

FEATURES

- Compact size
- Effective area: $\phi 15$ mm
- Vibration resistance / shock resistance
- Low power consumption

APPLICATIONS

- Portable radiation measurement
- Semiconductor inspection
- Chemiluminescence measurement



SPECIFICATIONS

(at +25 °C)

Parameter		H7827-001	H7827-002	H7827-011	H7827-012	Unit
Input voltage		± 11.5 to ± 15.5				V
Max. input voltage		± 18				V
Max. input current		+45 / -1	+50 / -8	+45 / -1	+50 / -8	mA
Max. control voltage		+1.2 (Input impedance 100 k Ω)				V
Recommended control voltage adjustment range		+0.5 to +1.1 (Input impedance 100 k Ω)				V
Effective area		$\phi 15$				mm
Spectral response		300 to 650		300 to 850		nm
Peak sensitivity wavelength		420		380		nm
Cathode	Luminous sensitivity	Min.	60	80		μ A/lm
		Typ.	90	120		
	Blue sensitivity index (Blue filter)	Typ.	10.5	—		—
	Red/White ratio	Typ.	—	0.2		—
	Radiant sensitivity ^①	Typ.	85	49		mA/W
Suffix (with internal 20 kHz amp)		-001		-011		
Anode	Luminous sensitivity ^②	Min.	1.0×10^7	1.0×10^7		V/lm
		Typ.	5.0×10^7	3.0×10^7		
	Radiant sensitivity ^{①②}	Typ.	47	13		V/nW
	Voltage output depending on PMT dark current ^{②③④}	Typ.	3	3		mV
	Max.	20	20			
Max. output signal voltage ^⑤		+10 (Load resistance 10 k Ω)				V
Current-to-voltage conversion factor		1				V/ μ A
Suffix (with internal 200 kHz amp)		-002		-012		
Anode	Luminous sensitivity ^②	Min.	1.0×10^6	1.0×10^6		V/lm
		Typ.	5.0×10^6	3.0×10^6		
	Radiant sensitivity ^{①②}	Typ.	4.7	1.3		V/nW
	Voltage output depending on PMT dark current ^{②③④}	Typ.	0.3	0.3		mV
	Max.	2	2			
Max. output signal voltage ^⑤		+10 (Load resistance 10 k Ω)				V
Current-to-voltage conversion factor		0.1				V/ μ A
H7827 series						
Offset voltage		Typ.	± 1			mV
Ripple noise ^{②⑥} (peak to peak)		Max.	0.5			mV
Settling time ^⑦		Max.	0.2			s
Operating ambient temperature ^⑧		+5 to +45				$^{\circ}$ C
Storage temperature ^⑧		-20 to +50				$^{\circ}$ C
Weight		63				g

NOTE: ① Measured at the peak sensitivity wavelength ② Control voltage = +1.0 V ③ After 30 min storage in darkness
 ④ Output of anode dark current ⑤ At ± 15 V input voltage
 ⑥ Cable RG-174/U, Cable length 450 mm, load resistance = 1 M Ω , 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

