

# Head-on PMT

## Photosensor Modules H10425 Series



The H10425 series is a photosensor module containing a 25-mm (1") diameter head-on photomultiplier tube and a high-voltage power supply. It has a photosensitive area as large as 22 mm in diameter and also features a fast time response.

Two products, one with a bialkali photocathode and one with a multialkali photocathode, are provided.

### Product Variations

Type No.	Spectral Response	Features
H10425	300 nm to 650 nm	For visible range
H10425-01	300 nm to 850 nm	For visible to near IR range

This product can't be used at vacuum environment or reduced pressure environment.

### Specifications

(at +25 °C)

Parameter		H10425	H10425-01	Unit	
Input Voltage		+11.5 to +15.5		V	
Max. Input Voltage		+18		V	
Max. Input Current *1		3.0		mA	
Max. Output Signal Current		100		μA	
Max. Control Voltage		+1.2 (Input impedance 1 MΩ)		V	
Recommended Control Voltage Adjustment Range *2		+0.5 to +1.1		V	
Effective Area		φ22		mm	
Peak Sensitivity Wavelength		420		nm	
Cathode	Luminous Sensitivity	Min.	60	80	μA/lm
		Typ.	90	150	
	Blue Sensitivity Index (CS 5-58)	Typ.	10.5	—	—
	Red / White Ratio	Typ.	—	0.2	—
Radiant Sensitivity *3		Typ.	85	64	mA/W
Anode	Luminous Sensitivity *4	Min.	40	20	A/lm
		Typ.	180	75	
	Radiant Sensitivity *3 *4	Typ.	$1.7 \times 10^5$	$3.2 \times 10^4$	A/W
Dark Current *1 *5		Typ.	3		nA
		Max.	20		
Rise Time *4		1.5		ns	
Ripple Noise *4 *6 (peak to peak)		0.5		mV	
Settling Time *7		Max.	10		s
Operating Ambient Temperature *8		+5 to +50		°C	
Storage Temperature *8		-20 to +50		°C	
Weight		170	180	g	

\*1: At +15 V input voltage, +1.0 V control voltage, and output current equal to dark current.

\*2: DAC (I<sup>2</sup>C interface) can be installed in the module. Please specify when ordering.

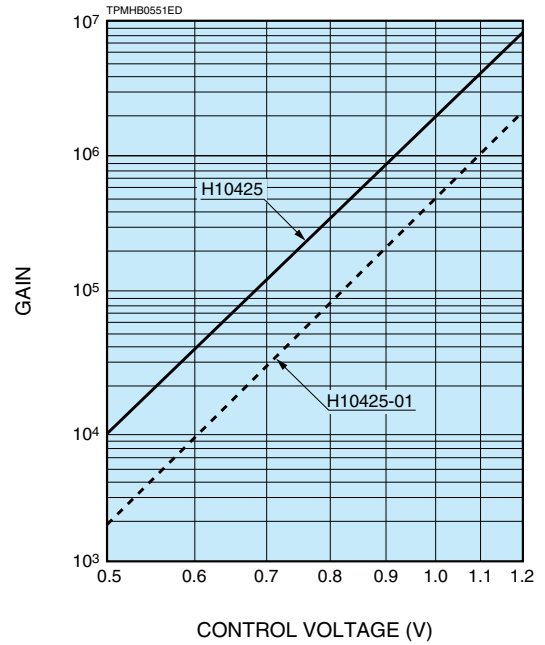
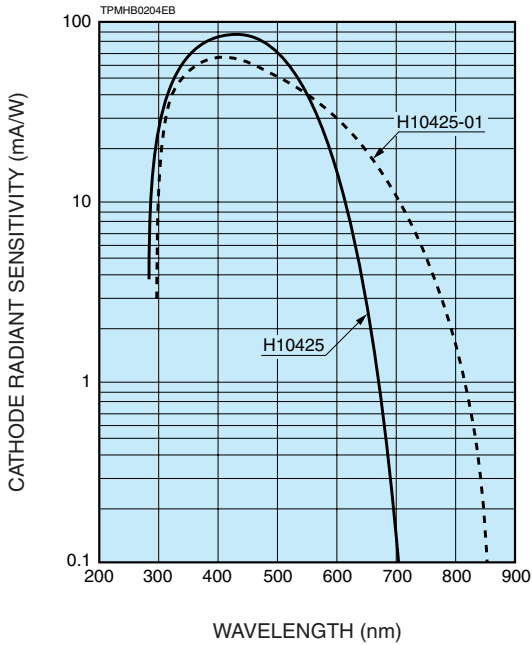
\*3: Measured at the peak sensitivity wavelength \*4: Control voltage = +1.0 V \*5: After 30 minutes storage in darkness

\*6: Cable RG-174/U, Cable length 450 mm, load resistance = 1 MΩ, load capacitance = 22 pF

\*7: The time required for the output to reach a stable level following a change in the control voltage from +1.0 V to +0.5 V.

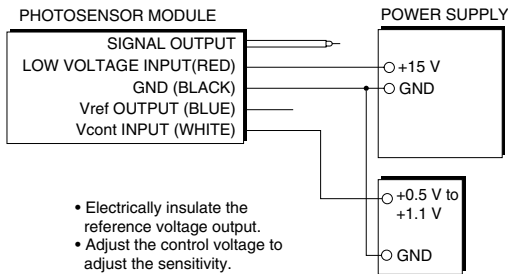
\*8: No condensation

## Characteristics (Cathode radiant sensitivity, Gain)

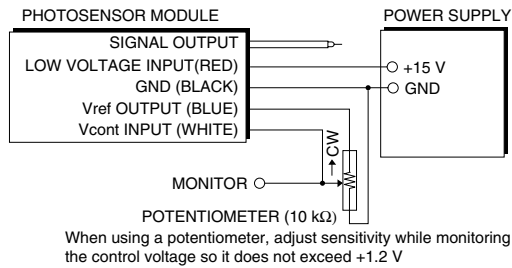


## Sensitivity Adjustment Method

### VOLTAGE PROGRAMMING

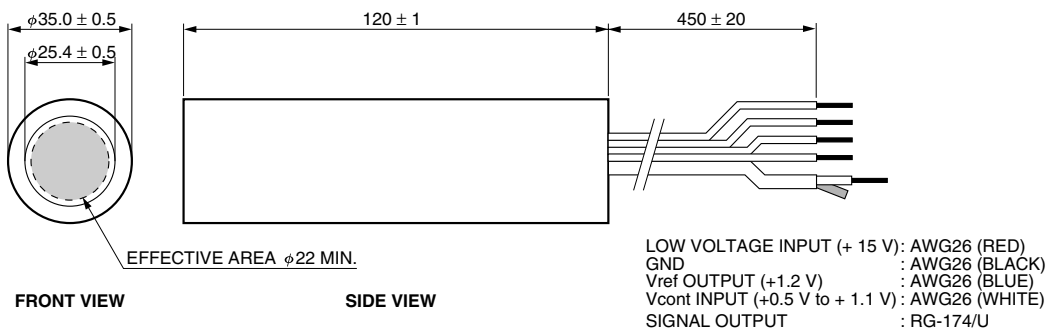


### RESISTANCE PROGRAMMING



TPMOC0207EA

## Dimensional Outlines (Unit: mm)



TPMOA0046EA