

**High speed response, 30 mm square, Bialkali and multialkali photocathode
Metal channel dynode 10-stage, Head-on type**

FEATURES

- Effective area: 18 mm × 18 mm
- High cathode sensitivity
Luminous 200 $\mu\text{A}/\text{lm}$ Typ. (-01 type)
Luminous 500 $\mu\text{A}/\text{lm}$ Typ. (-20 type)
- High speed response
- Wide dynamic range
- Compact
- Weight: Approx. 33 g

APPLICATIONS

- High energy physics
- Flow cytometers (-01, -20 type)
- DNA sequencers (-01, -20 type)
- Pollution monitoring (NOx) (-01, -20 type)

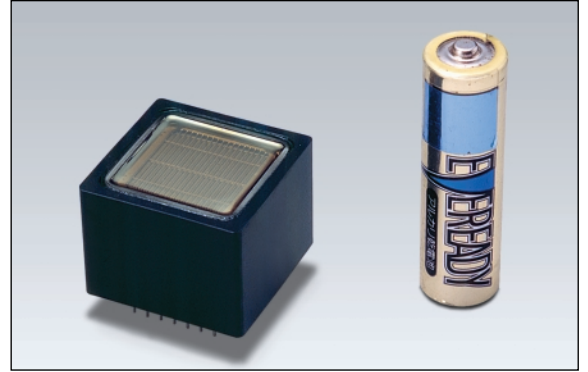
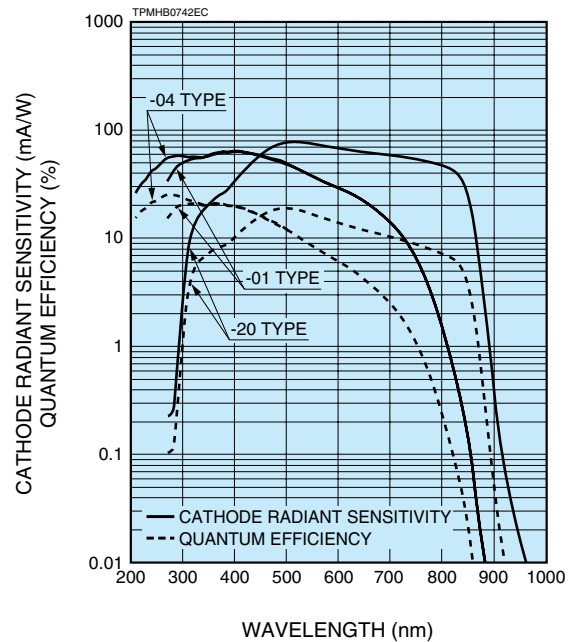
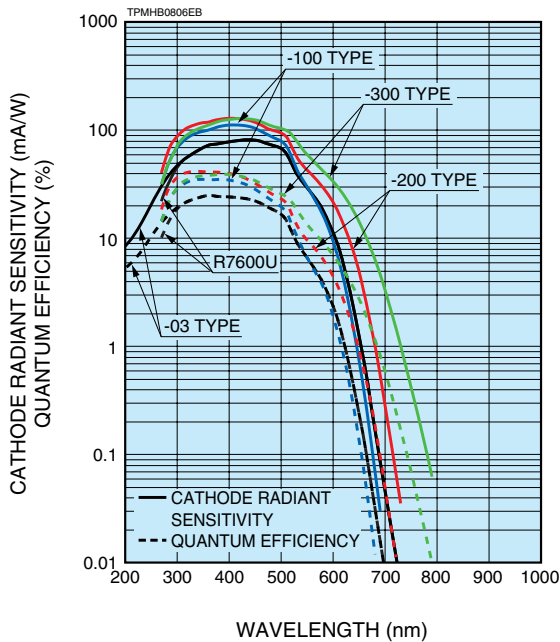


