

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

**GENERAL**

Parameter		Description	Unit
Spectral Response		300 to 650	nm
Wavelength of Maximum Response		375	nm
Photocathode	Material	High Temp. Bialkali	—
	Minimum Effective Area	φ10	mm
Window Material		Borosilicate glass	—
Dynode	Structure	Linear focused	—
	Number of Stages	10	—
Operating Ambient Temperature		-30 to +175	°C
Storage Temperature		-80 to +175	°C
Suitable Socket		E678-13E (supplied)	—

**MAXIMUM RATINGS (Absolute Maximum Values)**

Parameter		Value	Unit
Supply Voltage	Between Anode and Cathode	1800	V
	Between Anode and Last Dynode	250	V
Average Anode Current		0.02	mA

**CHARACTERISTICS (at 25 °C)**

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

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

**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: 1500 Vdc, K: Cathode, Dy: Dynode, P: Anode

**ENVIRONMENTAL TESTING**

Shock ..... 5000 m/s<sup>2</sup> (500 G), 11 ± 1 ms, 3 impact shocks per direction (6 directions)

Vibration ..... Sine 200 m/s<sup>2</sup> (20 G), 50 Hz to 2000 Hz, 1 oct per minute, 1 sweep per axis (3 axes)

# PHOTOMULTIPLIER TUBE R4177-01

Figure 1: Typical Spectral Response

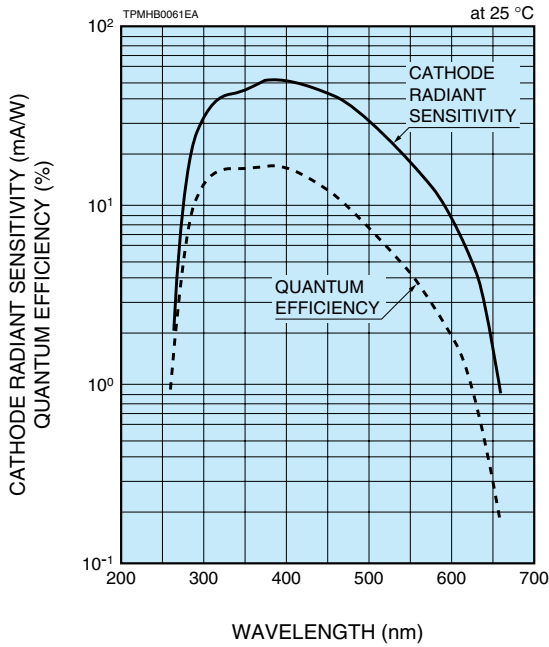


Figure 2: Typical Gain

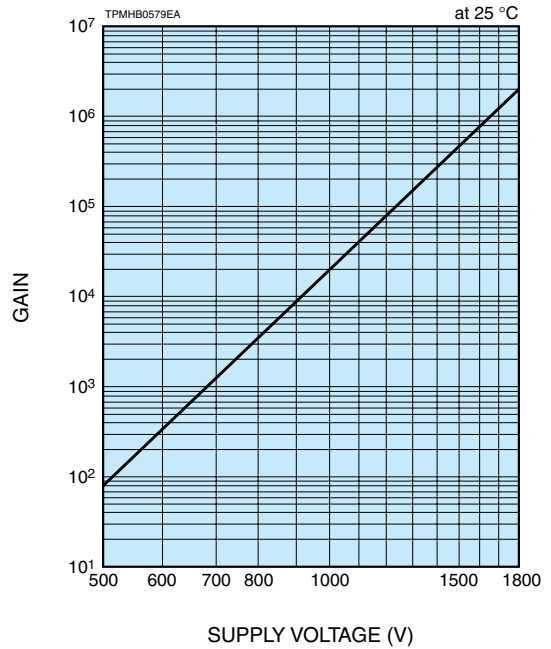
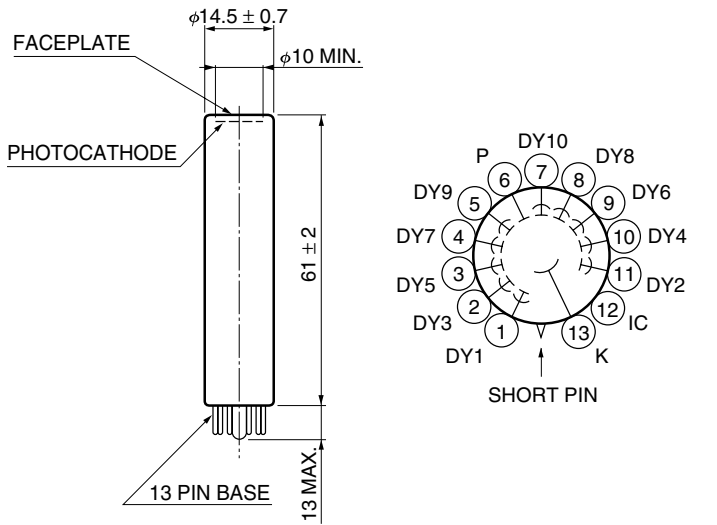
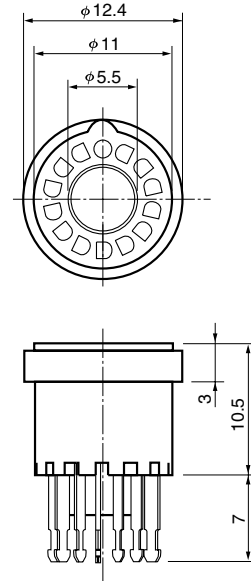


Figure 3: Dimensional Outline and Basing Diagram (Unit: mm)



Socket E678-13E (Supplied)



TACCA0013EB

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