

**For Photon Counting Applications, Low Dark Counts (10cps Typ.)  
φ10mm Effective Area, 28mm(1-1/8 inch) Diameter  
Bialkali Photocathode, Head - On Type**

### GENERAL

Parameter		R7205-01	R7207-01	Unit
Spectral Response		300 to 650	160 to 650	nm
Wavelength of Maximum Response		420		nm
Photocathode	Material	Bialkali		—
	Minimum Effective Area	10		mm dia.
Window Material		Borosilicate glass	Synthetic silica	—
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)	40	70	—	μA/lm
	Radiant at 420 nm	—	72	—	mA/W
	Blue (CS - 5 - 58 filter)	—	9.0	—	μA/lm-b
Anode Sensitivity	Luminous (2856K)	200	700	—	A/lm
	Radiant at 420 nm	—	$7.5 \times 10^5$	—	A/W
Gain		—	$1 \times 10^7$	—	—
Anode Dark counts		—	10	30	s <sup>-1</sup>
Anode Dark current (after 30min storage in darkness)		—	—	3	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.

### 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

# PHOTOMULTIPLIER TUBES R7205-01, R7207-01

Figure 1: Typical Spectral Response

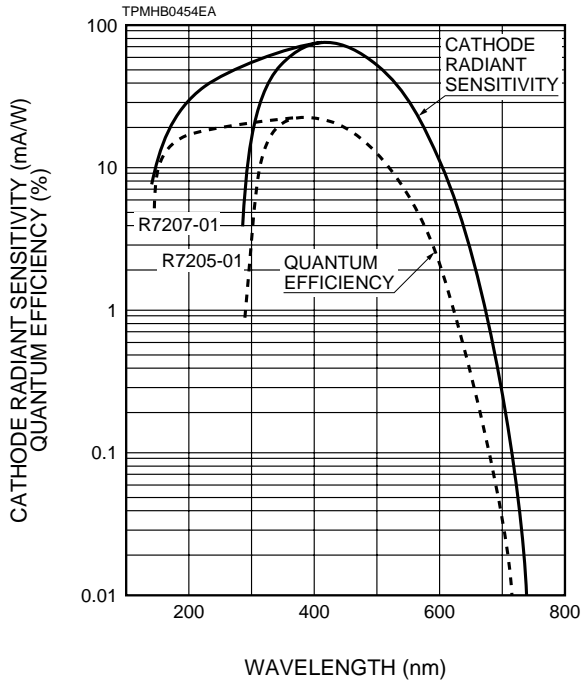


Figure 2: Typical Gain

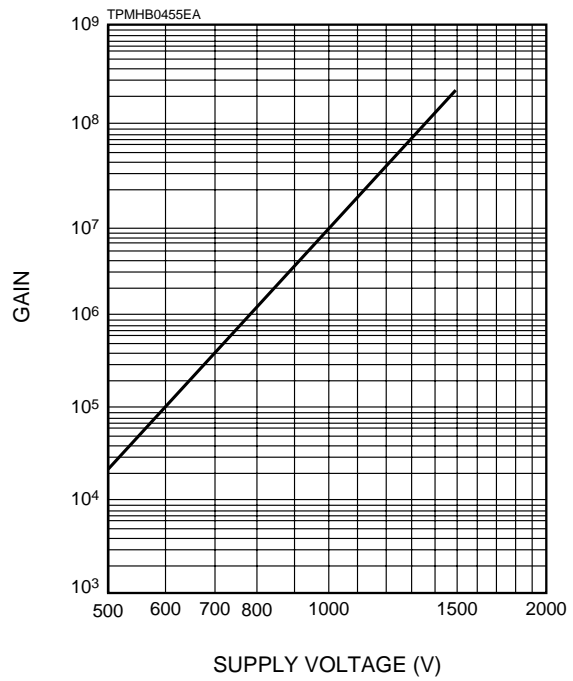


Figure 3: Typical Single Photoelectron Pulse Height Distribution

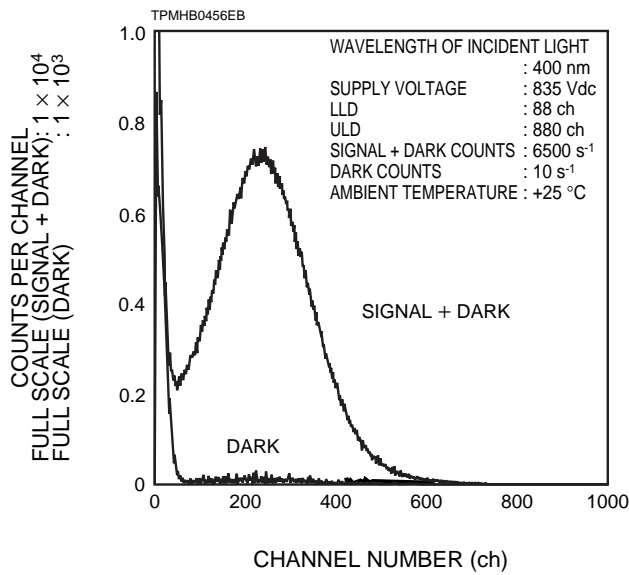
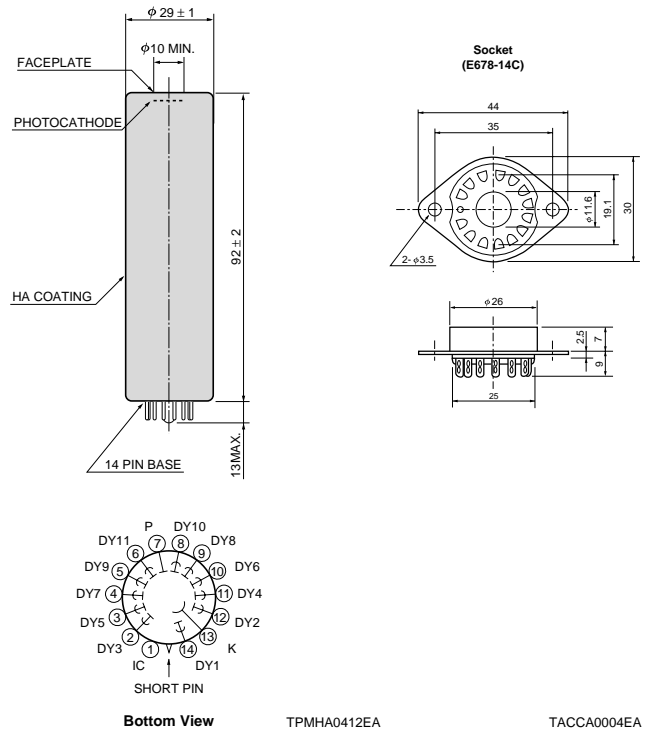


Figure 4: Dimensional Outline and Basing Diagram (Unit: mm)



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