

Head-on PMT

Photon Counting Head H11870 Series



The H11870 series is a wide sensitive area photon counting head device containing a 25 mm (1") diameter head-on photomultiplier tube, a high-voltage power supply circuit and a photon counting circuit. The high voltage supply for photomultiplier tube and the discrimination level are preset to optimum values, allowing photon counting measurement by just connecting a +5 V supply. The H11870 series has a function of over light detection output for indicating the excessive light operating condition.

A mount flange (E6264) is provided as an option for easy installation to measurement equipment.

Specifications

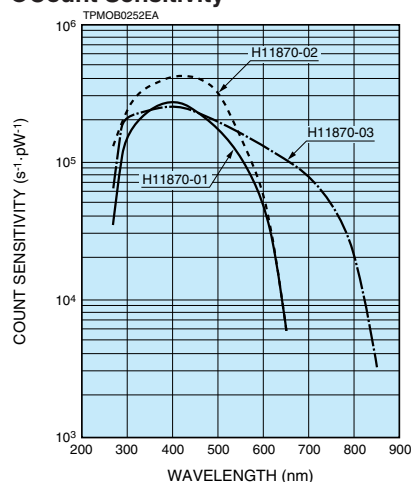
(at +25 °C)

Parameter			H11870-01	H11870-02	H11870-03	Unit
Input Voltage			+4.75 to +5.25			V
Max. Input Voltage			+6			V
Max. Input Current			100			mA
Effective Area			φ22			mm
Spectral Response			300 to 650			nm
Peak Sensitivity Wavelength			375	420	420	nm
Count Sensitivity	300 nm	Typ.	1.4×10^5	2.3×10^5	2.1×10^5	s ⁻¹ ·pW ⁻¹
	400 nm	Typ.	2.7×10^5	4.1×10^5	2.5×10^5	
	500 nm	Typ.	1.7×10^5	3.4×10^5	2.0×10^5	
	600 nm	Typ.	4.6×10^4	5.7×10^4	1.3×10^5	
	700 nm	Typ.	—	—	7.8×10^4	
Count Linearity *1			6.0×10^6			s ⁻¹
Dark Count *2		Typ.	15	60	5000	s ⁻¹
		Max.	80	300	15000	
Pulse-pair Resolution			18			ns
Output Pulse Width			9			ns
Output Pulse Height	50 Ω Load	Min.	+2.0			V
	Un-terminated	Min.	+4.0			
Recommended Load Resistance			50			Ω
Signal Output Logic			Positive logic			—
Over Light Detection Output *3	High Level	Min.	+3.5			V
	Low Level	Max.	+0.5			
Operating Ambient Temperature *4			+5 to +40			°C
Storage Temperature *4			-20 to +50			°C
Weight			128			g

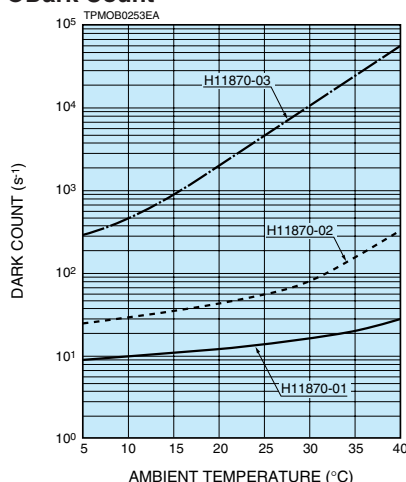
*1: Random pulse, at 10 % count loss *2: After 30 minutes storage in darkness *3: Load resistance 10 kΩ *4: No condensation
H11870 series can't be used at vacuum environment or reduced pressure environment.