Figure 1: Typical spectral response



PHOTOMULTIPLIER TUBES R7600U SERIES

Type No.	Spectral response		Photo-cathode material ^(A)	Window material ^(B)	Dynode structure / stages ^(C)	Maximum ratings		Cathode characteristics				
	Range (nm)	Peak wavelength (nm)				Supply voltage between anode and cathode (V)	Average anode output current in total (mA)	Luminous		Blue sensitivity index (CS 5-58) Typ.	Red/White ratio (R-68) Typ.	Radiant Typ. (mA/W)
								Min. (μA/lm)	Typ. (μA/lm)			
R7600U	300 to 650	420	BA	K	MC/10	900	0.1	60	80	9.5	—	80
R7600U-01	300 to 880	420	MA	K	MC/10	900	0.1	150	200	—	0.2	65
R7600U-03	185 to 650	420	BA	U	MC/10	900	0.1	60	80	9.5	—	80
R7600U-04	185 to 880	420	MA	U	MC/10	900	0.1	150	200	—	0.25	65
R7600U-20	300 to 920	530	ERMA	K	MC/10	900	0.1	350	500	—	0.4	78
R7600U-100	300 to 650	400	SBA	K	MC/10	900	0.1	90	105	13.5	—	110
R7600U-200	300 to 650	400	UBA	K	MC/10	900	0.1	110	135	15.5	—	130
R7600U-300	300 to 700	420	EGBA	K	MC/10	900	0.1	120	160	14.0	—	125

NOTE: (A) BA: Bialkali, MA: Multialkali, SBA: Super bialkali, UBA: Ultra bialkali, EGBA: Extended green bialkali, ERMA: Extended red multialkali
 (B) K: Borosilicate glass, U: UV glass
 (C) MC: Metal channel

Figure 2: Typical gain

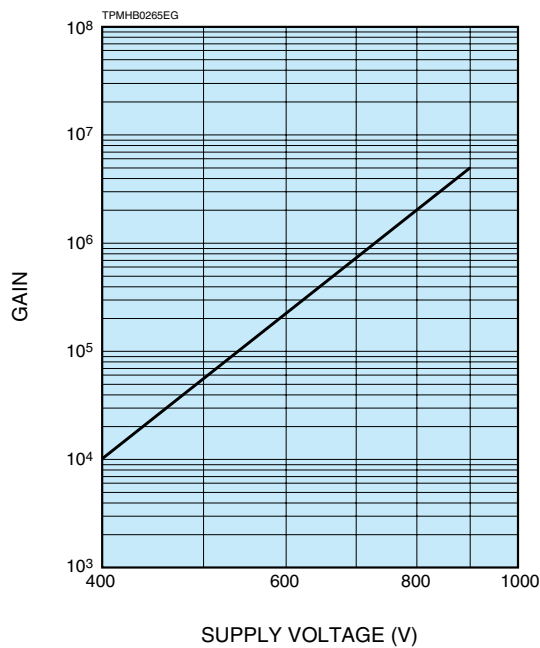


Figure 3: Time response (Example)

