Compact Side-on PMT

Photosensor Modules H9305 Series

The H9305 series photosensor modules contain a high-voltage power supply circuit and a 13-mm (1/2") diameter side-on photomultiplier tube in a compact aluminum housing. The 13-mm (1/2") side-on photomultiplier tube has a reflection mode photocathode that delivers high quantum efficiency at wavelengths above 600 nm, an adequate gain of up to 10^7 and fast time response. High S/N ratio can be obtained even when measuring extremely low level light at high speeds.
The H9305 series uses a Cockcroft-Walton circuit with low power consumption. Flexible cables are used for easy installation in equipment.

Product Variations

Type No.	Spectral Response	Features
H9305-01	185 nm to 750 nm	High sensitivity in UV to visible range
H9305-02	185 nm to 900 nm	For general applications in UV to near IR range
H9305-03	185 nm to 900 nm	High sensitivity in UV to near IR range
H9305-04	185 nm to 830 nm	Low dark current in UV to near IR range
H9305-05	185 nm to 650 nm	For general applications in UV to visible range

This product can't be used at vacuum environment or reduced pressure environment. Please pay attention when the H9305 series is used for measuring the light below 190 nm.

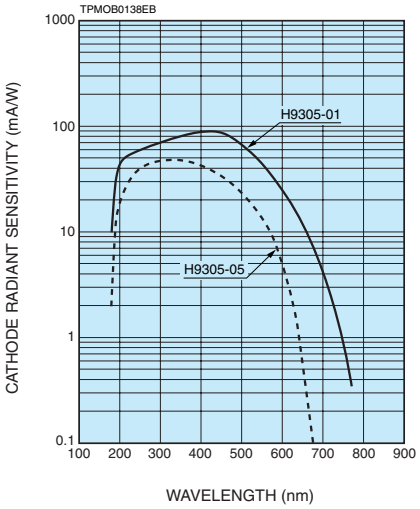
Specifications

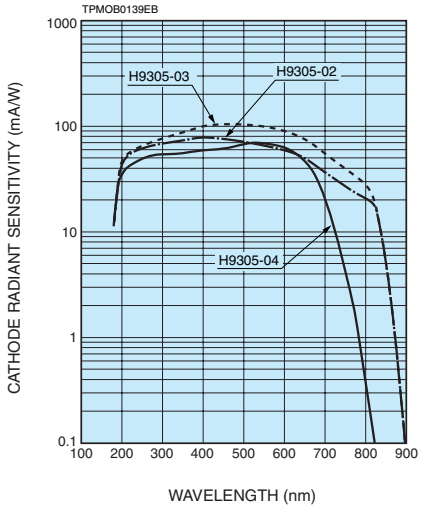
(at +25 °C)

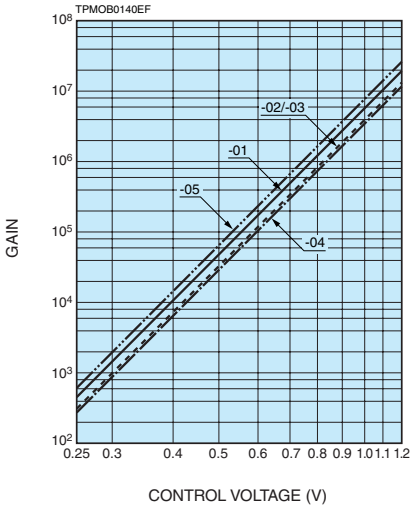
Parameter			H9305 Series					Unit
Suffix			-01	-02	-03	-04	-05	—
Input Voltage			+11.5 to +15.5					V
Max. Input Voltage			+18					V
Max. Input Current			7					mA
Max. Output Signal Current			10					μA
Max. Control Voltage			+1.2 (Input impedance: 1 MΩ)					V
Recommended Control Voltage Adjustment Range			+0.25 to +1.0					V
Effective Area			3.7 × 13.0					mm
Peak Sensitivity Wavelength			420	400	450	530	340	nm
Cathode	Luminous Sensitivity	Min.	80	200	350	140	20	μA/lm
		Typ.	120	300	500	200	40	
	Blue Sensitivity Index (CS 5-58)	Typ.	10	—	—	—	5	—
	Red/White Ratio	Typ.	—	0.3	0.4	0.15	—	—
	Radiant Sensitivity *1	Typ.	90	77	105	70	48	mA/W
Anode	Luminous Sensitivity *2	Min.	100	400	1000	300	50	A/lm
		Typ.	700	1200	2000	700	300	
	Radiant Sensitivity *1 *2	Typ.	5.2×10^5	3.1×10^5	4.2×10^5	2.5×10^5	3.6×10^5	A/W
	Dark Current *2 *3	Typ.	1	1	2	0.1	0.5	nA
		Max.	10	10	10	1	5	
Rise Time *2		Typ.	1.4					ns
Ripple Noise *2 *4 (peak to peak)		Max.	0.5					mV
Settling Time *5		Max.	10					s
Operating Ambient Temperature *6			+5 to +50					°C
Storage Temperature *6			-20 to +50					°C
Weight			110					g

