

FEATURES

- High speed response
- Low dark count

APPLICATIONS

- Liquid scintillation counting
- Photon counting



SPECIFICATIONS

GENERAL

Parameter		Description / Value	Unit
Spectral response		300 to 650	nm
Wavelength of maximum response		420	nm
Photocathode	Material	Bialkali	—
	Minimum effective area	φ46	mm
Window material	Material	Low K content borosilicate glass (Frosted)	—
	Shape	Concave-Convex	—
Dynode	Structure	Linear focused	—
	Number of stages	12	—
Base		21-pin glass base	—
Suitable socket		E678-21C (supplied)	—
Weight		145	g
Operation ambient temperature		-30 to +50	°C
Storage temperature		-30 to +50	°C

MAXIMUM RATINGS (Absolute maximum values)

Parameter		Value	Unit
Supply voltage	Between anode and cathode	2500	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)	60	90	—	μA/lm
	Blue sensitivity Index	9.0	10.5	—	—
	Quantum efficiency at peak wavelength	—	25	—	%
Anode sensitivity	Luminous (2856 K)	30	120	—	A/lm
	Radiant at peak wavelength	—	1.1 × 10 ⁵	—	A/W
Gain		—	1.3 × 10 ⁶	—	—
Anode dark current (after 30 min storage in darkness)		—	10	50	nA
Anode dark count (after 3 h storage in darkness)		—	1000	2000	s ⁻¹
Time response	Anode pulse rise time	—	2.6	—	ns
	Electron transit time	—	48	—	ns
	Transit time spread (FWHM)	—	1.1	—	ns
Pulse linearity	2 % deviation	—	15	—	mA
	5 % deviation	—	30	—	mA

VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

Electrodes	K	G	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	Dy11	Dy12	P
Ratio	4	0	1	1.4	1	1	1	1	1	1	1	1	1	1	1

Supply voltage: 1500 V, K: Cathode, Dy: Dynode, P: Anode, G: Grid * Shield should be connected to Dy5

PHOTOMULTIPLIER TUBE R331-05

Figure 1: Typical spectral response

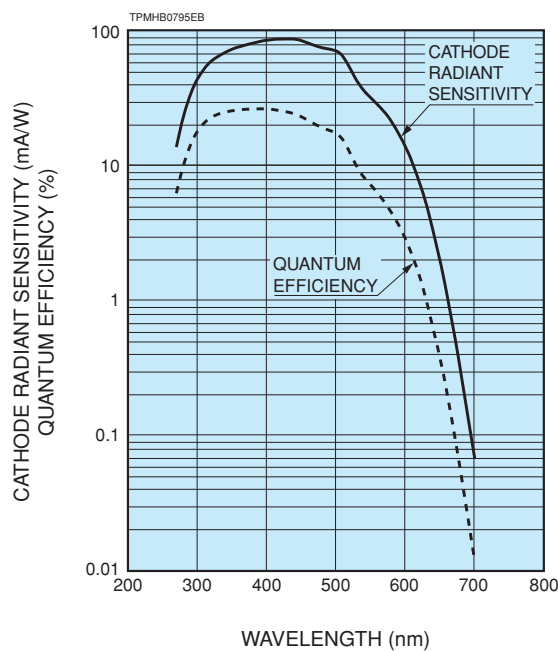


Figure 2: Typical anode luminous sensitivity and gain

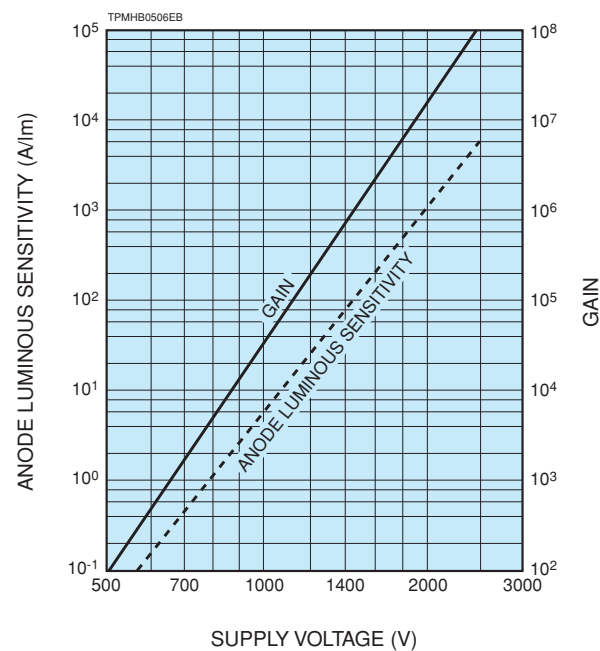


Figure 3: Dimensional outline and basing diagram (Unit: mm)

