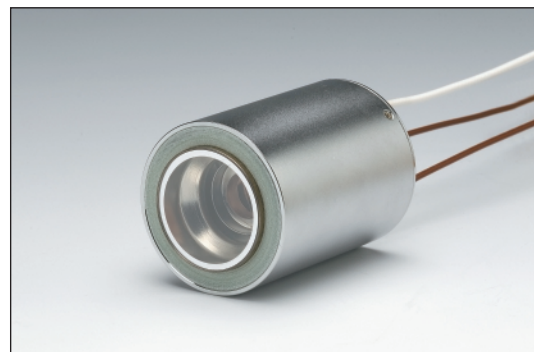


Extremely Improved Solar Blind Photocathode for Aerospace and General Photometric Applications, Ruggedized Low Profile Tube

FEATURES

- High Quantum Efficiency 14 % at 254 nm Typ.
- Ruggedized, Low Profile Structure 80 m/s² vibration
80 mm in bulb length
- For Photon Counting



SPECIFICATIONS

GENERAL

Parameter		Description / Value	Unit
Spectral Response		150 to 320	nm
Wavelength of Maximum Response		240	nm
Photocathode	Material	Cs-Te	—
	Minimum Effective Area	φ27.4	mm
Window Material		Sapphire	—
Dynode	Structure	Metal channel	—
	Number of Stages	15	—
Operating Ambient Temperature		-40 to +90	°C
Storage Temperature		-40 to +90	°C

MAXIMUM RATINGS (Absolute Maximum Values)

Parameter		Value	Unit
Supply Voltage	Between Anode and Cathode	+3000	V
	Between Anode and Last Dynode	300	V
Average Anode Current		0.01	mA

CHARACTERISTICS (at +25 °C)

Parameter		Min.	Typ.	Max.	Unit
Cathode Sensitivity	Radiant at 254 nm	20	28	—	mA/W
	Radiant at 365 nm	—	2.8×10^{-3}	1.1×10^{-2}	mA/W
	Radiant at 550 nm	—	3.6×10^{-5}	—	mA/W
Quantum Efficiency at 254 nm		9.8	13.7	—	%
Anode Sensitivity	Detection Efficiency at 254 nm	7.5	10.5	—	—
	Detection Efficiency at 365 nm	—	1.05×10^{-5}	4.2×10^{-5}	—
	Detection Efficiency at 550 nm	—	1.36×10^{-7}	—	—
Gain		1.0×10^6	5.0×10^7	—	—
Dark Counts	PHD at 1×10^6 Gain [Ⓐ]	—	3	10	s ⁻¹
	Plateau Voltage [Ⓑ]	—	5	20	s ⁻¹
Anode Pulse Rise Time [Ⓒ]		—	2.5	—	ns

NOTE: Ⓐ The discrimination level is set at one fourth the average electron pulse height to measure the background.

Ⓑ Plateau voltage at the set up in HPK.

Ⓒ The rise time is the time of the output pulse to rise from 10 % to 90 % of peak amplitude when the entire photocathode is illuminated by a delta function light pulse.

VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

Electrodes	K	F	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	Dy11	Dy12	Dy13	Dy14	Dy15	P
Ratio	1.2	0.8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5

