

FEATURES

- Fast time response
- Low noise

APPLICATIONS

- For scintillation counting
- High energy physics

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		Borosilicate glass	—
Dynode	Structure	Linear-focused	—
	Number of stages	8 (R7723) / 10 (R7724) / 12 (R7725)	—
Base		21-pin glass base	—
Suitable socket		E678-21C (supplied)	—
Operating ambient temperature		-30 to +50	°C
Storage temperature		-80 to +50	°C

MAXIMUM RATINGS (Absolute maximum values)

Parameter		Value	Unit
Supply voltage	Between anode and cathode	2000	V
	Between anode and last dynode	500	V
Average anode current		0.2	mA

CHARACTERISTICS (at 25 °C)

Parameter		R7723			R7724			R7725			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Cathode sensitivity	Luminous (2856 K)	60	90	—	60	90	—	60	90	—	μA/lm
	Quantum efficiency at 420 nm	—	26	—	—	26	—	—	26	—	%
	Blue sensitivity index	—	10.5	—	—	10.5	—	—	10.5	—	—
Anode sensitivity	Luminous (2856 K)	10	90	—	30	300	—	100	600	—	A/lm
Gain		—	1.0 × 10 ⁶	—	—	3.3 × 10 ⁶	—	—	6.7 × 10 ⁶	—	—
Anode dark current (after 30 min storage in darkness)		—	3	20	—	6	40	—	9	60	nA
Time response	Anode pulse rise time	—	1.7	—	—	2.1	—	—	2.5	—	ns
	Electron transit time	—	23	—	—	29	—	—	35	—	ns
	Transit time spread (T.T.S.)	—	1.1	—	—	1.2	—	—	1.3	—	ns
Pulse linearity	±2 % deviation	—	80	—	—	60	—	—	40	—	mA
	±5 % deviation	—	100	—	—	90	—	—	80	—	mA

NOTE: Anode characteristics are measured with voltage distribution ratios shown below:

VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

R7723

Electrodes	K	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	P
Ratio	4	1	2	1	1	1	1	2	1	

R7724

Electrodes	K	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	P
Ratio	4	1	2	1	1	1	1	1	1	2	1	

R7725

Electrodes	K	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	Dy11	Dy12	P
Ratio	4	1	2	1	1	1	1	1	1	1	1	2	1	

