HAMAMATSU

MULTIANODE PHOTOMULTIPLIER TUBE ASSEMBLY
H6568, H6568-10

PATENT

4 × 4 Multianode, High Speed Response, Low Cross-talk Newly Developed "Metal Channel Dynode"

GENERAL

Parameter		Description / Value	Unit
Spectral Response		300 to 650	nm
Wavelength of Maximum Response		420	nm
Photocathode	Material	Bialkali	—
	Minimum Effective Area	18.1 × 18.1	mm
Window Material		Borosilicate glass	—
Dynode	Structure	Metal channel dynode	—
	Number of Stages	12	—
Anode Size		4 × 4	mm
Weight(Including Cable)		Approx.130	g

MAXIMUM RATINGS (Absolute Maximum Values)

Parameter		Value	Unit
Supply Voltage	Between Anode and Cathode	1000	V dc
Average Anode Current		0.01	mA

CHARACTERISTICS (at 25 °C)

Parameter		Min.	Typ.	Max.	Unit
Cathode Sensitivity	Luminous (2856K)	—	70	—	μA/lm
	Blue (CS-5-58 filter)	—	8	—	μA/lm-b
Anode Sensitivity	Luminous (2856K)	—	230(50)	—	A/lm
Gain		—	3.3×10^6 (0.7×10^6)	—	—
Anode Dark Current per Channel (after 30 min. storage in darkness)		—	1(0.5)	—	nA
Time Response (per Channel)	Anode Pulse Rise Time	—	0.83	—	ns
	Transit Time Spread (FWHM)	—	0.3	—	ns
Pulse Linearity per Channel (±2 % deviation)		—	0.5(5)	—	mA
Cross-talk (4 × 4 mm Aperture)		—	1	—	%
Uniformity Between Each Anode		—	1.3	—	—

NOTE: Anode characteristics are measured with the voltage distribution ratio shown below.

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

VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

Electrodes	K	Dy1	Dy2	Dy3	Dy4	Dy5	···	Dy9	Dy10	Dy11	Dy12	P
H6568	1	1	1	1	1	1···1		1	1	1	1	
H6568-10 (Tapered Divider)	1.5	1.5	1.5	1	1	1···1		1	1	2	3.6	

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

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Figure 1: Typical Spectral Response

