

# HAMAMATSU

# PHOTOMULTIPLIER TUBE R5070A

Compact, 25 mm(1 Inch) Diameter  
Good Near IR Response with Prismatic Window  
10-stage, Head-on Type

## GENERAL

Parameter		Description / Value	Unit
Spectral Response		300 to 900	nm
Wavelength of Maximum Response		420	nm
Photocathode	Material	Multialkali	—
	Minimum Effective Area	$\phi 21$	mm
Window Material		Borosilicate glass	—
Dynode	Structure	Linear-focused	—
	Number of Stages	10	—
Direct Interelectrode Capacitances	Anode to Last Dynode	1.6	pF
	Anode to All Other Electrodes	3.3	pF
Base		14-pin glass base	—
Suitable Socket		E678-14C (supplied)	—
Operation 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	1250	V
	Between Anode and Last Dynode	250	V
Average Anode Current		0.1	mA

## CHARACTERISTICS (at 25 °C)

Parameter		Min.	Typ.	Max.	Unit
Cathode Sensitivity	Luminous (2856 K)	130	230	—	$\mu\text{A}/\text{lm}$
	Radiant at 420 nm	—	65	—	$\text{mA}/\text{W}$
	Red / White Ratio (R-68)	—	0.25	—	—
Anode Sensitivity	Luminous (2856 K)	20	100	—	$\text{A}/\text{lm}$
	Radiant at 420 nm	—	$2.8 \times 10^4$	—	$\text{A}/\text{W}$
Gain		—	$4.3 \times 10^5$	—	—
Anode Dark Current (after 30 min storage in darkness)		—	3	20	nA
Time Response	Anode Pulse Rise Time	—	2.2	—	ns
	Electron Transit Time	—	19	—	ns

**NOTE:** Anode characteristics are measured with the voltage distribution ratio shown below.

## VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

Electrodes	K	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	P
Ratio	3	1	1	1	1	1	1	1	1	1	1	1

Supply Voltage: 1000 V, K: Cathode, Dy: Dynode, P: Anode

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Figure 1: Typical Spectral Response

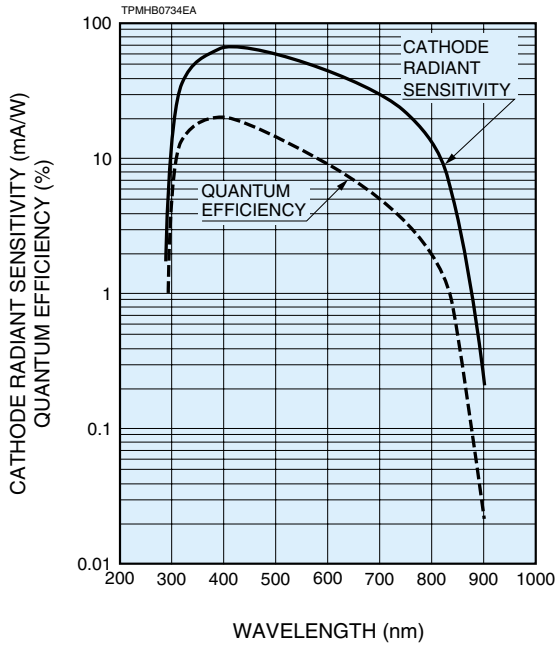


Figure 2: Typical Gain Characteristic

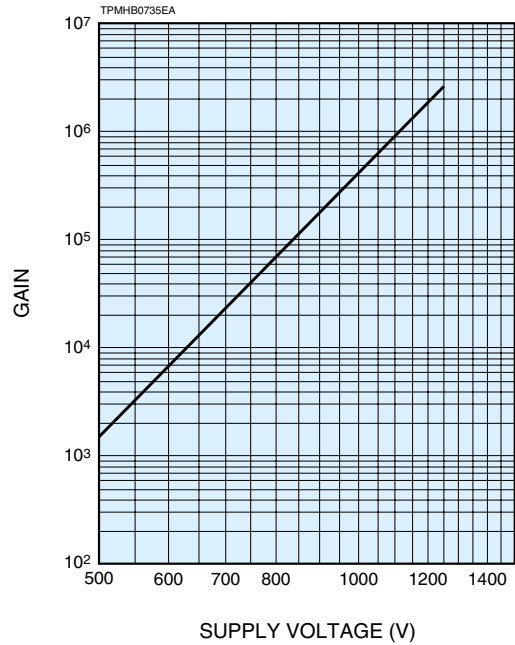
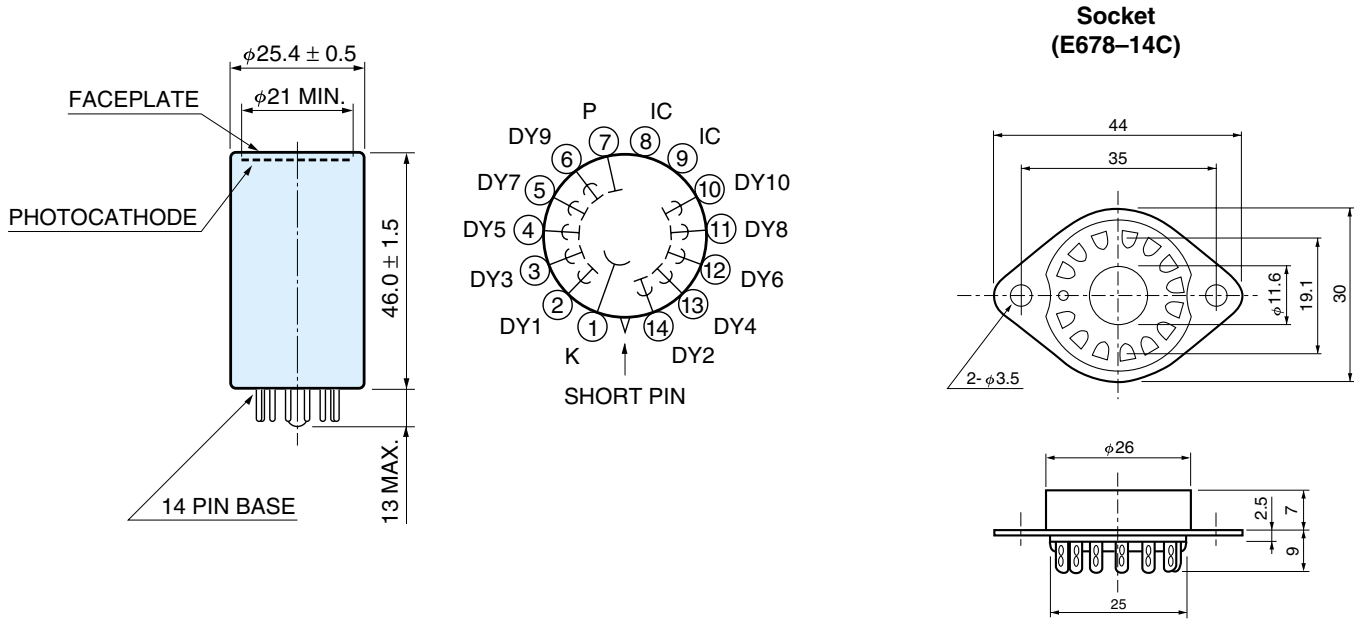


Figure 3: Dimensional Outline and Basing Diagram (Unit: mm)



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