Characteristics

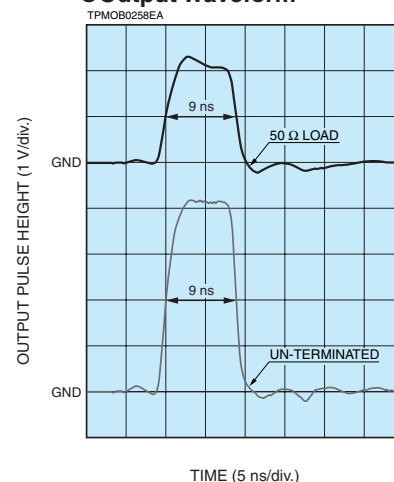
● Count Sensitivity



● Dark Count

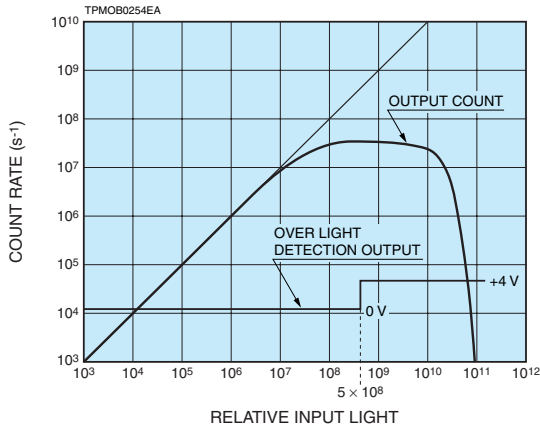


● Output Waveform

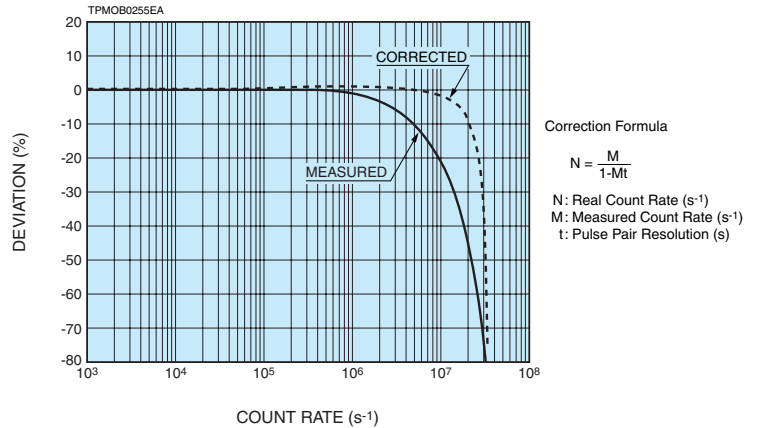


Characteristics

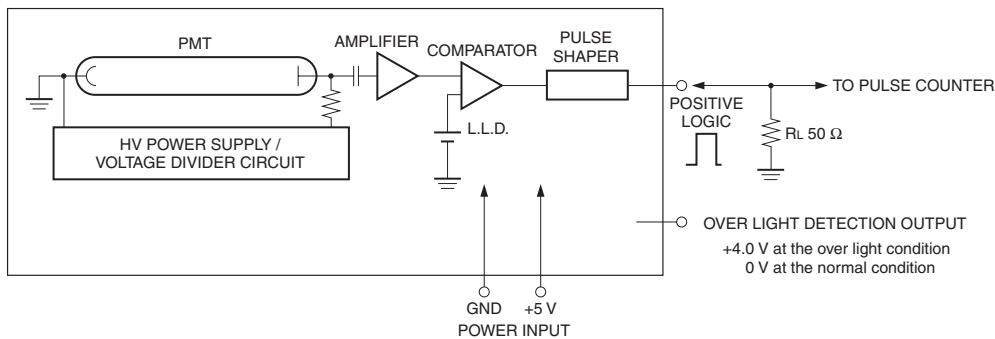
●Count Rate Linearity and Over Light Detection Output



●Count Rate Linearity Correction

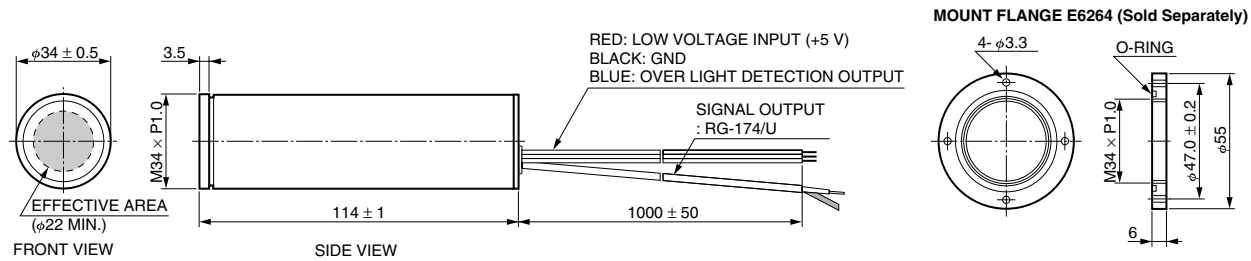


Block Diagram



TPMOC0226EB

Dimensional Outlines (Unit: mm)



TPMOA0088EA