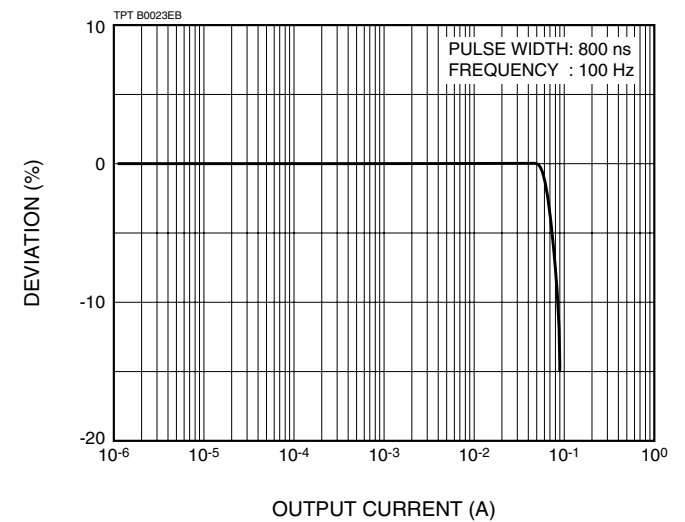
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CHARACTERISTICS

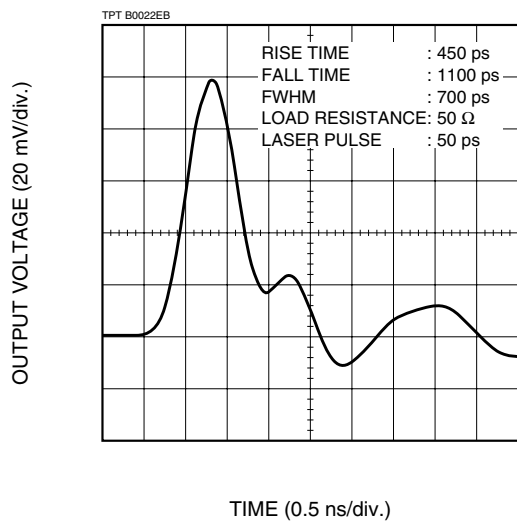
●Temperature Characteristics (Diamond Photocathode)



●Pulse Linearity (H8496)

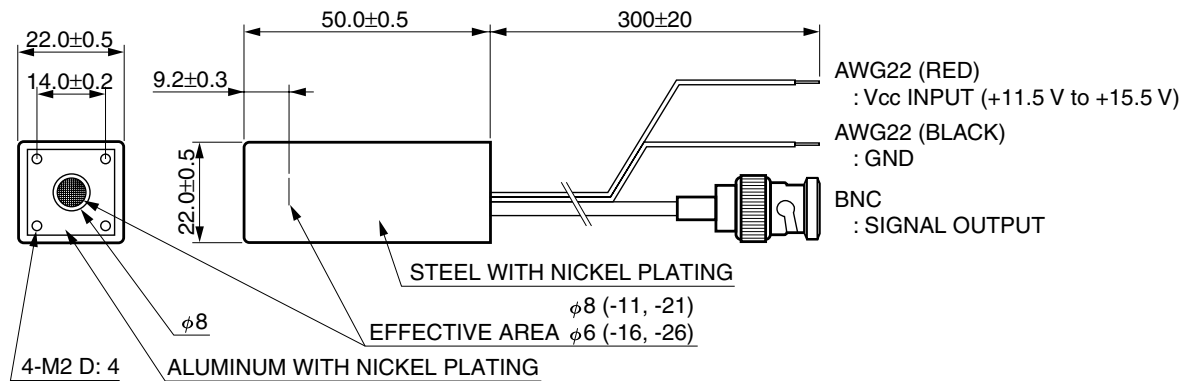


●Output Waveform (H8496)



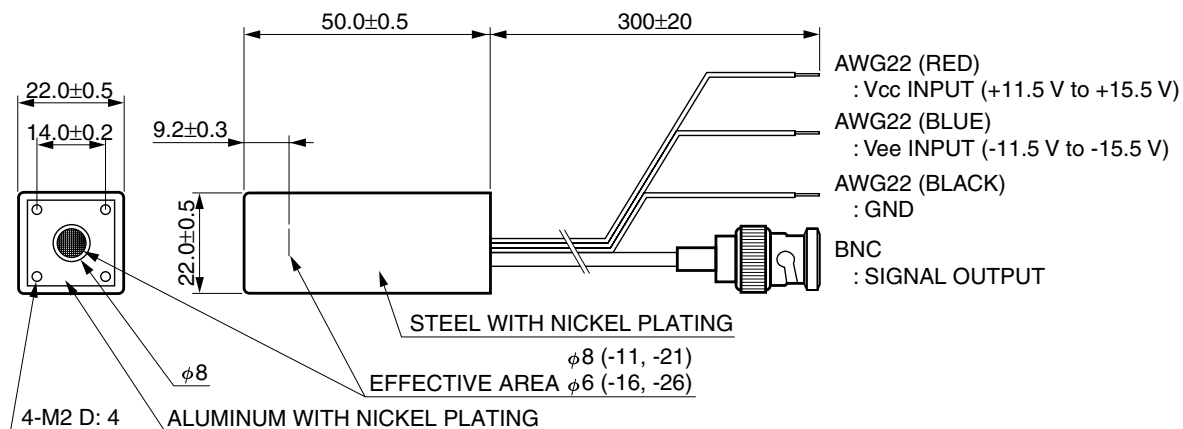
DIMENSIONAL OUTLINE (Unit: mm)

H8496



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H8497



TPT A0028EA

Handling precautions

- Operate below 10^{-1} Pa condition or under atmospheric pressure.
- Protect wires from UV light. UV light will degrade wires.

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