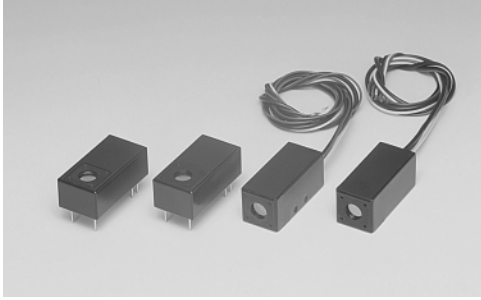


Metal Package PMT

Photosensor Modules H5773/H5783/H6779/H6780 Series



The H5773/H5783/H6779/H6780 series are photosensor modules housing a metal package PMT and high-voltage power supply circuit. The metal package PMTs have a metallic package with the same diameter as a TO-8 package used for semiconductor photodetectors, and deliver high gain, wide dynamic range and high-speed response while maintaining small dimensions identical to those of photo-diodes. The internal high-voltage power supply circuit is also compact, making the module easy to use.

Considering the mounting methods, a cable output type and a pin output type are provided, and a total of 7 types are available according to the wavelength range to be measured. A P-type is also available with selected gain and dark count ideal for photon counting under extremely low light conditions.

Product Variations

Suffix Type No.	None	-01	-02	-03	-04	-06	-20	Output Type	Features
H5773	yes	yes	yes	yes	yes	yes	yes	On-board	Low power consumption
H5783	yes	yes	yes	yes	yes	yes	yes	Cable output	
H5773P	yes	no	no	no	no	no	no	On-board	For photon counting
H5783P	yes	no	no	no	no	no	no	Cable output	Low power consumption
H6779	yes	yes	yes	yes	yes	yes	yes	On-board	Low ripple noise
H6780	yes	yes	yes	yes	yes	yes	yes	Cable output	Fast settling time

Suffix	Spectral Response
None	300 nm to 650 nm
-01	300 nm to 850 nm
-02	300 nm to 880 nm
-03	185 nm to 650 nm
-04	185 nm to 850 nm
-06	185 nm to 650 nm
-20	300 nm to 900 nm

The suffix -06 type (synthetic silica window) has higher sensitivity than the -03 type below 300 nm in wavelength range.

Specifications

Parameter				H5773 / H5783 / H6779 / H6780 Series					Unit	
Suffix				None	-03, -06	-01, -04	-02	-20	—	
Input Voltage				+11.5 to +15.5					V	
Max. Input Voltage				+18					V	
Max. Input Current				H5773 / H5783 Series: 9 H6779 / H6780 Series: 30					mA	
Max. Output Signal Current				100					μA	
Max. Control Voltage				+1.0 (Input impedance 100 kΩ)					V	
Recommended Control Voltage Adjustment Range				+0.25 to +0.9					V	
Effective Area				φ8					mm	
Sensitivity Adjustment Range				1: 10 ⁴					—	
Peak Sensitivity Wavelength				420	420	400	500	630	nm	
Cathode	Luminous Sensitivity		Min.	40	40	80	200	350	μA/lm	
			Typ.	70	70	150	250	500		
	Blue Sensitivity Index (CS 5-58)			8	8	—	—	—	—	
	Red/White Ratio			—	—	0.2	0.25	0.45	—	
	Radiant Sensitivity *1			62	62	60	58	78	mA/W	
Anode	Standard Type	Luminous Sensitivity		Min.	10	10	15	25	35	A/lm
				Typ.	50	50	75	125	250	
		Radiant Sensitivity *1 *2			4.3 × 10 ⁴	4.3 × 10 ⁴	3.0 × 10 ⁴	2.9 × 10 ⁴	3.9 × 10 ⁴	A/W
	Dark Current *2 *3	Typ.	0.2	0.2	0.4	2	2	nA		
		Max.	2	2	4	20	20			
	P Type	Gain *2		Min.	7.5 × 10 ⁵	—				—
				Typ.	1 × 10 ⁶	—				
		Radiant Sensitivity *1 *2			6.2 × 10 ⁴	—				A/W
		Dark Count *2 *3		Typ.	80	—				s ⁻¹
Max.	400			—						
Rise Time *2				0.78					ns	
				H5773 Series	H5783 Series	H6779 Series		H6780 Series		
Ripple Noise *2 *4 (peak to peak)			Max.	1.2		0.6		mV		
Settling Time *5				2		0.2		s		
Operating Ambient Temperature				+5 to +50		+5 to +45		°C		
Storage Temperature				-20 to +50					°C	
Weight				60	80	60	80	g		

