

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 Cytometer (-01, -20 Type)
- DNA Sequencer (-01, -20 Type)
- Pollution Monitoring (NOx) (-01, -20 Type)

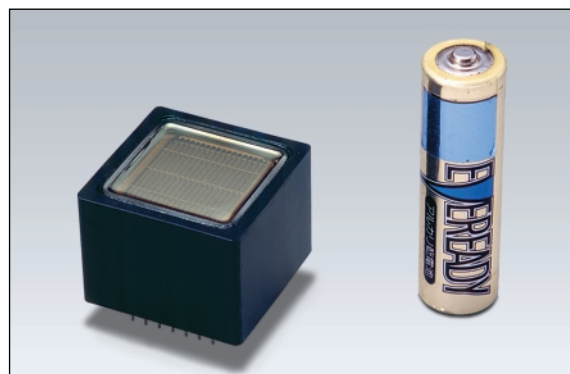
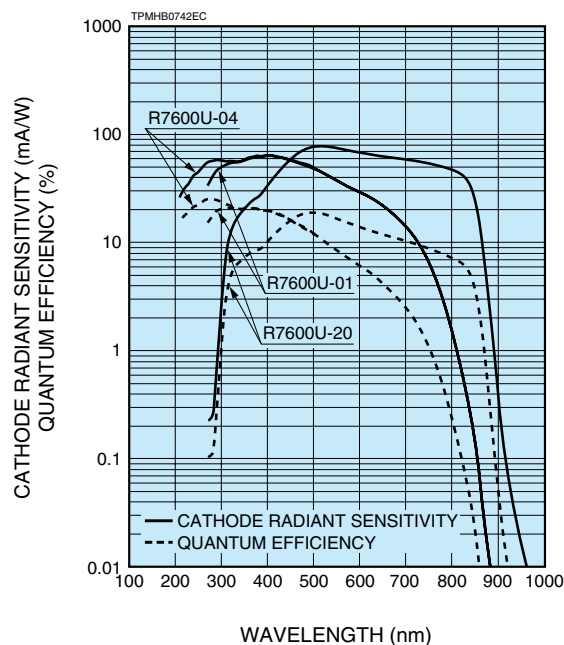
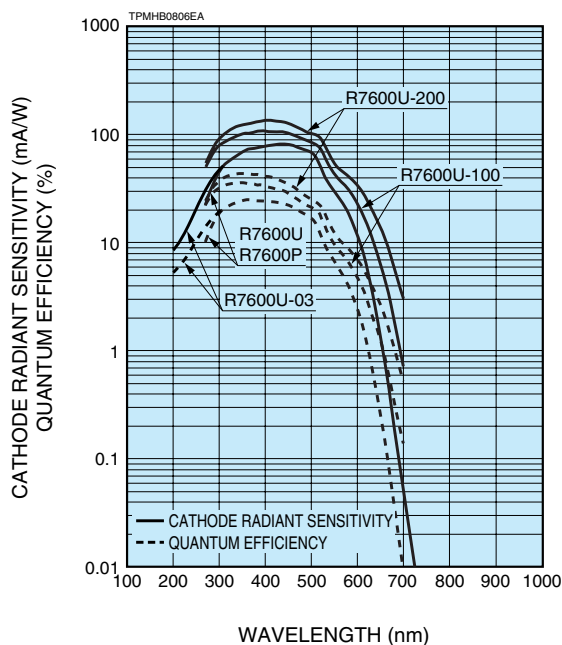


Figure 1: Typical Spectral Response



PHOTOMULTIPLIER TUBES R7600U SERIES

Type No.	Spectral Response		Photo-cathode Material	Window Material	Dynode Structure / Stages	Maximum Ratings		Cathode Characteristics					Anode to Cathode Supply Voltage (V)
	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	800
R7600U-01	300 to 850	400	MA	K	MC/10	900	0.1	150	200	—	0.2	65	800
R7600U-03	185 to 650	420	BA	U	MC/10	900	0.1	60	80	9.5	—	80	800
R7600U-04	185 to 880	420	MA	U	MC/10	900	0.1	150	200	—	0.25	65	800
R7600U-20	300 to 920	530	MA	K	MC/10	900	0.1	350	500	—	0.4	78	800
R7600U-100	300 to 650	400	SBA	K	MC/10	900	0.1	90	105	13.5	—	110	800
R7600U-200	300 to 650	400	UBA	K	MC/10	900	0.1	110	135	15.5	—	130	800
R7600P	300 to 650	420	BA	K	MC/10	900	0.1	60	80	9.5	—	80	800

