

Fast Time Response, 51 mm (2 Inch) Diameter, 12-Stage, Bialkali Photocathode Head-On Type

GENERAL

Parameter		Description/Value	Unit
Spectral Response		300 to 650	nm
Wavelength of Maximum Response		420	nm
Photocathode	Material	Bialkali	—
	Minimum Effective Area	46	mm dia.
Window Material		Borosilicate glass	—
Dynode	Structure	Linear focused	—
	Number of Stages	12	—
Base		20-pin glass base	—
Suitable Socket		E678-20A (supplied)	—

MAXIMUM RATINGS (Absolute Maximum Values)

Parameter		Value	Unit
Supply Voltage	Between Anode and Cathode	3000	Vdc
	Between Anode and Last Dynode	400	Vdc
Average Anode Current		0.2	mA
Ambient Temperature		-30 to +50	°C

CHARACTERISTICS (at 25°C)

Parameter		Min.	Typ.	Max.	Unit
Cathode Sensitivity	Luminous (2856K)	60	90	—	μA/lm
	Radiant at 420nm	—	85	—	mA/W
	Blue (CS-5-58 filter)	—	10.5	—	μA/lm-b
Anode Sensitivity	Luminous (2856K)	200	1800	—	A/lm
	Radiant at 420nm	—	1.7 × 10 ⁶	—	A/W
Gain		—	2.0 × 10 ⁷	—	—
Anode Dark Current (after 30min. storage in darkness)		—	50	400	nA
Time Response	Anode Pulse Rise Time	—	1.3	—	ns
	Electron Transit Time	—	28	—	ns
Pulse Linearity	at 2% Deviation	—	250	—	mA
	at 5% Deviation	—	500	—	mA

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

VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

Electrodes	K	G1	G2 & Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	Dy11	Dy12	P
Ratio	1.2	2.8	1.2	1.8	1	1	1	1	1	1	1.5	1.5	3	2.5	

Supply Voltage: 2500Vdc, K: Cathode, Dy: Dynode, P: Anode, G: Grid

SPECIAL VOLTAGE DISTRIBUTION RATIO FOR PULSE LINEARITY MEASUREMENTS

Electrodes	K	G1	G2 & Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	Dy11	Dy12	P
Ratio	1.2	2.8	1.2	1.8	1	1	1.2	1.5	2	2.8	4	5.7	8	5	

