

HAMAMATSU

PHOTOMULTIPLIER TUBE R1513

Multialkali Photocathode with S-20 Spectral Response 127mm (5 Inch) Diameter, 10-Stage, Head-On Type

GENERAL

Parameter		Description/Value	Unit
Spectral Response		300 to 850	nm
Wavelength of Maximum Response		420	nm
Photocathode	Material	Multialkali	—
	Minimum Useful Diameter	111	mm dia.
Window	Material	Borosilicate glass	—
Dynode	Structure	Venetian blind	—
	Number of Stages	10	—
Base		JEDEC No. B14-38	—
Suitable Socket		E678-14A (Option)	—

MAXIMUM RATINGS (Absolute Maximum Values)

Parameter		Value	Unit
Supply Voltage	Between Anode and Cathode	2000	Vdc
	Between Anode and Last Dynode	300	Vdc
Average Anode Current		0.1	mA
Ambient Temperature		-30 to +50	°C

CHARACTERISTICS (at 25°C)

Parameter		Min.	Typ.	Max.	Unit
Cathode Sensitivity	Luminous (2856K)	100	150	—	μA/lm
	Radiant at 420nm (peak)	—	64	—	mA/W
	Red/White Ratio	—	0.2	—	—
Anode Sensitivity	Luminous (2856K)	10	50	—	A/lm
	Radiant at 420nm (peak)	—	2.1×10^4	—	A/W
Gain		—	3.3×10^5	—	—
Anode Dark Current (after 30min. storage in darkness)		—	30	150	nA
Time Response	Anode Pulse Rise Time	—	7	—	ns
	Electron Transit Time	—	82	—	ns

VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

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

Supply Voltage: 1500Vdc, K: Cathode, Dy: Dynode, P: Anode, G: Grid



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Figure 1: Typical Spectral Response

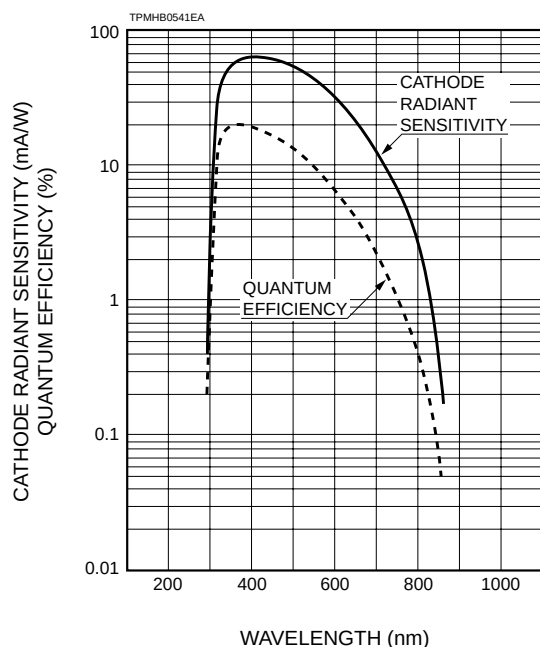


Figure 2: Typical Gain Characteristics

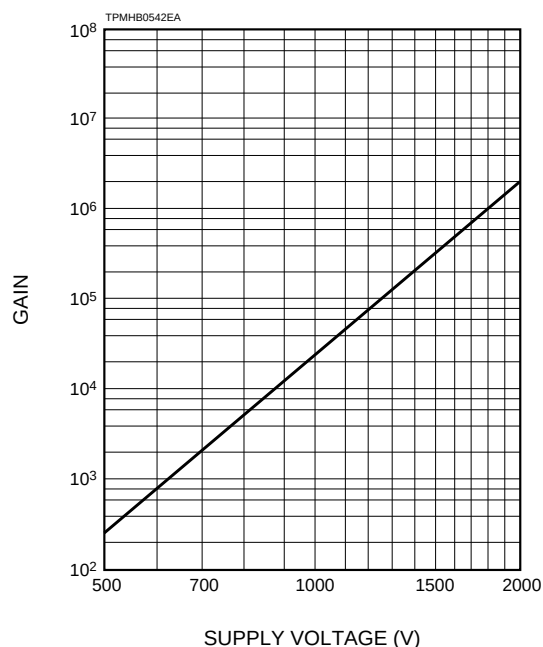
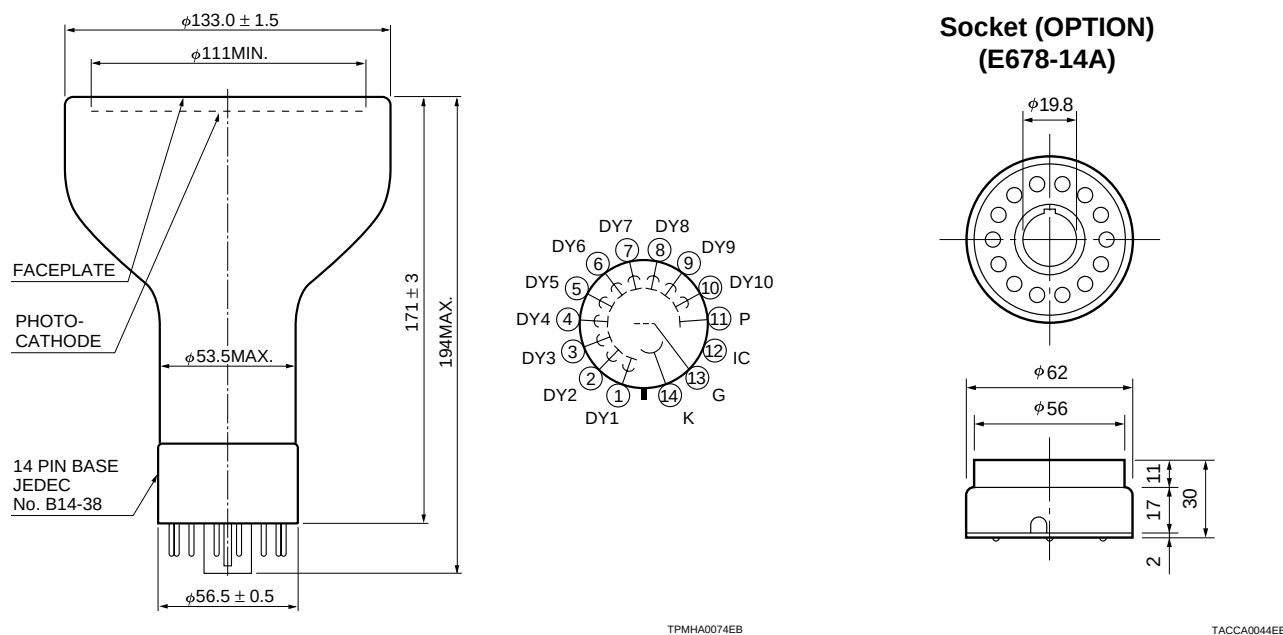


Figure 3: Dimensional Outline and Basing Diagram (Unit: mm)



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