NOTE: (A) BA: Bialkali, MA: Multialkali, SBA: Super bialkali, UBA: Ultra bialkali

(B) K: Borosilicate glass, U: UV glass

(C) MC: Metal channel

Figure 2: Typical Gain

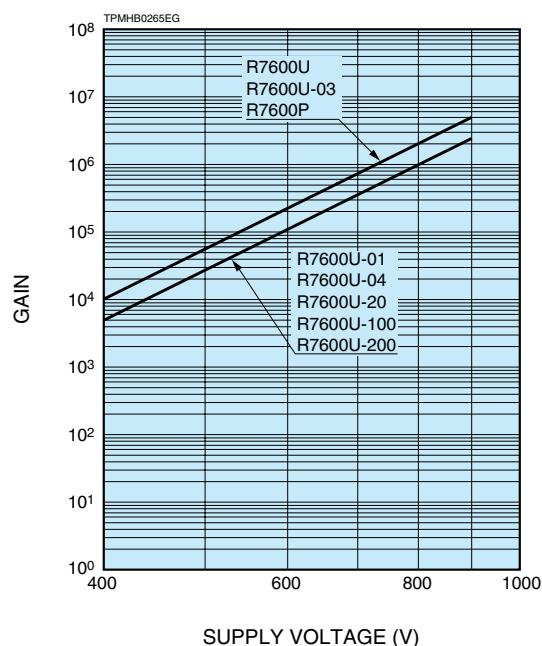


Figure 3: Time Response (Example)

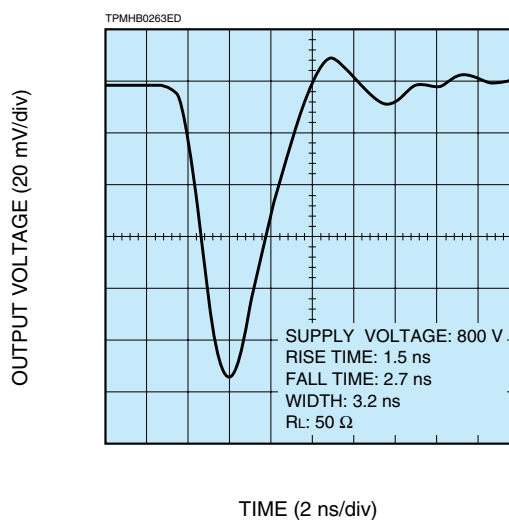
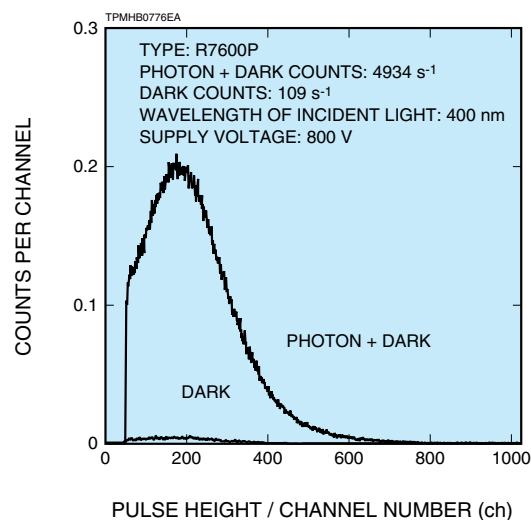


Figure 4: Single Photon Counting (Example)



