

Compact / TTL Output, Integrated Photon Counting Circuit, with Low Noise Photomultiplier Tube and Power Supply

H6240 Series are photon counting heads incorporating a PMT, high speed amplifier/discriminator/high voltage power supply circuits in a housing. They have unique features of ready to use and low power consumption.

Optimum adjustment is already done to obtain best S/N ratio.

FEATURES

- No adjustments required
- High voltage power supply incorporated
- Requires only +5 Vdc source
- Compact and lightweight

APPLICATIONS

- Chemiluminescence detection
- Bioluminescence & fluorescence detection
- Other low level light detection

SPECIFICATIONS

● MAXIMUM RATINGS

Parameter	Description/Value	Unit
Supply Voltage	+6	Vdc Max.
Operating Temperature	+5 to +40	°C
Storage Temperature	-20 to +50	°C

● SPECIFICATIONS (at 25°C)

Parameter	Description/Value	Unit
Effective Area	H6240, -01	4 × 20
	H6240-02	4 × 6
Spectral Response Range	H6240	185 to 680
	H6240-01	185 to 850
	H6240-02	185 to 950
Dark Count	H6240	30 Typ. / 80 Max.
	H6240-01	80 Typ. / 200 Max.
	H6240-02	400 Typ. / 800 Max.
Counting Linearity *	2.5	Mcps
Pulse Pair Resolution	35	ns
Output Pulse Width	30	ns
Output Logic	TTL, Positive	—
Input Voltage	4.5 to 5.5	Vdc
Input Current at 2.5 Mcps Output	90 Max.	mA

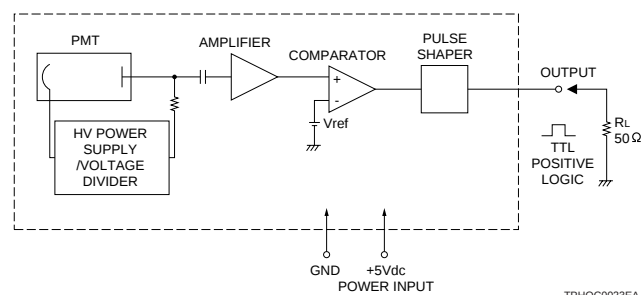
* at -10% deviation from linear output.

True count rate over this range is calculated by $n_{True} = \frac{n'}{1 - n't}$
t: Pulse Pair Resolution n': measured count



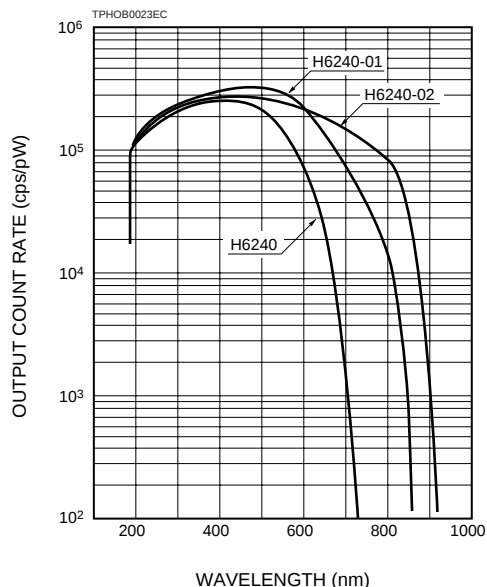
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Figure 1: Internal Diagram



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Figure 2: Typical Spectral Counting Characteristics



SIDE-ON PHOTON COUNTING HEADS Built-in High Voltage Power Supply H6240 SERIES

Figure 3: Typical Dark Counts vs. Temperature

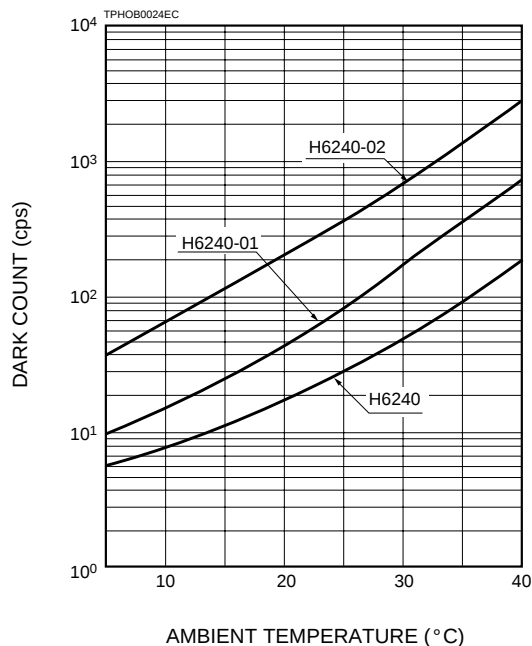


Figure 4: Linearity (Dynamic Range)