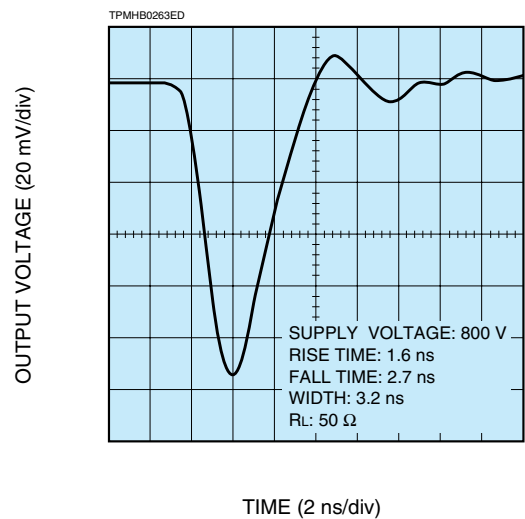
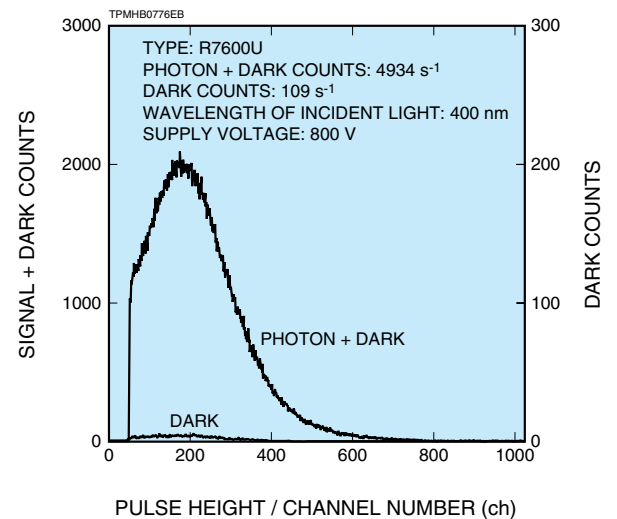


Figure 4: Single photon counting (Example)



Anode to cathode supply voltage (V)	Anode characteristics						Pulse linearity		Operating ambient temperature (°C)	Storage temperature (°C)	Type No.		
	Luminous		Gain Typ.	Dark current (after 30 min)		Time response						±2 % deviation (mA)	±5 % deviation (mA)
	Min. (A/lm)	Typ. (A/lm)		Typ. (nA)	Max. (nA)	Rise time (ns)	Transit time (ns)	T.T.S. (ns)					
800	40	160	2.0×10^6	2	20	1.6 (1.7)	9.6 (9.7)	0.35 (0.36)	30 (100)	60 (220)	-30 to +50	-30 to +50	R7600U
800	50	400	2.0×10^6	10	50								R7600U-01
800	40	160	2.0×10^6	2	20								R7600U-03
800	50	200	2.0×10^6	10	50								R7600U-04
800	100	500	2.0×10^6	20	50								R7600U-20
800	40	105	2.0×10^6	2	20								R7600U-100
800	50	135	2.0×10^6	2	20								R7600U-200
800	80	320	2.0×10^6	2	20								R7600U-300

() : Measured with the special voltage distribution ratio (Tapered Divider) shown below.

VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

Electrodes	K	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	P
Normal divider type	1.5	1.5	1.5	1	1	1	1	1	1	1	1	1
Tapered divider type	2	2	2	1	1	1	1	1	2	3	2	

Supply voltage: 800 V, K: Cathode, Dy: Dynode, P: Anode

Figure 5: T.T.S. characteristic (Example)