Supply Voltage: +2500 V, K: Cathode, Dy: Dynode, P: Anode, F: Focus

PHOTOMULTIPLIER TUBE ASSEMBLY R7818-05

Figure 1: Typical Spectral Response

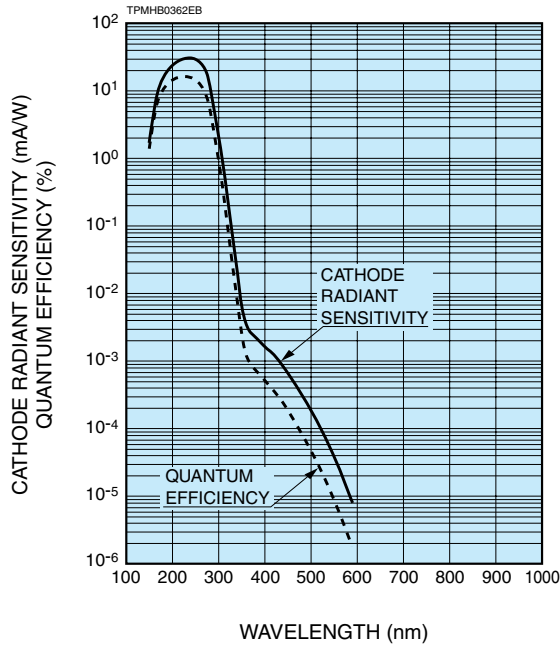


Figure 2: Signal Counts and Anode Dark Counts

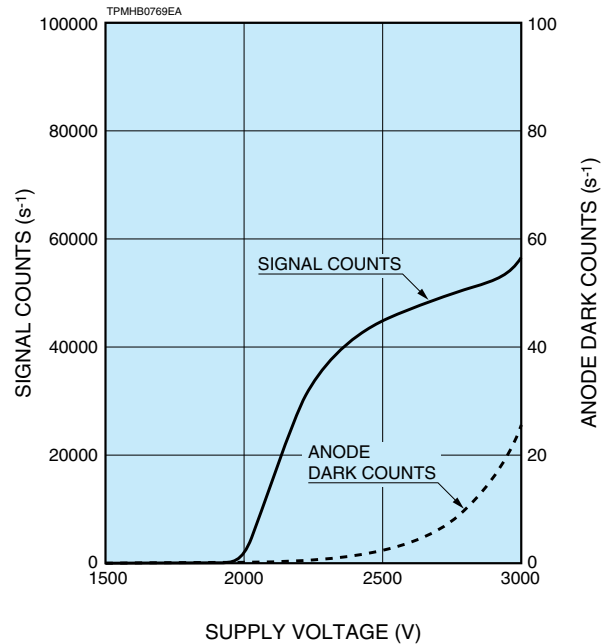
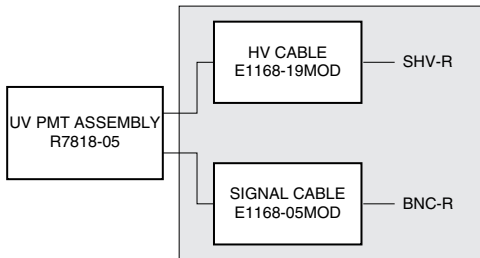
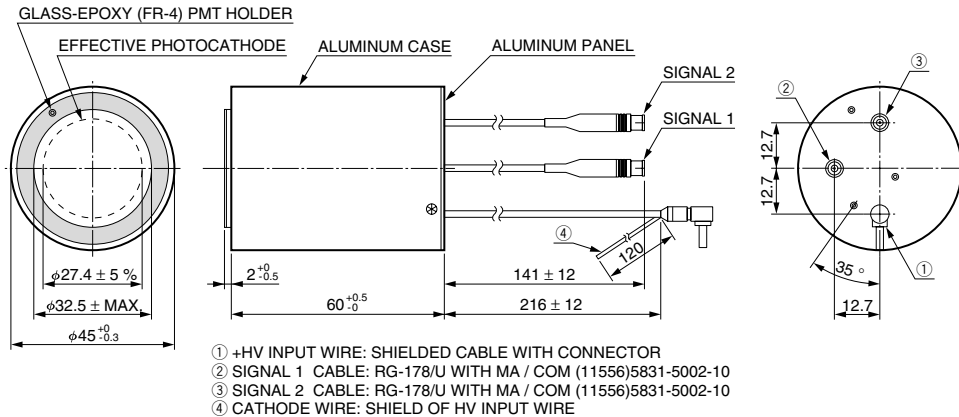


Figure 3: Dimensional Outline and Basing Diagram (Unit: mm)



*Accessories (Sold separately)

TPMHA0546EA

HAMAMATSU

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