

# HAMAMATSU

## PHOTOMULTIPLIER TUBE R9420

For Scintillation Counting, Fast Time Response  
38 mm (1.5 Inch) Diameter, Bialkali Photocathode, 8-stage, Head-on Type

### SPECIFICATIONS

#### GENERAL

Parameter		Description / Value	Unit
Spectral Response		300 to 650	nm
Wavelength of Maximum Response		420	nm
Window Material		Borosilicate glass	—
Photocathode	Material	Bialkali	—
	Minimum Effective Area	φ34	mm
Dynode	Structure	Linear focused	—
	Number of Stages	8	—
Base		Flying lead type	—
Operating Ambient Temperature		-30 to +50	°C
Storage Temperature		-80 to +50	°C

#### MAXIMUM RATINGS (Absolute Maximum Values)

Parameter		Value	Unit
Supply Voltage	Between Anode and Cathode	1500	V
Average Anode Current		0.1	mA

#### CHARACTERISTICS (at 25 °C)

Parameter		Min.	Typ.	Max.	Unit
Cathode Sensitivity	Luminous (2856 K)	—	95	—	μA/lm
	Blue Sensitivity Index (CS 5-58)	—	11	—	—
Anode Sensitivity	Luminous (2856 K)	—	47.5	—	A/lm
Gain		—	$5.0 \times 10^5$	—	—
Anode Dark Current (After 30 minute storage in darkness)		—	10	100	nA
Time Response	Anode Pulse Rise Time	—	1.6	—	ns
	Electron Transit Time	—	17	—	ns
	Transit Time Spread (FWHM)	—	550	—	ps
Pulse Linearity (±2 % deviation)		—	30	—	mA

**NOTE:** Anode characteristics are measured with a voltage distribution ratio and supply voltage shown below.

#### VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

Electrodes	K	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	P
Ratio	4	1.5	1.5	1	1	1	1	1	1	1

Supply Voltage: 1300 V, K: Cathode, Dy: Dynode, P: Anode

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Figure 1: Typical Spectral Response

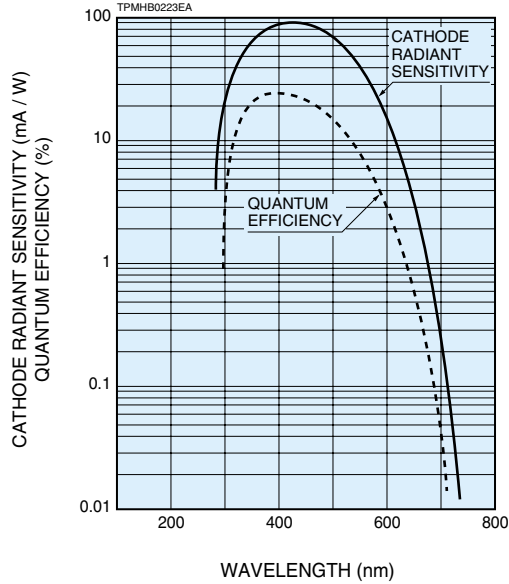


Figure 2: Typical Gain

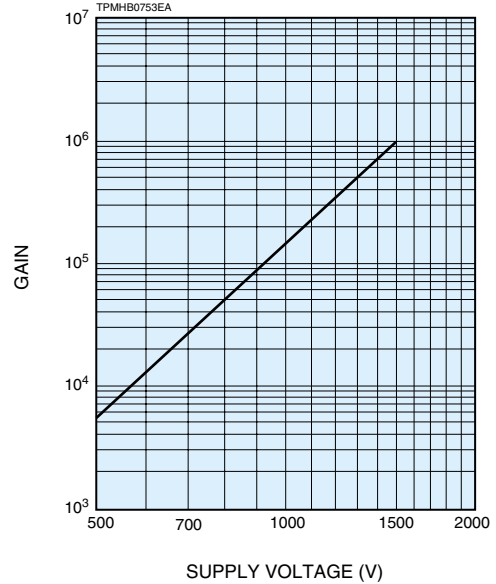
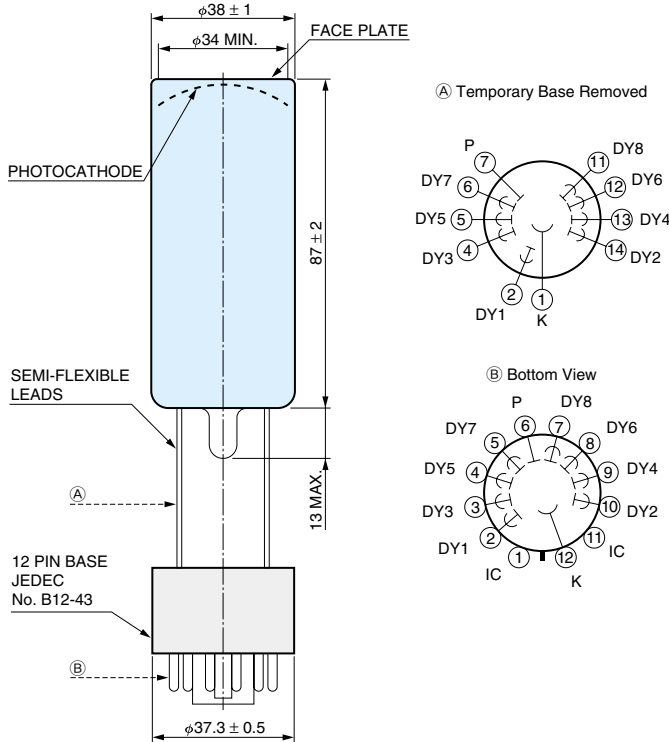


Figure 3: Dimensional Outline and Basing Diagram (Unit: mm)



TPMH0519EA

## NOTES

The material in the R9420 contains beryllium. Please follow the applicable regulations regarding disposal of hazardous materials and industrial wastes in your country, state, region or province.

# HAMAMATSU

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