

**For High Energy Physics, Fast Time Response, High Pulse Linearity  
127 mm (5 Inch) Diameter, Bialkali Photocathode, 14-Stage, Head-on Type**

**GENERAL**

Parameter		Description	Unit
Spectral Response		300 to 650	nm
Wavelength of Maximum Response		420	nm
Photocathode	Material	Bialkali	—
	Minimum Effective Area	φ120	mm
Window Material		Borosilicate glass	—
Dynode	Structure	Linear focused	—
	Number of Stages	14	—
Operating Ambient Temperature		-30 to +50	°C
Storage Temperature		-30 to +50	°C
Base		20-pin base	—
Suitable Socket		E678-20B (supplied)	—

**MAXIMUM RATINGS (Absolute Maximum Values)**

Parameter		Value	Unit
Supply Voltage	Between Anode and Cathode	3000	V
	Between Anode and Last Dynode	500	V
Average Anode Current		0.2	mA

**CHARACTERISTICS (at 25 °C)**

Parameter		Min.	Typ.	Max.	Unit
Cathode Sensitivity	Luminous (2856 K)	55	70	—	μA/lm
	Blue Sensitivity Index (CS 5-58)	7.0	9.0	—	—
	Quantum Efficiency at 390 nm	—	22	—	%
Anode Sensitivity	Luminous (2856 K)	300	1000	—	A/lm
	Blue Sensitivity Index (CS 5-58)	—	130	—	—
Gain		—	1.4 × 10 <sup>7</sup>	—	—
Anode Dark Current (after 30 min storage in darkness)		—	50	300	nA
Time Response	Anode Pulse Rise Time	—	2.5	—	ns
	Electron Transit Time	—	54	—	ns
	Transit Time Spread	—	1.2	—	ns
Pulse Height Resolution with <sup>137</sup> Cs		—	8.3	—	%
Gain Deviation	Long Term	—	1.0	—	%
	Short Term	—	1.0	—	%
Pulse Linearity *	2 % Deviation	—	160	—	mA
	5 % Deviation	—	250	—	mA

**NOTE:** Measured with special voltage distribution ratios shown in the Table 2.

**Table 1: VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE**

Electrode	K	G1	G2	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	Dy11	Dy12	Dy13	Dy14	P
Ratio	2.5	7.5	0	1.2	1.8	1	1	1	1	1	1	1	1	1.5	1.5	3	2.5	

Supply Voltage: 2000 Vdc, K: Cathode, Dy: Dynode, P: Anode, G: Grid

**Table 2: SPECIAL VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE FOR PULSE LINEARITY MEASUREMENT**

Electrode	K	G1	G2	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	Dy11	Dy12	Dy13	Dy14	P	
Ratio	2.5	7.5	0	1.2	1.8	1	1	1	1	1.2	1.5	2	2.8	4	5.7	8	5		
Capacitors in μF												0.01	0.01	0.02	0.02	0.02	0.04	0.06	

Supply Voltage: 2500 Vdc, K: Cathode, Dy: Dynode, P: Anode, G: Grid

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# PHOTOMULTIPLIER TUBE R1250

Figure 1: Typical Spectral Response

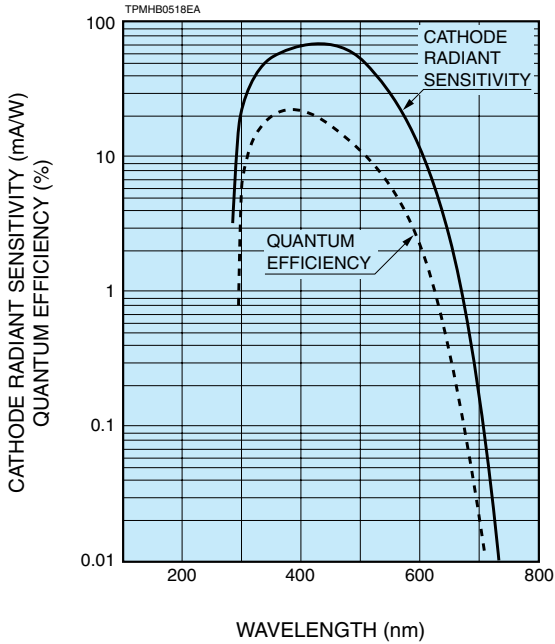


Figure 2: Typical Gain Characteristics

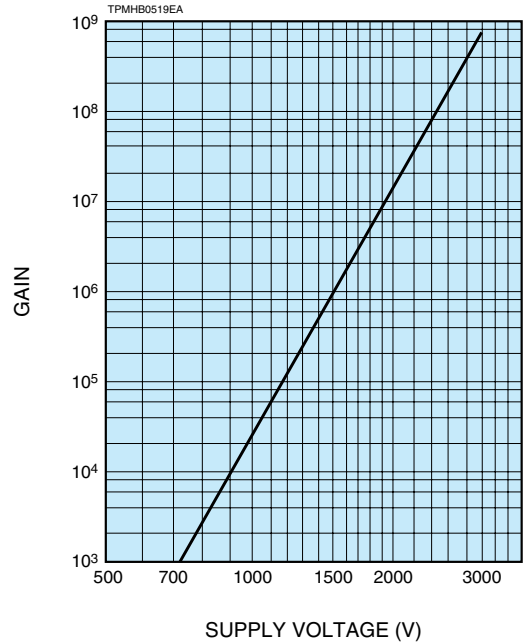
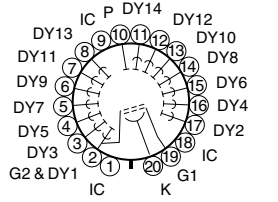
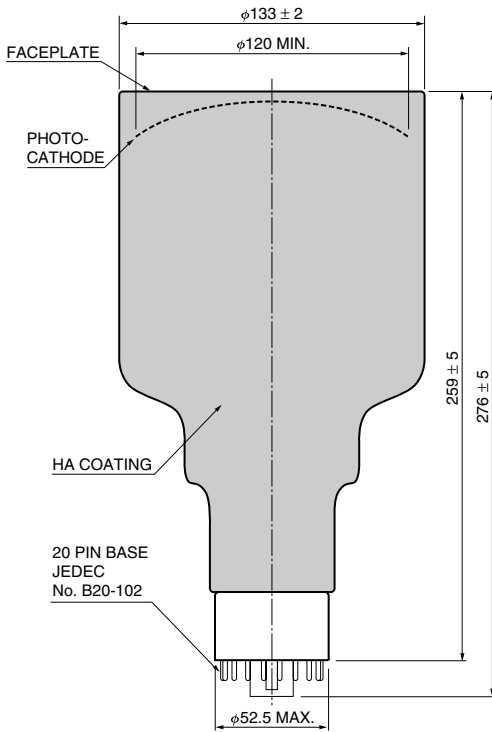
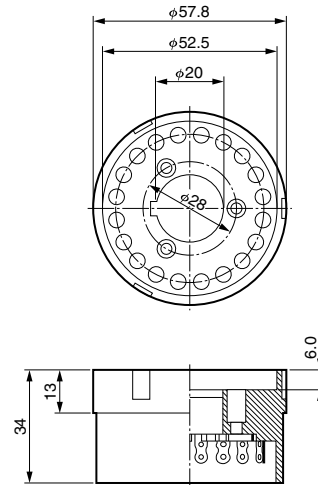


Figure 3: Dimensional Outline and Basing Diagram (Unit: mm)



Socket E678-20B (Supplied)



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TPMH1213E03  
DEC. 2010 IP