Anode Characteristics										Pulse Linearity		Operating Ambient Temperature	Storage Temperature	Type No.
Luminous		Gain	Dark Current (After 30 min)		Dark Count		Time Response							
Min. (A/lm)	Typ. (A/lm)						Typ.	Typ.	Typ.	Rise Time	Transit Time			
			Typ. (nA)	Max. (nA)	Typ.	Max.	Typ. (ns)	Typ. (ns)	Typ. (ns)	(mA)	(mA)	(°C)	(°C)	
40	160	2.0 × 10 ⁶	2	20	—	—	1.4 (1.7)	9.6 (9.7)	0.35 (0.36)	30 (100)	70 (220)	-30 to +50	-30 to +50	R7600U
50	200	1.0 × 10 ⁶	10	50	—	—								R7600U-01
40	160	2.0 × 10 ⁶	2	20	—	—								R7600U-03
50	200	1.0 × 10 ⁶	10	50	—	—								R7600U-04
100	500	1.0 × 10 ⁶	20	50	—	—								R7600U-20
40	105	1.0 × 10 ⁶	2	20	—	—								R7600U-100
50	135	1.0 × 10 ⁶	2	20	—	—								R7600U-200
40	160	2.0 × 10 ⁶	—	—	100	200								R7600P

(): 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	1	2	3	2

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

Figure 5: TTS Characteristic (Example)

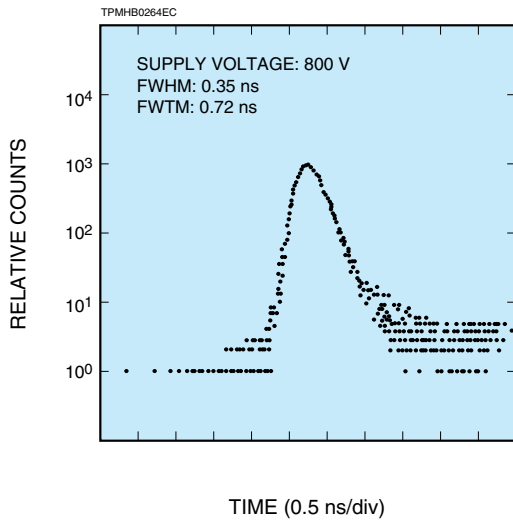
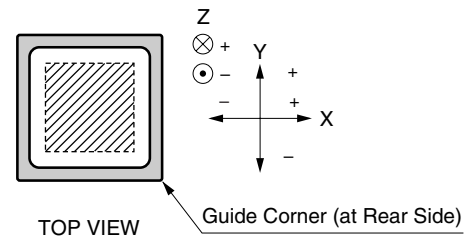
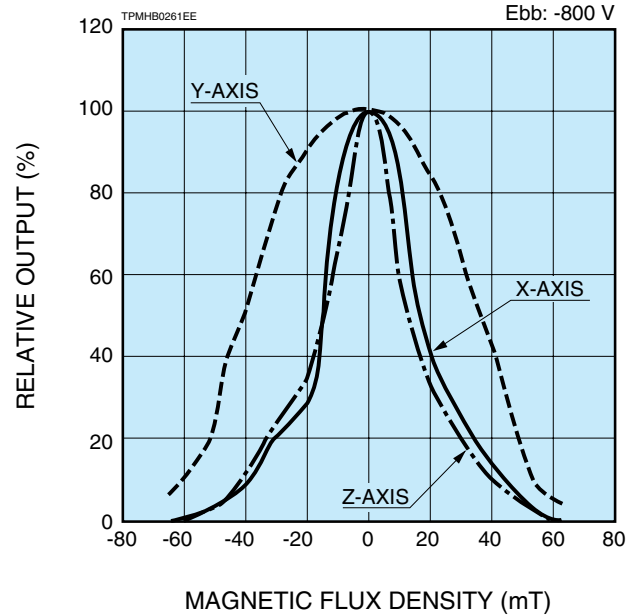
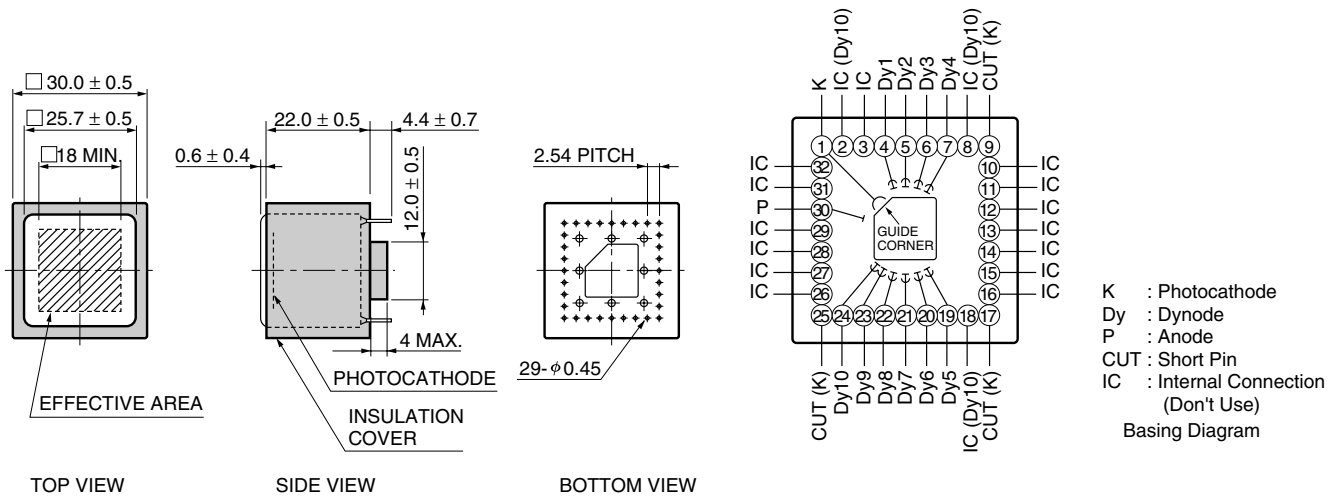


