

**For High Energy Physics and Scintillation Counting,  
28mm(1-1/8 Inch) Diameter, Low Profile,  
Bialkali Photocathode, 9-Stage, Head-On Type**

## GENERAL

Parameter		Description / Value	Unit
Spectral Response		300 to 650	nm
Wavelength of Maximum Response		420	nm
Photocathode Material	Material	Bialkali	-
	Minimum Effective Area	25	mm dia.
Window Material		Borosilicate glass	-
Dynode	Structure	Box(3) and Line(6)	-
	Number of Stages	9	-
Base		14-pin glass base	-
Suitable Socket		E678-14C (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)	60	90	-	μ A/lm
	Radiant at 420nm	-	85	-	mA/W
	Blue (CS-5-58 filter)	-	10.5	-	μ A/lm-b
Anode Sensitivity	Luminous (2856K)	50	120	-	A/lm
	Radiant at 420nm	-	1.1 × 10 <sup>5</sup>	-	A/W
Gain		-	1.3 × 10 <sup>6</sup>	-	-
Anode Dark Current (after 30min. storage in darkness)		-	2	10	nA
Time Response	Anode Pulse Rise Time	-	3.4	-	ns
	Electron Transit Time	-	23	-	ns

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

## VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

Electrodes	K	G	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	P
Ratio	3	1	1	1	1	1	1	1.5	1	1	1	1

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

# PHOTOMULTIPLIER TUBE R3998-02

Figure 1: Typical Spectral Response

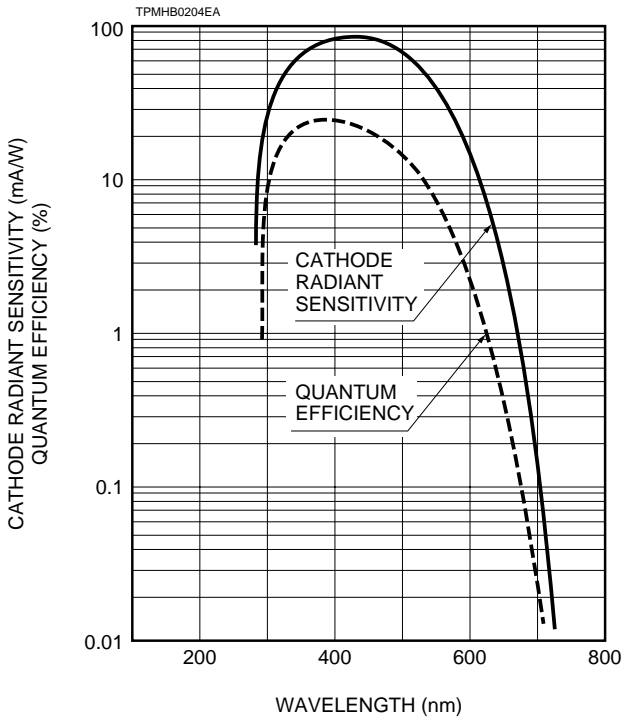
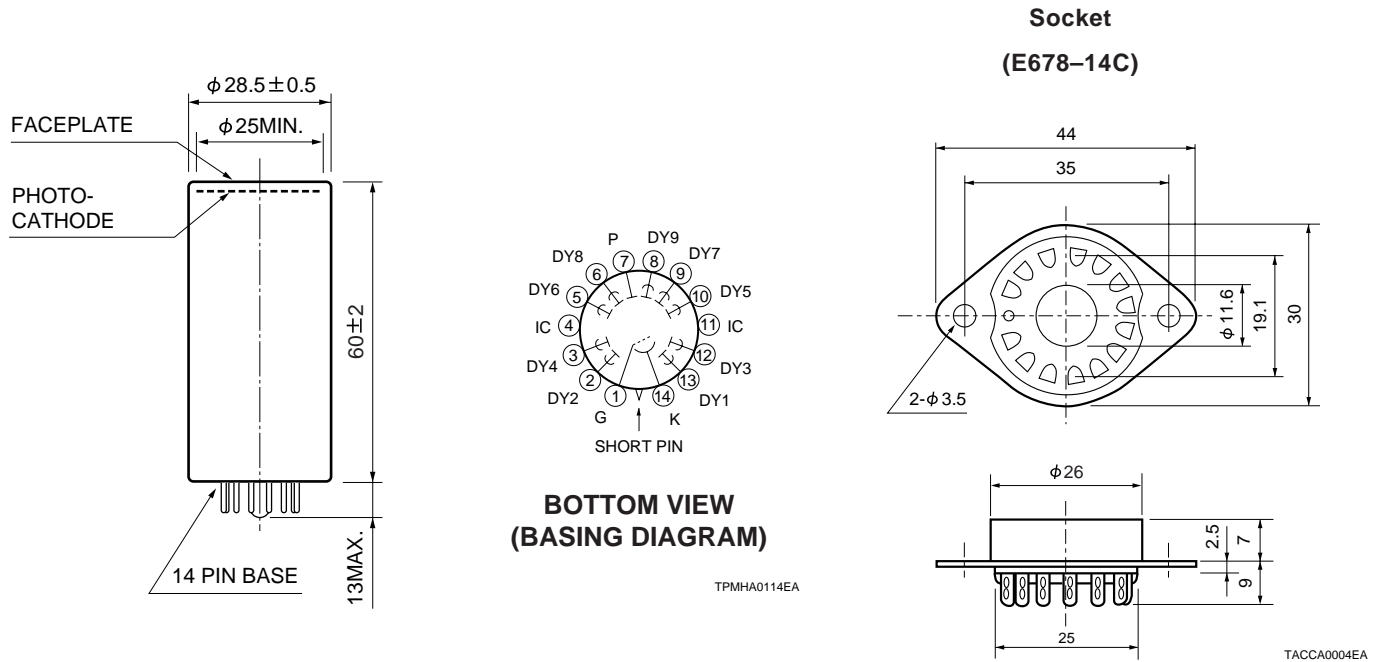


Figure 2: Dimensional Outline and Basing Diagram (Unit : mm)



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