

**4 × 4 Multianode, High Speed Response, Low Cross-talk, 30 mm Square
Bialkali and Multialkali Photocathode, 12-stage, Head-on Type**

FEATURES

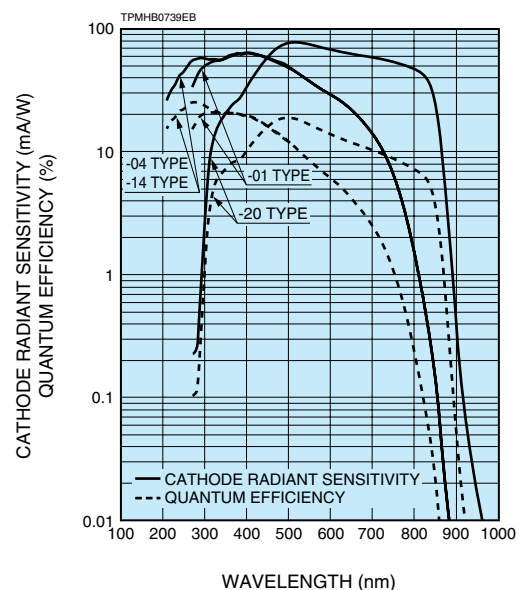
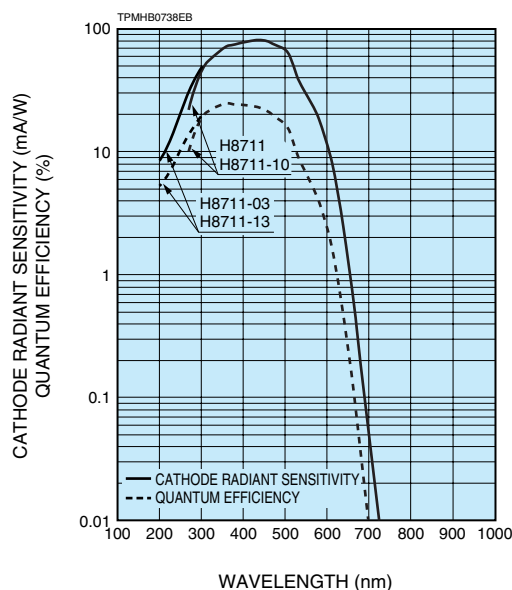
- 4 × 4 Multianode, Anode Size: 4.2 mm × 4.2 mm / Anode
- Effective Area: 18.1 mm × 18.1 mm
- High Speed Response
- Low Cross-talk: 1 % Typ.
- High Cathode Sensitivity
 - Luminous 200 $\mu\text{A}/\text{lm}$ Typ. (-01 Type)
 - Luminous 500 $\mu\text{A}/\text{lm}$ Typ. (-20 Type)
- Weight: Approx. 50 g

APPLICATIONS

- High Energy Physics
- Flow Cytometer (-01, -20 Type)
- DNA Sequencer (-01, -20 Type)



Figure 1: Typical Spectral Response



MULTIANODE PHOTOMULTIPLIER TUBE ASSEMBLIES H8711 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)			
Normal Divider Type												
H8711	300 to 650	420	BA	K	MC/12	-1000	0.017	60	80	9.5	—	80
H8711-01	300 to 880	420	MA	K	MC/12	-1000	0.017	150	200	—	0.25	65
H8711-03	185 to 650	420	BA	U	MC/12	-1000	0.017	60	80	9.5	—	80
H8711-04	185 to 880	420	MA	U	MC/12	-1000	0.017	150	200	—	0.25	65
H8711-20	300 to 920	530	MA	K	MC/12	-1000	0.017	350	500	—	0.4	78
Taper Divider Type												
H8711-10	300 to 650	420	BA	K	MC/12	-1000	0.017	60	80	9.5	—	80
H8711-11	300 to 880	420	MA	K	MC/12	-1000	0.017	150	200	—	0.25	65
H8711-13	185 to 650	420	BA	U	MC/12	-1000	0.017	60	80	9.5	—	80
H8711-14	185 to 880	420	MA	U	MC/12	-1000	0.017	150	200	—	0.25	65

NOTE: (A) BA: Bialkali, MA: Multialkali
 (B) K: Borosilicate glass, U: UV glass
 (C) MC: Metal channel
 (D) The maximum average anode current is defined as 5 % of divider current when standard high voltage is applied.

Figure 2: Typical Gain

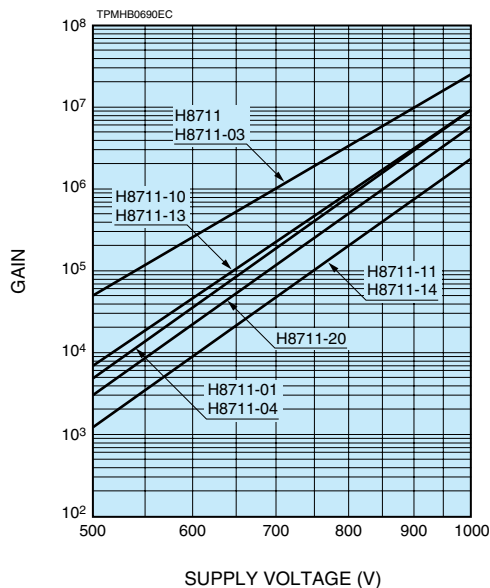


Figure 3: Time Response (Example)

