

FEATURES

- Fast time response
- High pulse linearity

APPLICATIONS

- High energy physics
- Radiation measurement
- Academic research



SPECIFICATIONS

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	7.0	9.0	—	—
	Quantum efficiency at 390 nm	—	22	—	%
Anode sensitivity	Luminous (2856 K)	300(—)	1000 (2800)	—	A/lm
Gain		—	1.4 × 10 ⁷ (4.0 × 10 ⁷)	—	—
Anode dark current (after 30 min storage in darkness)		—	50 (300)	300 (1800)	nA
Time response	Anode pulse rise time	—	2.5 (2.2)	—	ns
	Electron transit time	—	54 (53)	—	ns
	Transit time spread	—	1.8 (1.8)	—	ns
Pulse linearity	±2 % deviation	—	100 (160)	—	mA
	±5 % deviation	—	150 (250)	—	mA

(): Measured with special voltage distribution ratio in Table 2 on the next page.

PHOTOMULTIPLIER TUBE R1250

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 V, 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 V, K: Cathode, Dy: Dynode, P: Anode, G: Grid

Figure 1: Typical spectral response

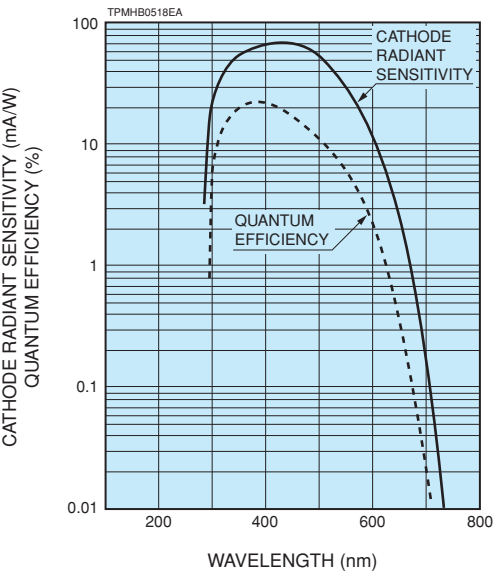


Figure 2: Typical gain characteristics

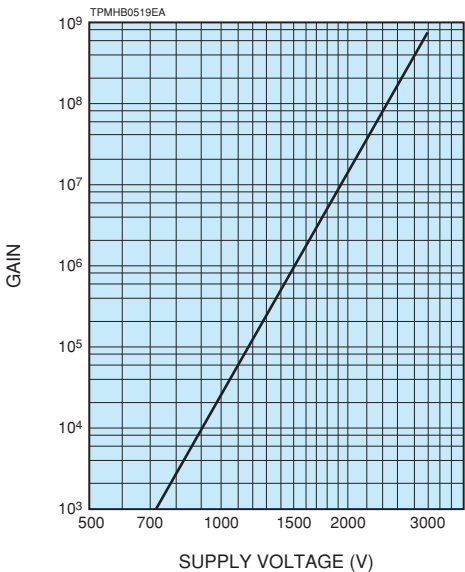
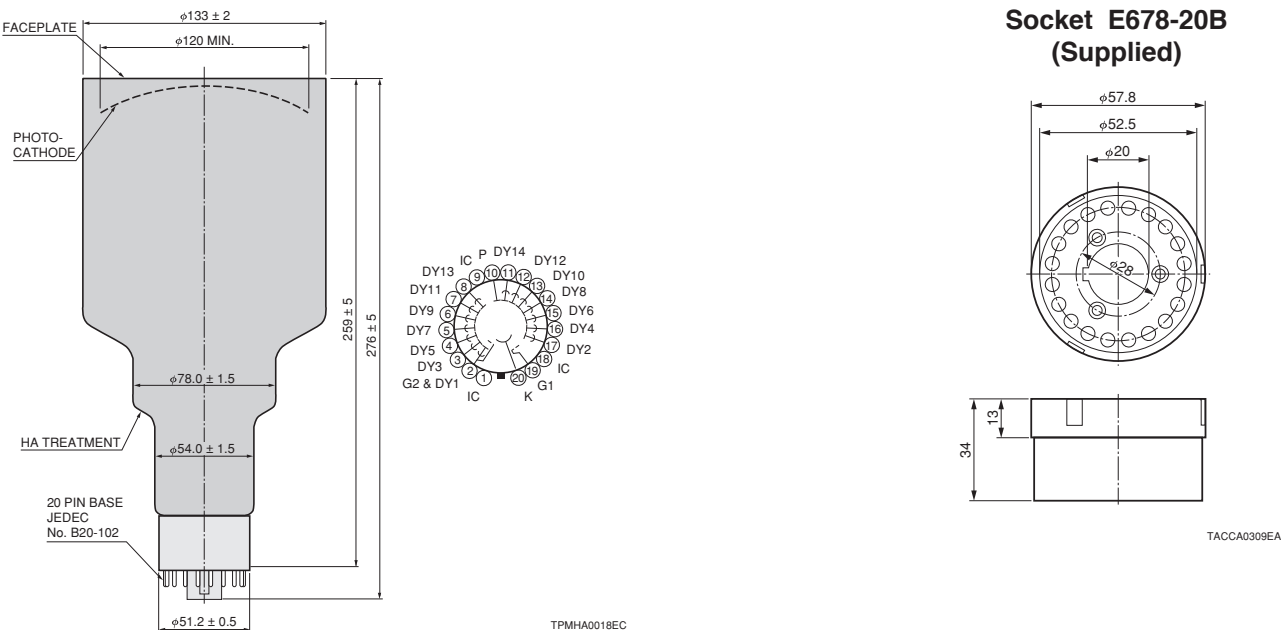


Figure 3: Dimensional outline and basing diagram (Unit: mm)



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