Supply Voltage: 2500Vdc, K: Cathode, Dy: Dynode, P: Anode, G: Grid

PHOTOMULTIPLIER TUBE R1828-01

Figure 1: Typical Spectral Response

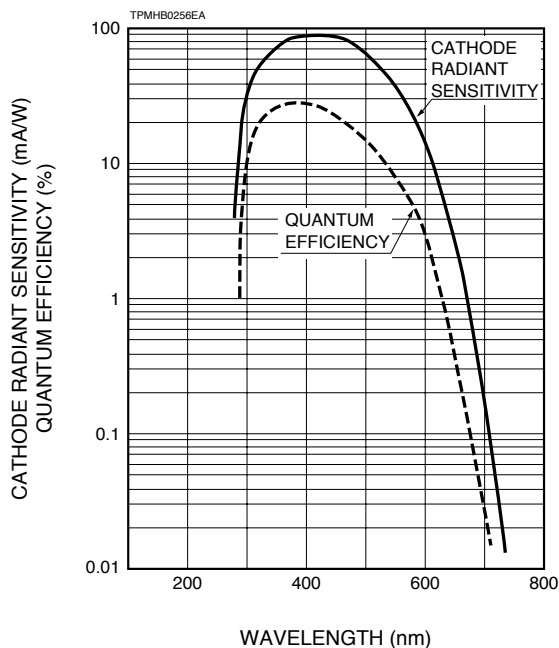


Figure 2: Typical Gain Characteristics

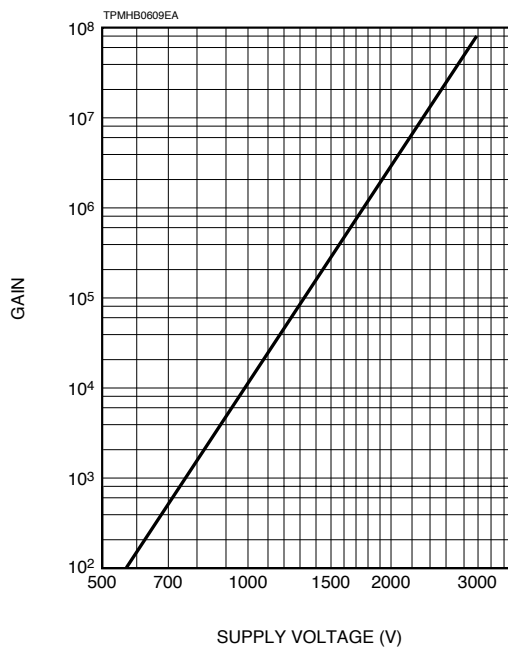
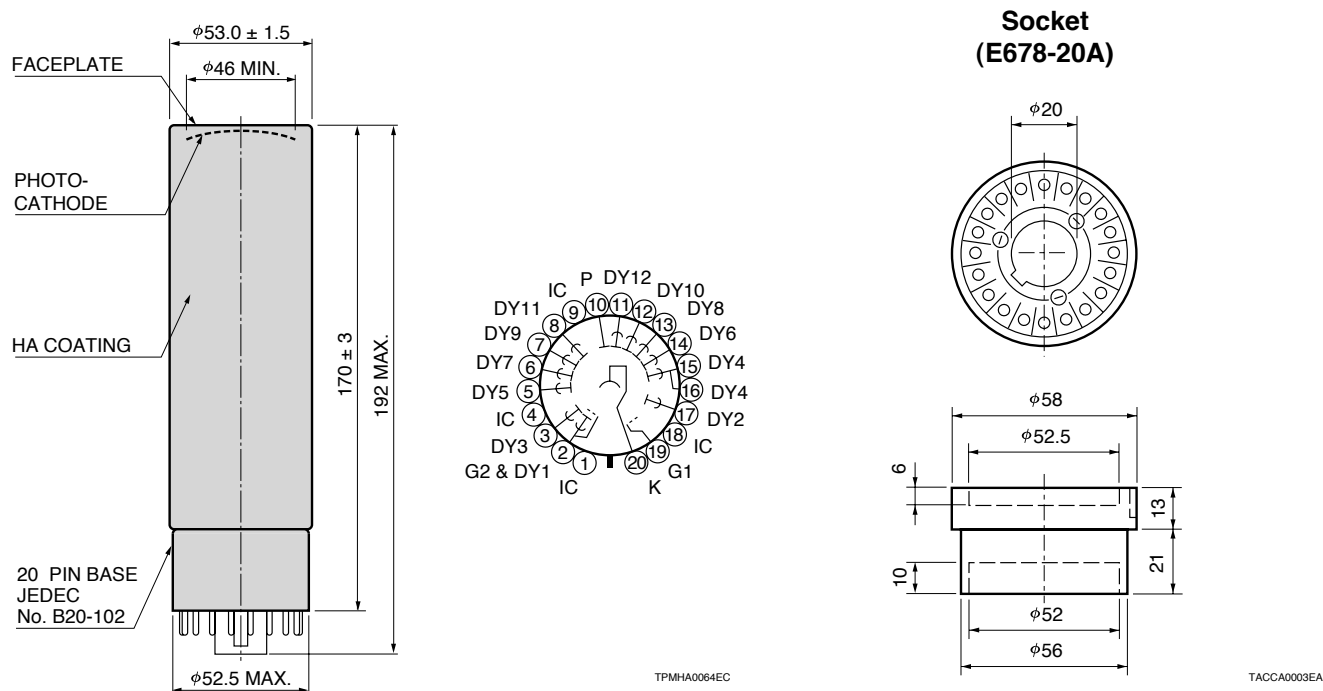


Figure 3: Dimensional Outline and Basing Diagram (Unit: mm)



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