

HAMAMATSU

PRELIMINARY DATA

JAN. 1998

PHOTOMULTIPLIER TUBE R7206-01

For Photon Counting Applications,
Multialkali Photocathode with Low Dark Counts (300cps Typ.)
φ10mm Effective Area, 28mm(1-1/8 inch) Diameter, Head - On Type

GENERAL

Parameter		Description	Unit
Spectral Response		300 to 850	nm
Wavelength of Maximum Response		420	nm
Photocathode	Material	Multialkali	—
	Minimum Effective Area	10	mm dia.
Window Material		Borosilicate glass	—
Dynode	Structure	Box and Line	—
	Number of Stages	11	—
Base		14-pin glass base	—
Suitable Socket		E678-14C(supplied)	—

MAXIMUM RATINGS (Absolute Maximum Values)

Parameter		Value	Unit
Supply Voltage	Between Anode and Cathode	1500	Vdc
	Between Anode and Last Dynode	250	Vdc
Average Anode Current		0.01	mA
Ambient Temperature		-80 to +50	°C

CHARACTERISTICS (at 25°C)

Parameter		Min.	Typ.	Max.	Unit
Cathode Sensitivity	Luminous (2856K)	—	150	—	μA/lm
	Radiant at 420 nm	—	64	—	mA/W
	Red/White Ratio (with R-68 filter)	—	0.2	—	μA/lm-b
Anode Sensitivity	Luminous (2856K)	—	1500	—	A/lm
	Radiant at 420 nm	—	6.4×10^5	—	A/W
Gain		—	1×10^7	—	—
Anode Dark counts [Ⓐ]		—	300	1000	cps
Anode Dark Current (after 30min storage in darkness)		—	—	15	nA
Time Response	Anode Pulse Rise Time	—	1.7	—	ns
	Electron Transit Time	—	26	—	ns

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

Ⓐ At a supply voltage for a gain of 2×10^6

VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

Electrode	K	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	Dy11	P
Ratio	2	1	1	1	1	1	1	1	1	1	1	1	1

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

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Figure 1: Typical Spectral Response

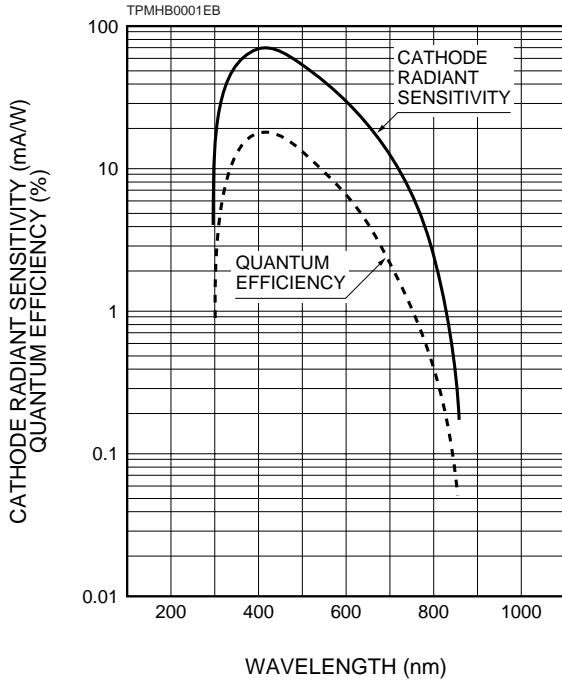


Figure 2: Typical Gain

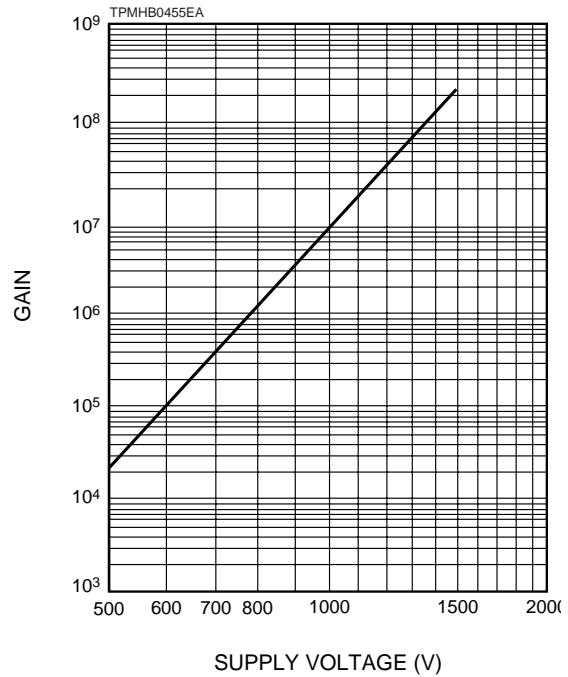


Figure 3: Typical Single Photoelectron Pulse Height Distribution

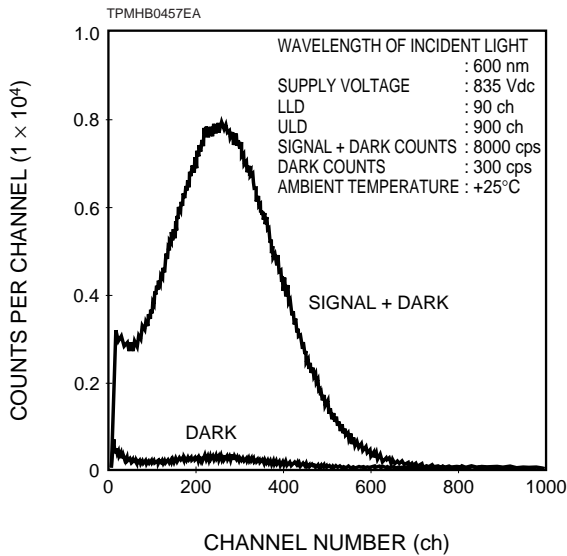
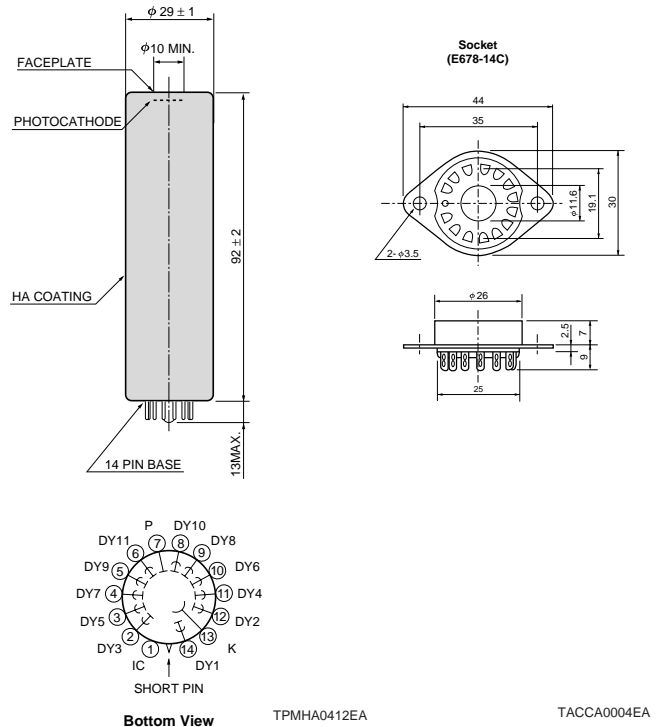


Figure 4: Dimensional Outline and Basing Diagram (Unit: mm)



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TPMH1196E01

JAN. 1998 SI

Printed in Japan (500)