

HAMAMATSU

PHOTOMULTIPLIER TUBE R4177-01

Ruggedized, High Temperature (175°C) PMT for Oil Well Logging 13mm (1/2 Inch) Diameter, 10-Stage, Head-On Type

GENERAL

Parameter		Description/Value	Unit
Spectral Response		300 to 650	nm
Wavelength of Maximum Response		375	nm
Photocathode	Material	High temp. bialkali	—
	Minimum Effective Area	10	mm dia.
Window Material		Borosilicate glass	—
Dynode	Structure	Linear focused	—
	Number of Stages	10	—
Suitable Socket		E678-13A (supplied)	—

MAXIMUM RATINGS (Absolute Maximum Values)

Parameter		Value	Unit
Supply Voltage	Between Anode and Cathode	1800	Vdc
	Between Anode and Last Dynode	250	Vdc
Average Anode Current		0.02	mA
Ambient Temperature		-80 to +175	°C

CHARACTERISTICS (at 25°C)

Parameter		Min.	Typ.	Max.	Unit
Cathode Sensitivity	Luminous (2856K)	20	40	—	μA/lm
	Blue (CS 5-58 filter)	—	6	—	μA/lm-b
Anode Sensitivity	Luminous (2856K)	10	20	—	A/lm
Gain		—	5×10^5	—	—
Anode Dark Current (after 30min. storage in darkness)		—	0.5 *	10	nA
Time Response	Anode Pulse Rise Time	—	2	—	ns
	Electron Transit Time	—	20	—	ns

* 1000nA at 175°C

VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

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

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

ENVIRONMENTAL TESTING

Shock 100g's, 11 ± 1ms, 3 impact shocks per direction (6 directions)
 Vibration Sine 20g's, 50 to 2000Hz, 1oct per minute, 1 sweep per axis (3 axes)



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Figure 1: Typical Spectral Response

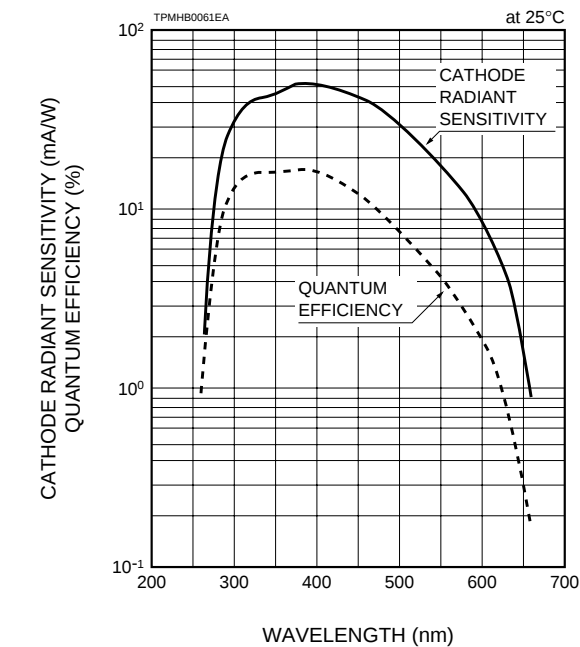


Figure 2: Typical Gain

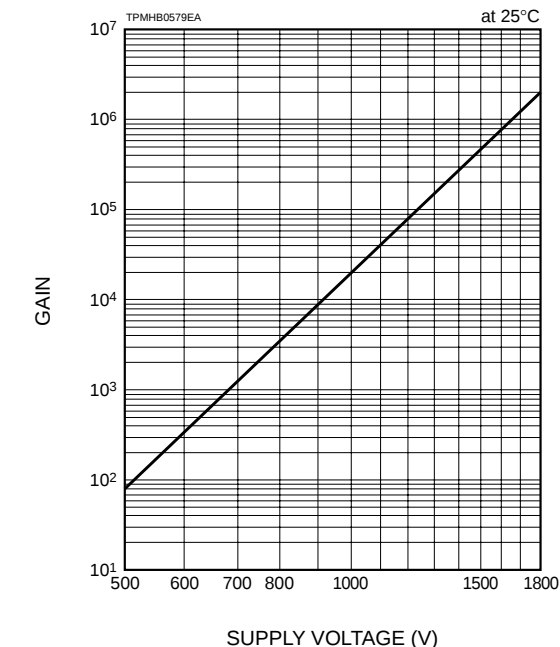
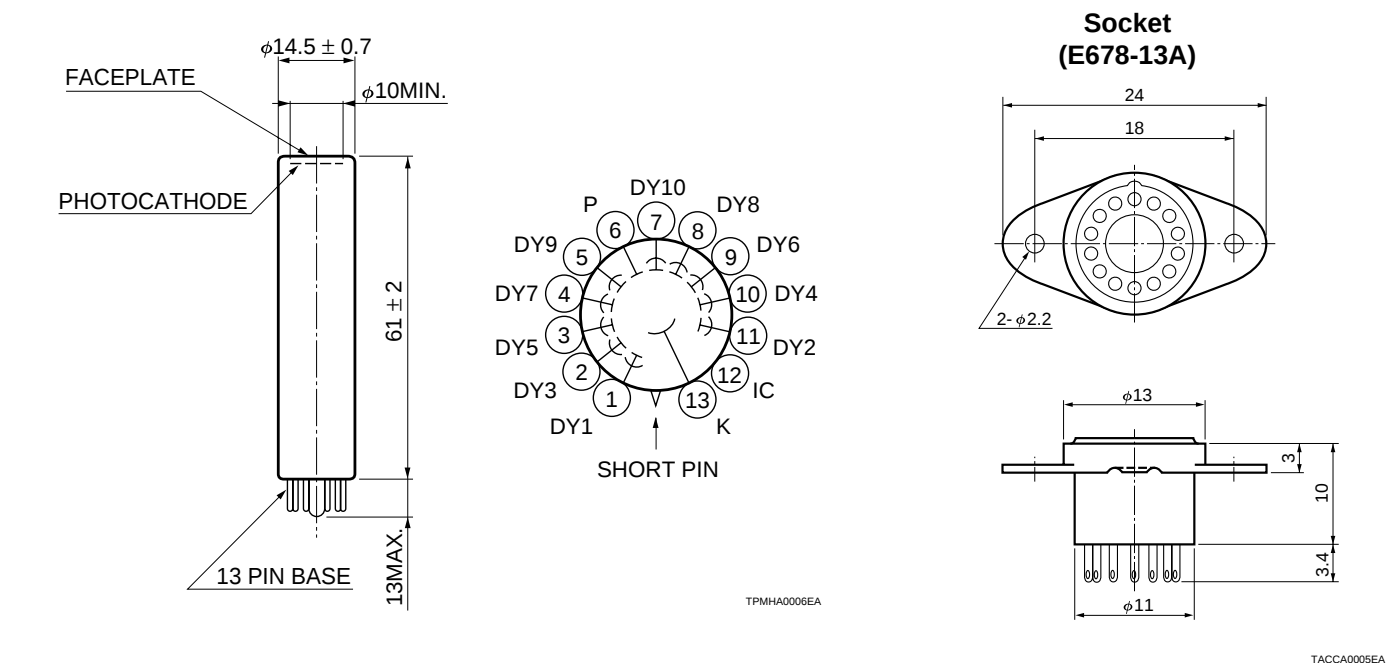


Figure 3: Dimensional Outline and Basing Diagram (Unit: mm)



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