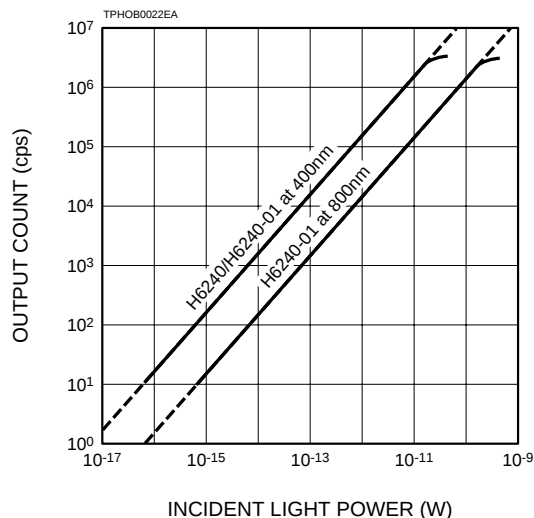
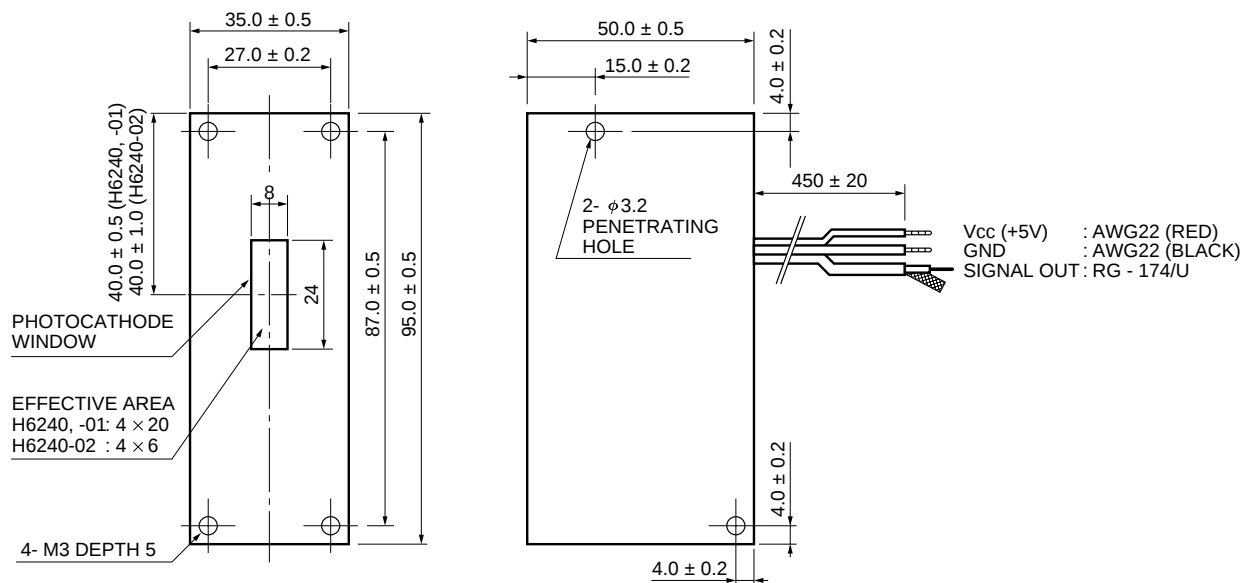


Figure 5: Dimensional Outline (Unit: mm)



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NOTE: When connecting this side-on photon counting head H6240 series with a commercial available counter of TTL input, use a 50 ohm termination resistor or a 50 ohm feed-through termination (ex. TEKTRONIX 011-0049-01 etc.). Please refer the notebook of the technical information about photon counting for more information.

※ PATENT PENDING: JAPAN 1, USA 1

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