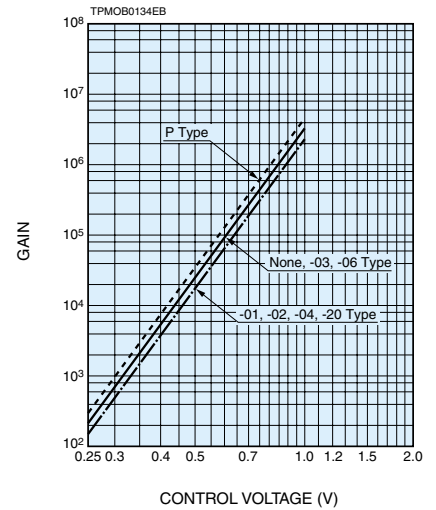
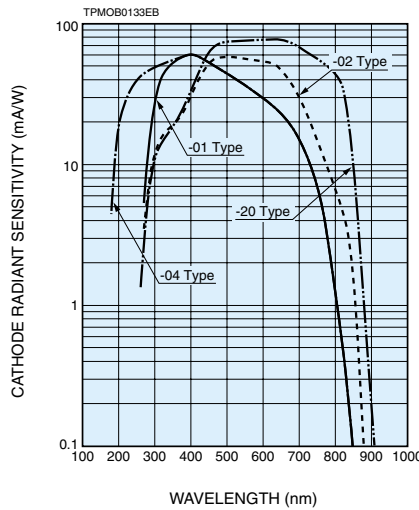
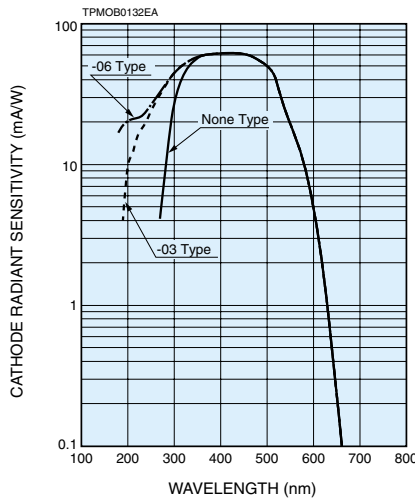
*1: Measured at the peak sensitivity wavelength *2: Control voltage = +0.8 V *3: After 30 minute storage in darkness

*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.

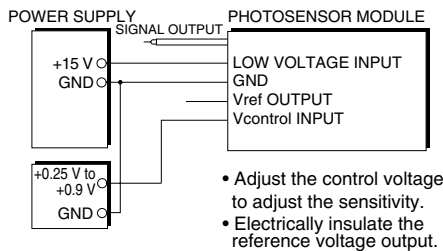
Current Output Type Photosensor Modules

Characteristics (Cathode radiant sensitivity, Gain)

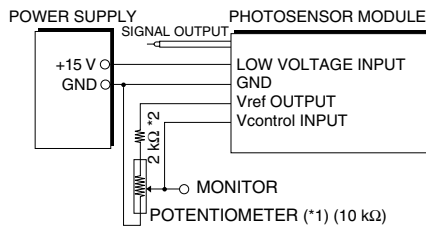


Sensitivity Adjustment Method

Voltage Programming



Resistance Programming



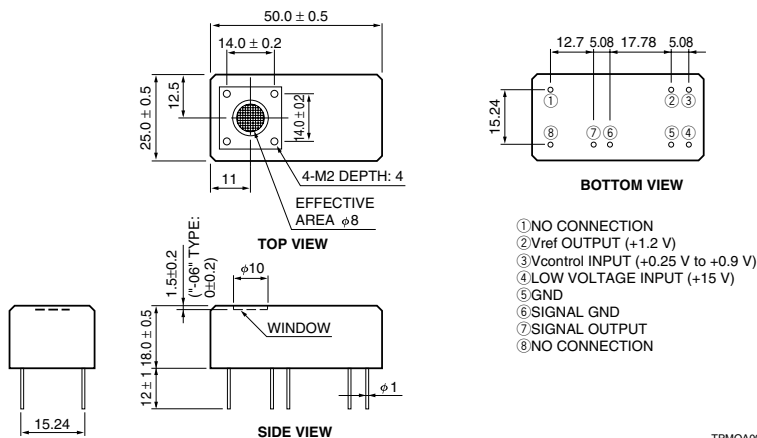
*1: When using a potentiometer to adjust sensitivity, monitor the control voltage so it does not exceed +1.0 V.

*2: H6779/H6780 series has this 2 kΩ resistor. No external resistor is needed.

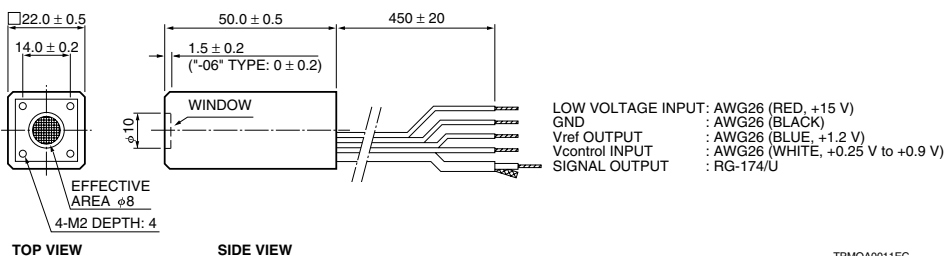
TPMOC0131EC

Dimensional Outlines (Unit: mm)

H5773/H6779 Series

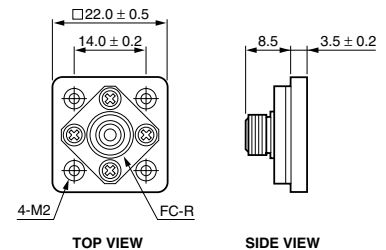


H5783/H6780 Series



Option (Optical Fiber Adapter) (Unit: mm)

E5776 (FC Type)



E5776-51 (SMA Type)