*1: Measured at the peak sensitivity wavelength
*2: Control voltage = +1.0 V
*3: After 30 minutes storage in darkness
*4: Cable RG-174/U, Cable length 450 mm, Load resistance = 1 MΩ, Load capacitance = 22 pF
*5: 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.
*6: No condensation

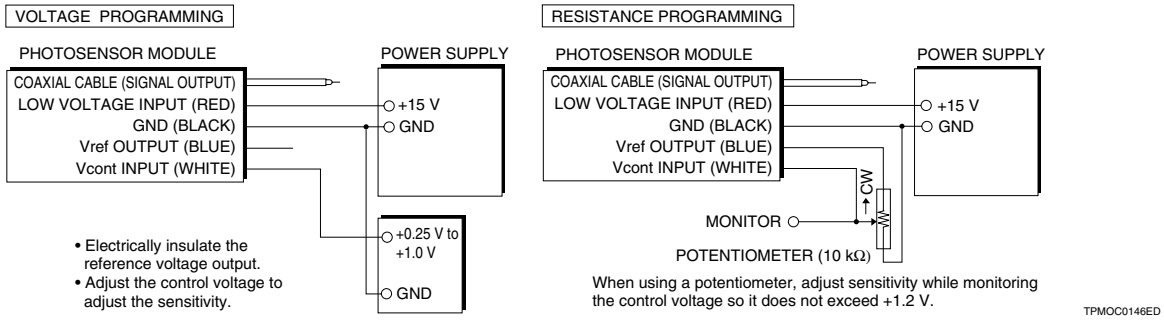
Characteristics (Cathode radiant sensitivity, PMT gain)



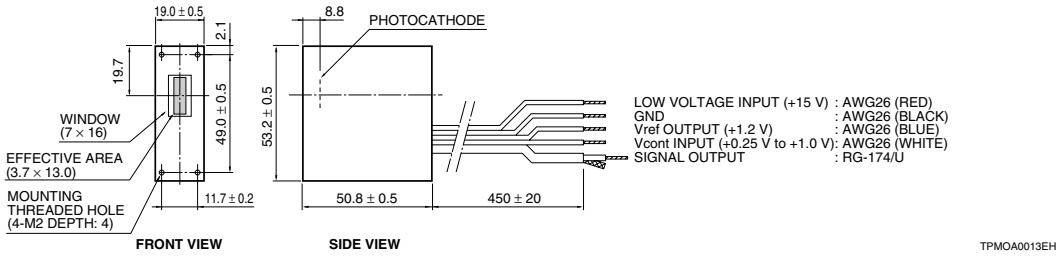




Sensitivity Adjustment Method



Dimensional Outlines (Unit: mm)



DETAILS OF INPUT WINDOW