

**For Photon Counting Applications**  
**Excellent Transit Time Spread, Low After Pulse**  
**19mm (3/4 Inch) Diameter, Multialkali Photocathode, 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 Effective Area	4	mm dia.
Window Material		Borosilicate glass	—
Dynode	Structure	Linear focused	—
	Number of Stages	10	—
Base		12-pin glass base	—
Suitable Socket		E678-12D (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		0.1	mA
Ambient Temperature		-80 to +50	°C

## CHARACTERISTICS (at 25°C)

Parameter		Min.	Typ.	Max.	Unit
Cathode Sensitivity	Luminous (2856K)	80	120	—	μA/lm
	Radiant at 420nm	—	51	—	mA/W
	Red/White Ratio (with R-68 filter)	—	0.2	—	—
Anode Sensitivity	Luminous (2856K)	30	150	—	A/lm
	Radiant at 420nm	—	$6.1 \times 10^4$	—	A/W
Gain		—	$1.2 \times 10^6$	—	—
Anode Dark Counts		—	100	250	cps
Time Response	Anode Pulse Rise Time	—	1.7	—	ns
	Electron Transit Time	—	24	—	ns

## VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

Electrodes	K	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	P
Ratio	2	1	1	1	1	1	1	1	1	1	1	1

Supply Voltage: 1000Vdc, K: Cathode, Dy: Dynode, P: Anode

# PHOTOMULTIPLIER TUBE R1878

Figure 1: Typical Spectral Response

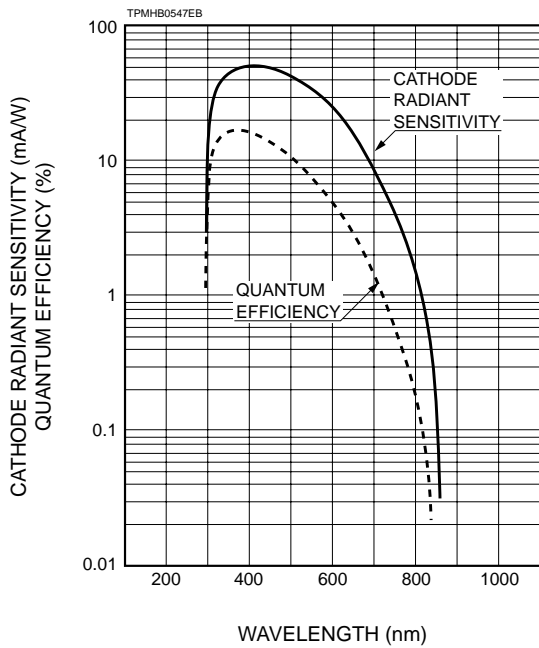


Figure 2: Typical Gain Characteristics

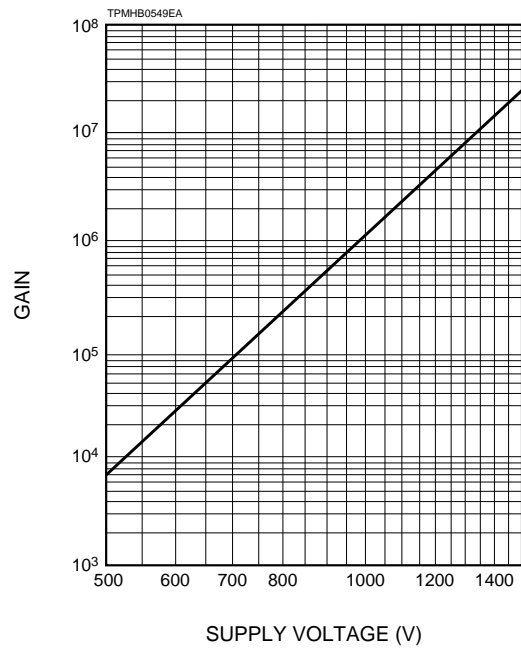
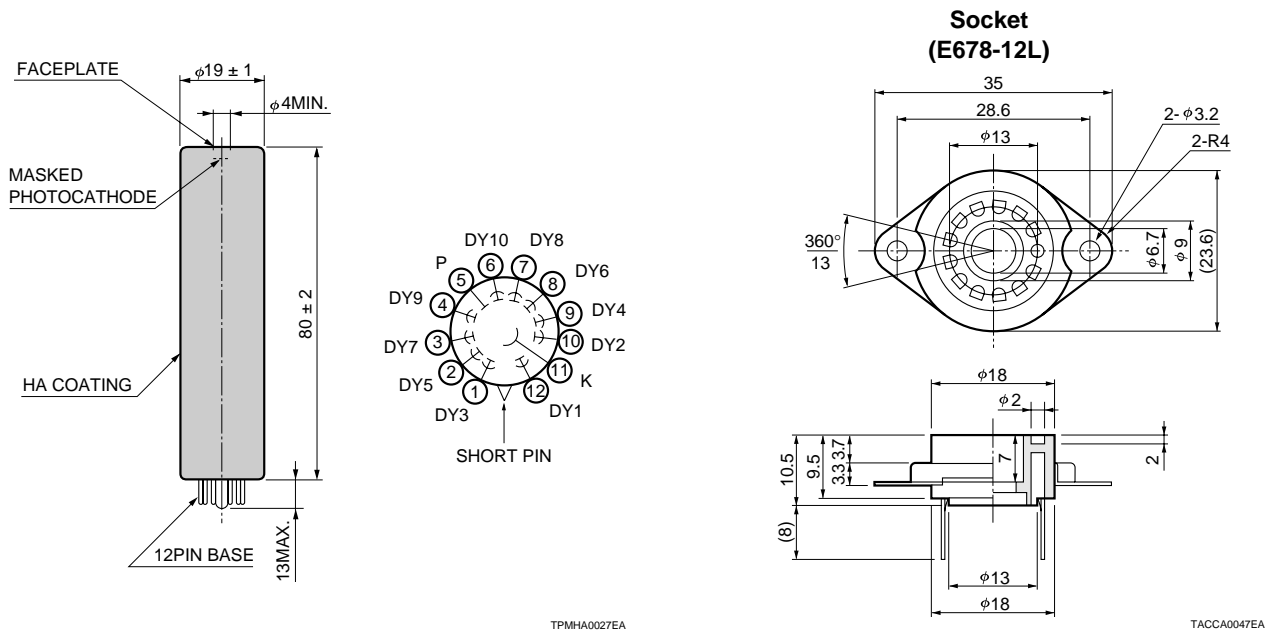


Figure 3: Dimensional Outline and Basing Diagram (Unit: mm)



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