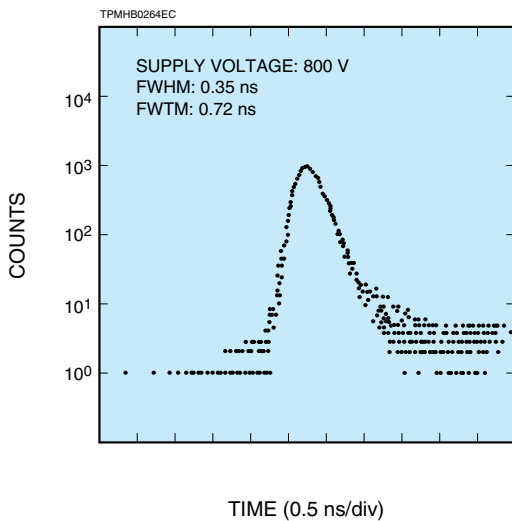
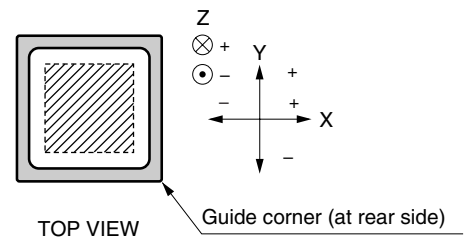
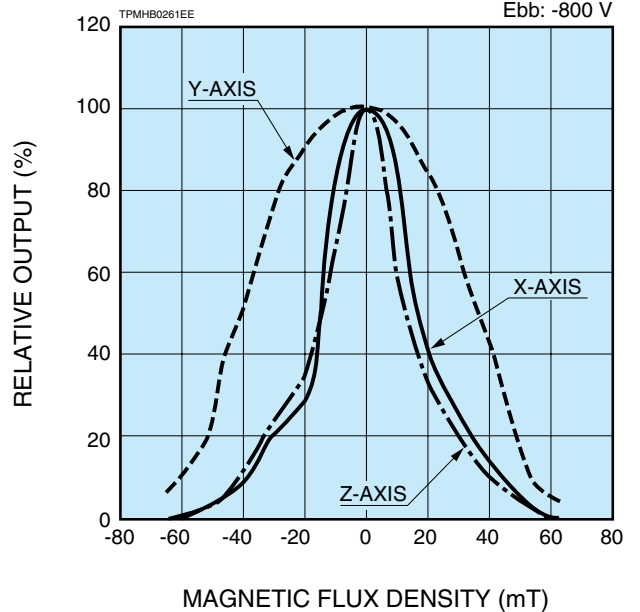
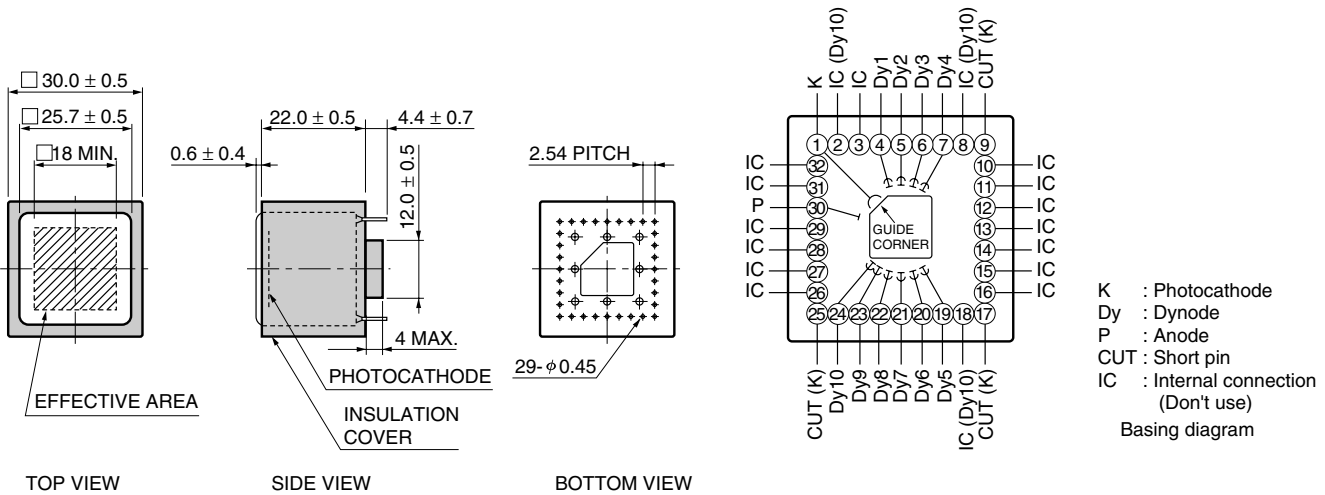


Figure 6: Effect of magnetic fields on anode output (Example)