PHOTOSENSOR MODULES H7827 SERIES

Figure 1: Typical spectral response

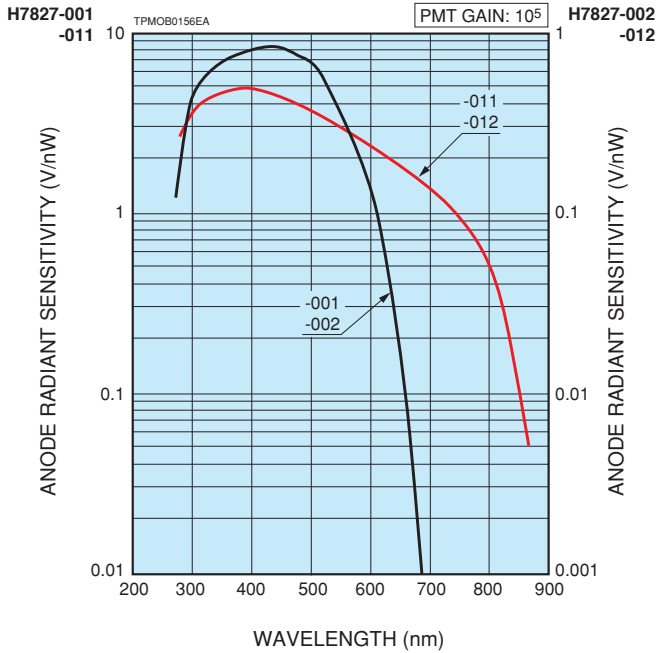


Figure 2: Gain vs. control voltage

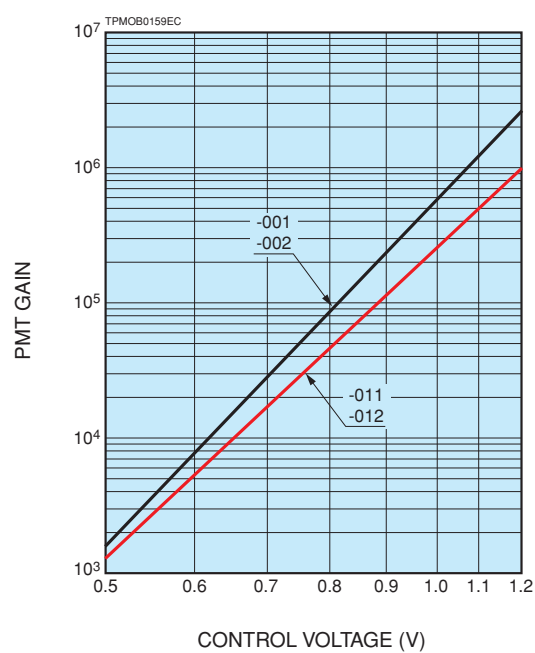


Figure 3: Sensitivity adjustment method

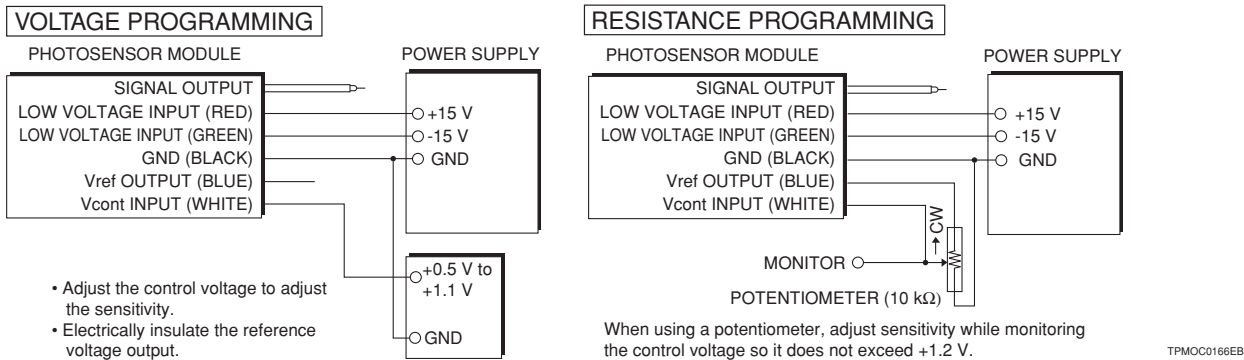
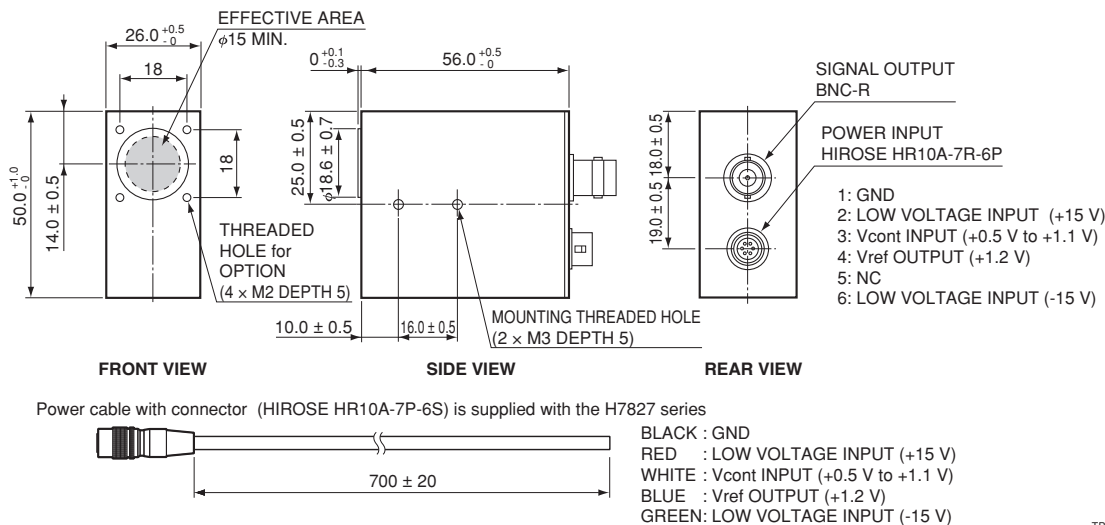


Figure 4: Dimensional outlines (Unit: mm)



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