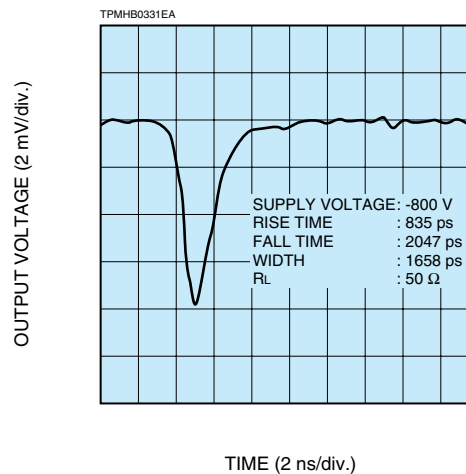
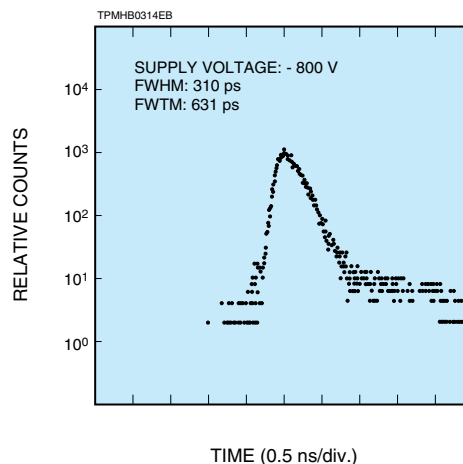


Figure 4: TTS Characteristic (Example)



Anode to Cathode Supply Voltage (V)	Anode Characteristics								Pulse Linearity per Channel		Uniformity Between Each Anode		Type No.
	Luminous		Gain Typ.	Dark Current per Channel (After 30 min)		Time Response			2 % Deviation (mA)	5 % Deviation (mA)	Typ.	Max.	
	Min. (A/lm)	Typ. (A/lm)		Typ. (nA)	Max. (nA)	Rise Time Typ. (ns)	Transit Time Typ. (ns)	TTS Typ. (ns)					
-800	80	280	3.5×10^6	0.8	4	0.83	12.0	0.33	0.5	1	1: 2.5	1: 4	H8711
-800	50	150	0.8×10^6								1: 3	1: 5	H8711-01
-800	80	280	3.5×10^6								1: 2.5	1: 4	H8711-03
-800	50	150	0.8×10^6								1: 3	1: 5	H8711-04
-800	50	250	0.5×10^6								1: 3	1: 5	H8711-20
-800	20	70	0.9×10^6	0.4	2	0.83	12.0	0.33	1.5	3	1: 2.5	1: 4	H8711-10
-800	10	35	0.2×10^6								1: 3	1: 5	H8711-11
-800	20	70	0.9×10^6								1: 2.5	1: 4	H8711-13
-800	10	35	0.2×10^6								1: 3	1: 5	H8711-14

VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

Electrodes	K	Dy1	Dy2	Dy3	Dy4	Dy5	...	Dy9	Dy10	Dy11	Dy12	P
Normal Divider Type	2	2	2	1	1	1...1		1	1	1	1	
Tapered Divider Type	2.4	2.4	2.4	1	1	1...1		1	1	1.2	2.4	

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

Figure 5: Pulse Linearity per Channel (Example)

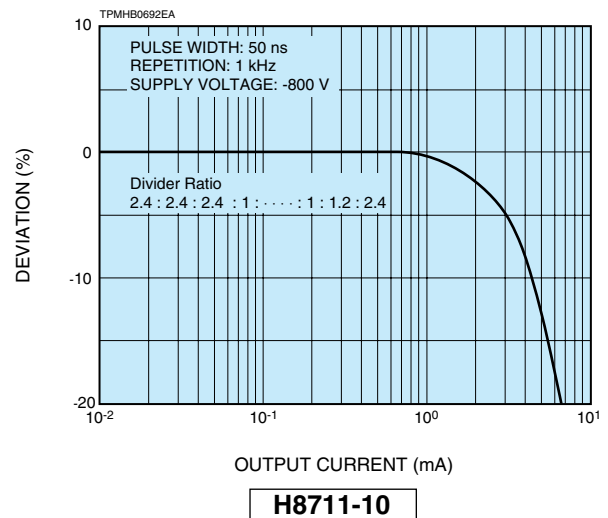
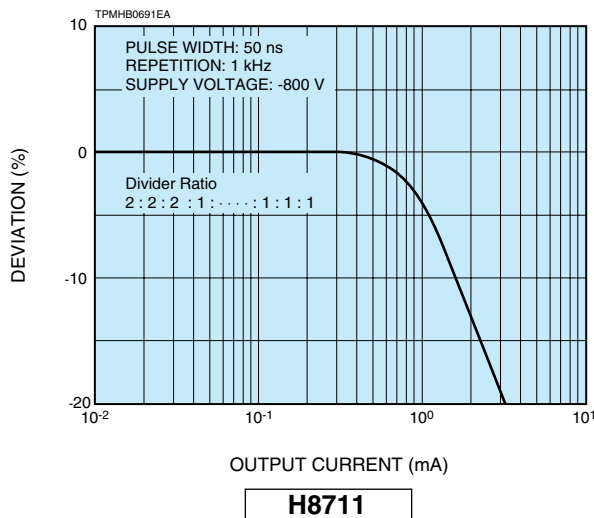


Figure 6: Anode Cross-talk (Example)

0.1	0.8	0.1	*
0.5	100	0.3	*
0.1	0.3	0.1	*
*	*	*	*

Supply Voltage: -800 V
Light Source: Tungsten Lamp (uniform DC light)
Spot Illumination: 4 mm × 4 mm