Figure 6: Effect of Magnetic Fields on Anode Output (Example)



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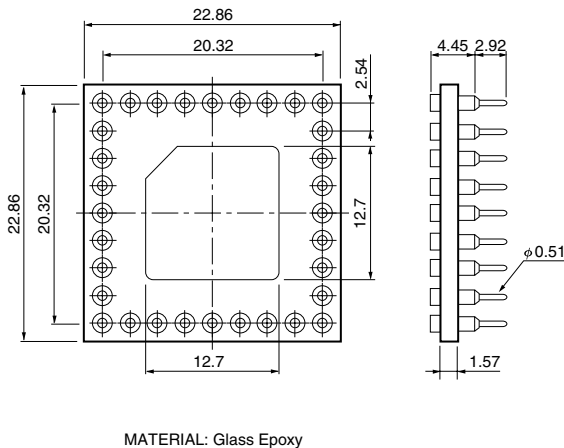
Figure 7: Dimensional Outline and Basing Diagram (Unit: mm)



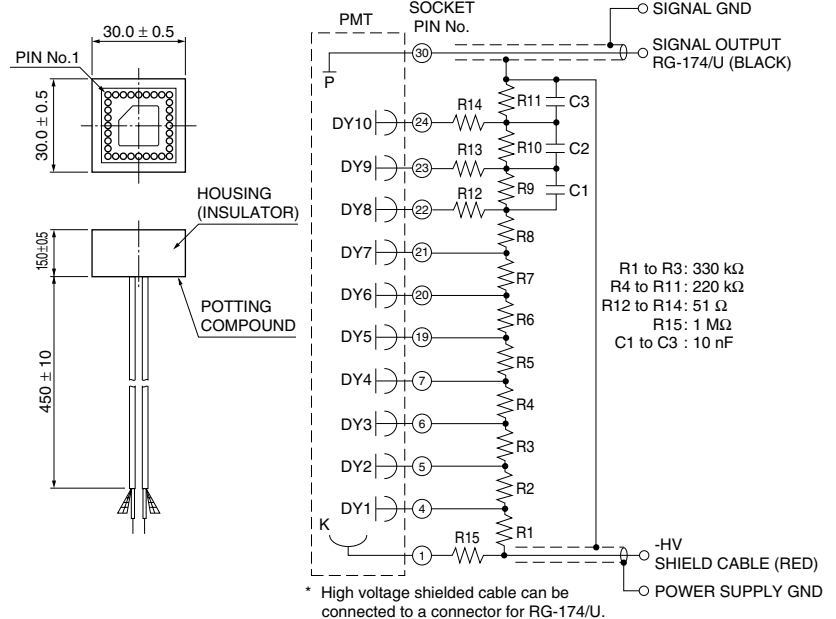
TPMHA0278EI

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

● Socket E678-32B



● D Type Socket Assembly E5996



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)

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