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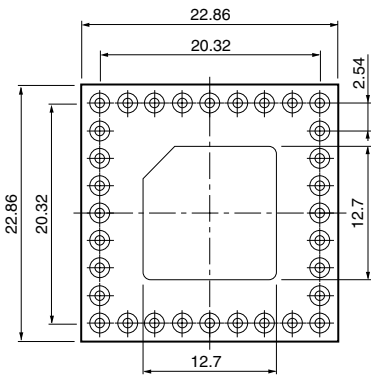
Figure 7: Dimensional outline and basing diagram (Unit: mm)



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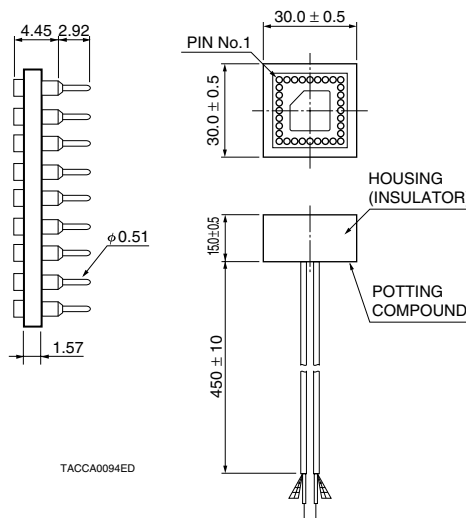
[ACCESSORIES] (Unit: mm) **SOLD SEPARATELY**

● Socket E678-32B

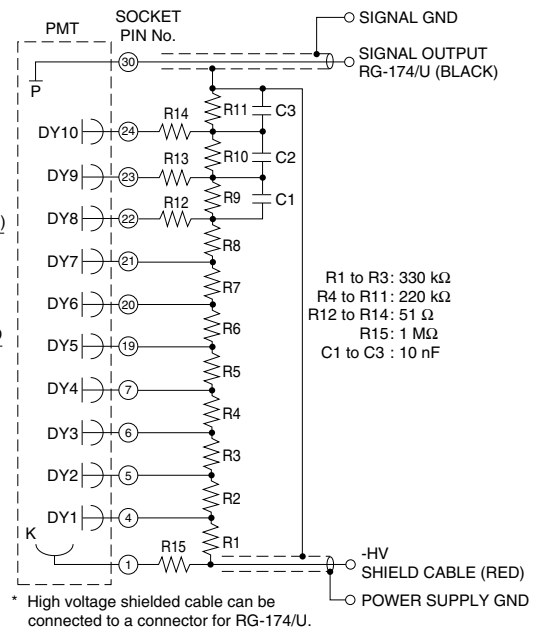


MATERIAL: Glass epoxy

● D Type socket assembly E5996



TACCA0094ED



TACCA0234EC

⚠ WARNING ~ High voltage ~

The product is operated at high voltage potential. Further, the metal housing of the product is connected to the photocathode (potential) so that it becomes a high voltage potential when the product is operated at a negative high voltage (anode grounded). Accordingly, extreme safety care must be taken for the electrical shock hazard to the operator or the damage to the other instruments.

* PATENT: USA: 5410211 and other(9), GBR: 551767 and other(9), DEU: 69209809 and other(9), FRA: 551767 and other(9), JPN: 3078905 and other(9)

HAMAMATSU PHOTONICS K.K. www.hamamatsu.com

HAMAMATSU PHOTONICS K.K., 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, N.J. 08807-0910, 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)8152-2658 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: info@hamamatsu.fr

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

North Europe: Hamamatsu Photonics Norden AB: Torshamnsgatan 35 SE-164 40 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)02-93581733, Fax: (39)02-93581741 E-mail: info@hamamatsu.it

China: Hamamatsu Photonics (China) Co., Ltd.: B1201 Jiaming Center, No.27 Dongsanhuan Beilu, Chaoyang District, Beijing 100020, 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, Section2, Gongdao 5th Road, East District, Hsinchu, 300, Taiwan R.O.C. Telephone: (886)03-659-0080, Fax: (886)07-811-7238 E-mail: info@tw.hpk.co.jp

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