Supply Voltage: 1750 V, K: Cathode, Dy: Dynode, P: Anode

PHOTOMULTIPLIER TUBE R7723, R7724, R7725

Figure 1: Typical spectral response

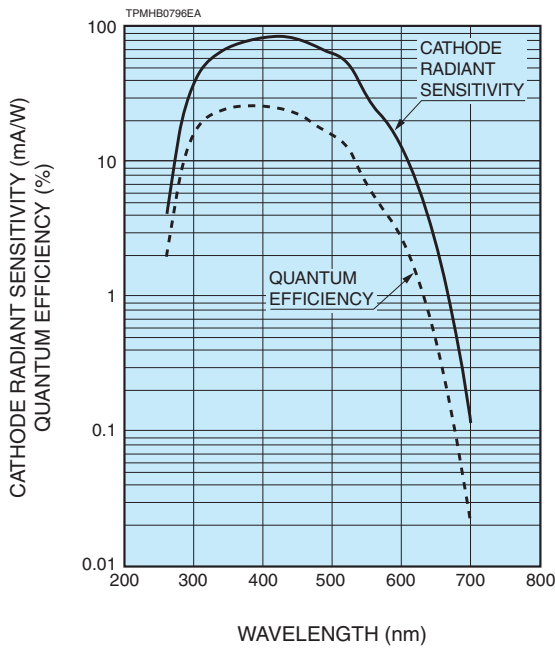


Figure 2: Typical gain

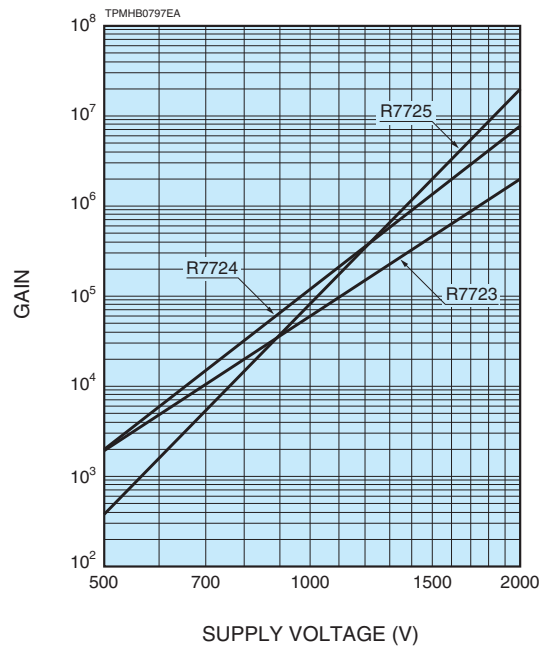
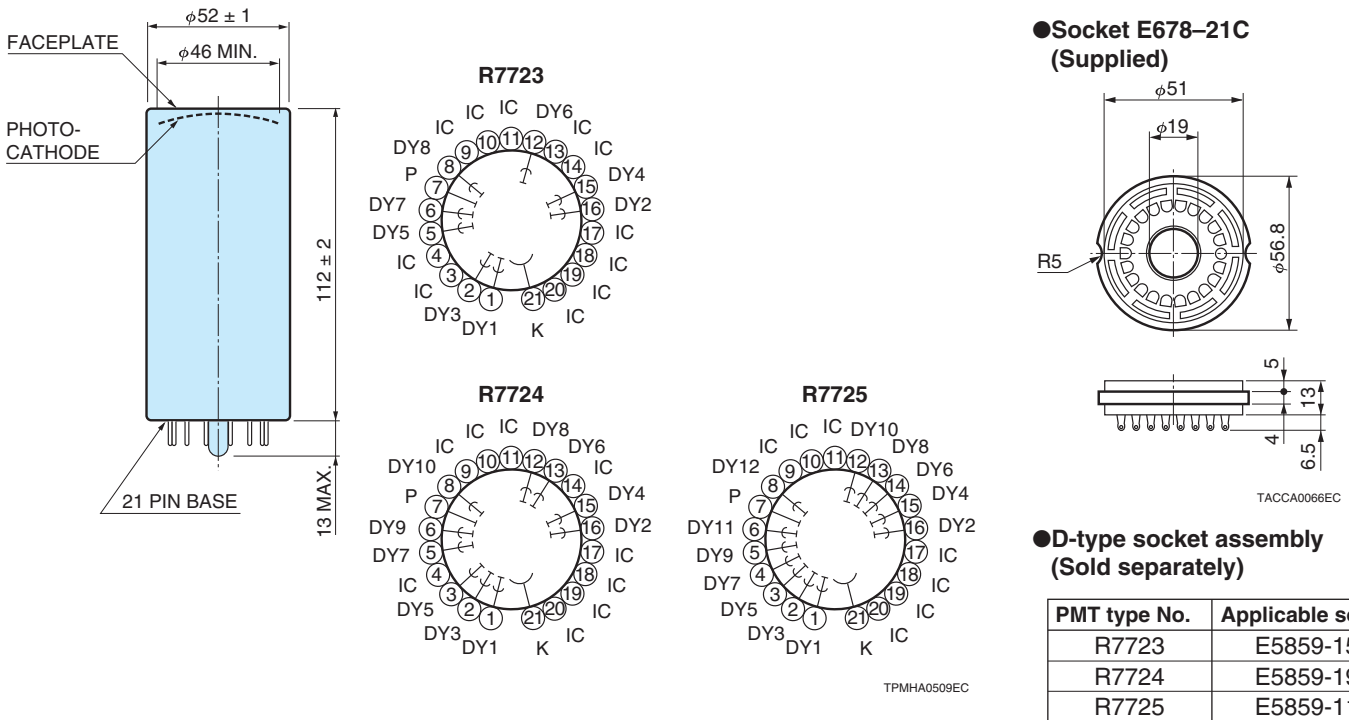


Figure 3: Dimensional outline and basing diagram (Unit: mm)



* HAMAMATSU also provides high voltage power supply modules C9619 series.

HAMAMATSU PHOTONICS K.K. www.hamamatsu.com

Electron Tube Division

314-5, Shimokanzo, Iwata City, Shizuoka Pref., 438-0193, Japan, Telephone: (81)539/62-5248, Fax: (81)539/62-2205

U.S.A.: Hamamatsu Corporation, 360 Foothill Road, Bridgewater, NJ 08807, U.S.A., Telephone: (1)908-231-0960, Fax: (1)908-231-1218 E-mail: usa@hamamatsu.com

Germany: Hamamatsu Photonics Deutschland GmbH, Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49)8152-375-0, Fax: (49)8152-265-8 E-mail: info@hamamatsu.de

France: Hamamatsu Photonics France S.A.R.L., 19, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: (33)1 69 53 71 00, Fax: (33)1 69 53 71 10 E-mail: infos@hamamatsu.fr

United Kingdom: Hamamatsu Photonics UK Limited, 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire AL7 1BW, UK, Telephone: (44)1707-294888, Fax: (44)1707-325777 E-mail: info@hamamatsu.co.uk

North Europe: Hamamatsu Photonics Norden AB, Torshamnsgatan 35 16440 Kista, Sweden, Telephone: (46)8-509 031 00, Fax: (46)8-509 031 01 E-mail: info@hamamatsu.se

Italy: Hamamatsu Photonics Italia S.r.l., Strada della Moia, 1 int. 6, 20020 Arese (Milano), Italy, Telephone: (39)02-93 58 17 33, Fax: (39)02-93 58 17 41 E-mail: info@hamamatsu.it

China: Hamamatsu Photonics (China) Co., Ltd., 1201 Tower B, Jiaming Center, 27 Dongsanhuan Bellu, Chaoyang District, 100020 Beijing, P.R. China, Telephone: (86)10-6586-6006, Fax: (86)10-6586-2866 E-mail: hpc@hamamatsu.com.cn

Taiwan: Hamamatsu Photonics Taiwan Co., Ltd., 8F-3, No.158, Section 2, Gongdao 5th Road, East District, Hsinchu, 300, Taiwan R.O.C. Telephone: (886)3-659-0080, Fax: (886)3-659-0081 E-mail: info@hamamatsu.com.tw

TPMH1315E04
JAN. 2021 IP