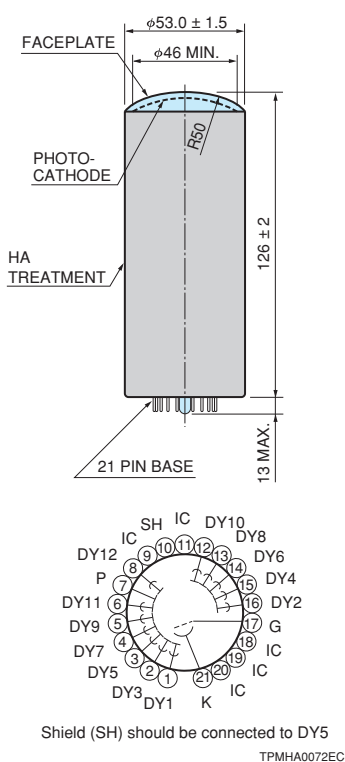
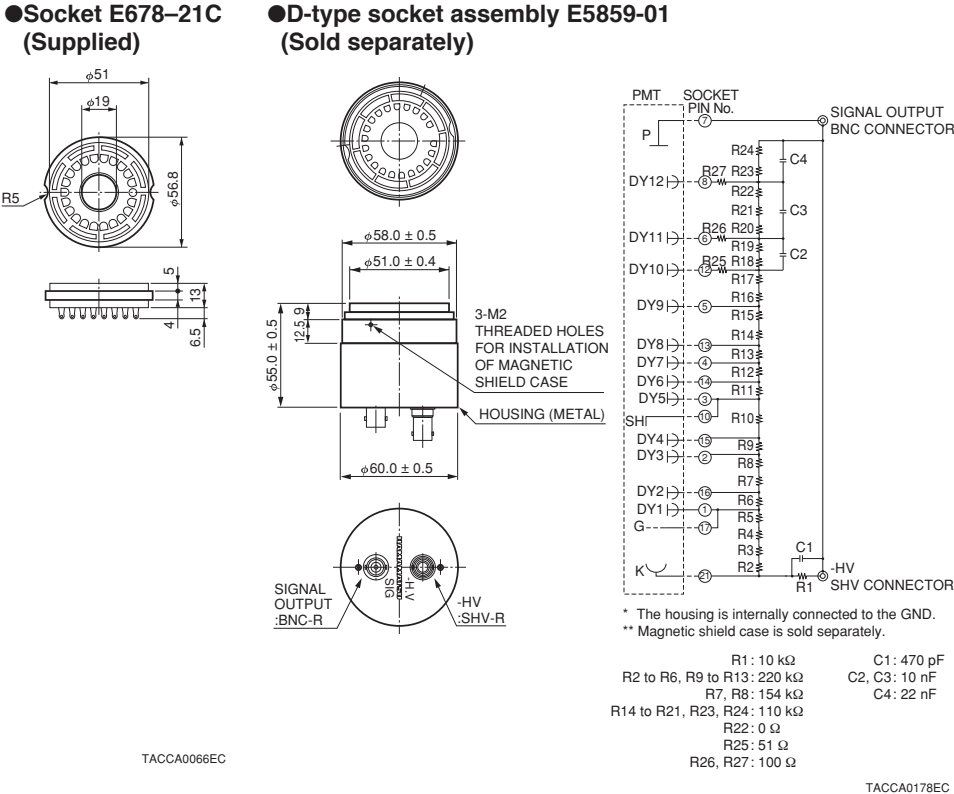


Figure 4: Accessories (Unit: mm)



* HAMAMATSU also provides bench-top type high voltage power supplies C9727 series.

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