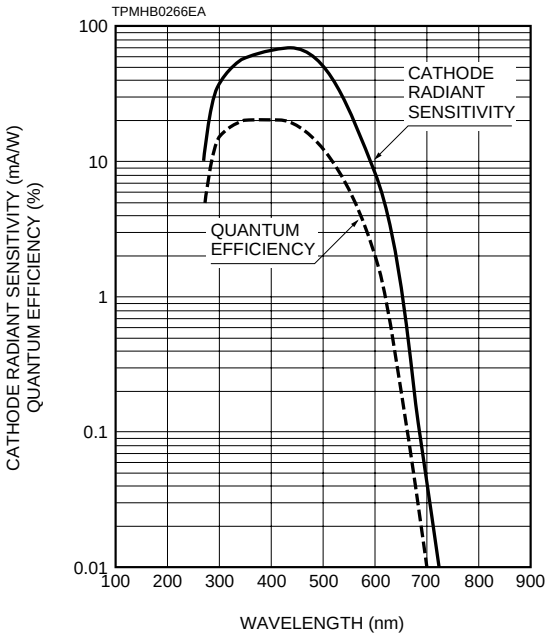


Figure 2: Typical Gain and Anode Dark Current

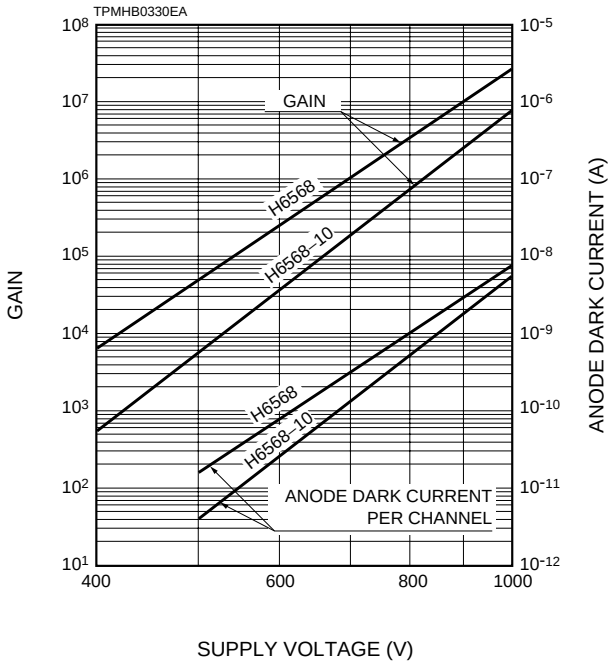


Figure 3: Typical Time Response

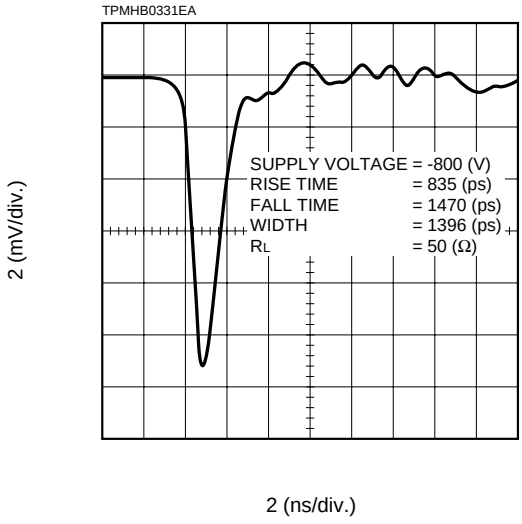


Figure 4: Typical T.T.S.Characteristic

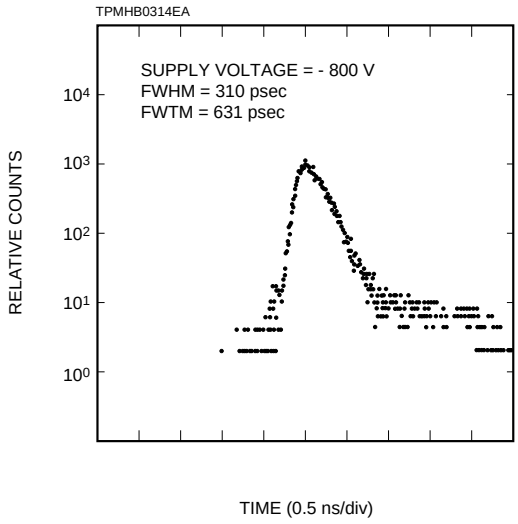
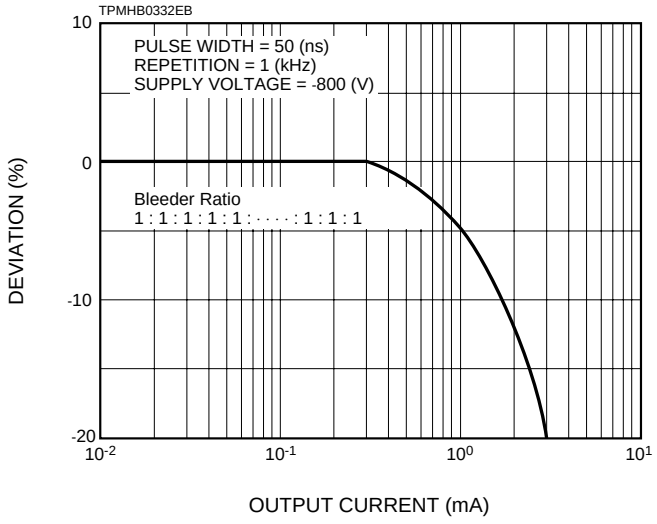
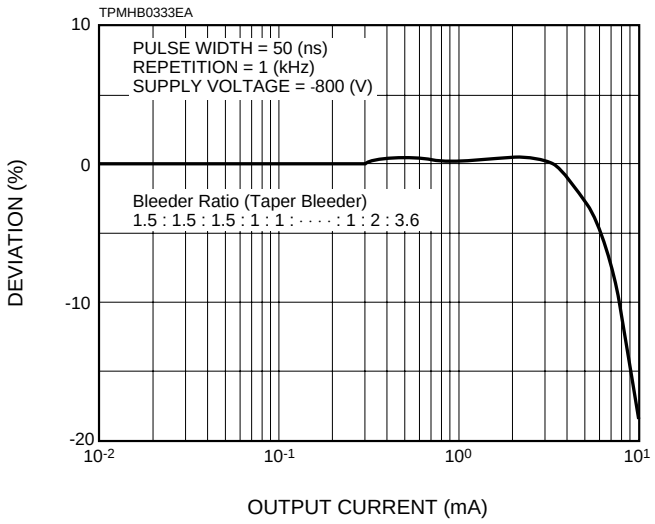


Figure 5: Pulse Linearity per Channel



H6568



H6568-10

Figure 6: Anode Uniformity (Example)

100	97	97	92
89	82	66	70
66	72	66	76
70	68	69	96

Supply Voltage: 800 V
Light Source: W Lamp (uniform DC light)
Full Illumination

Figure 7: Anode Cross-talk (Example)

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

Aperture 4 × 4 mm

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

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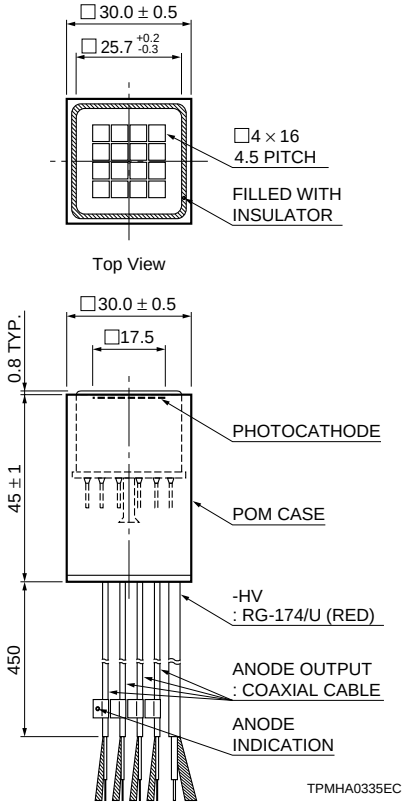
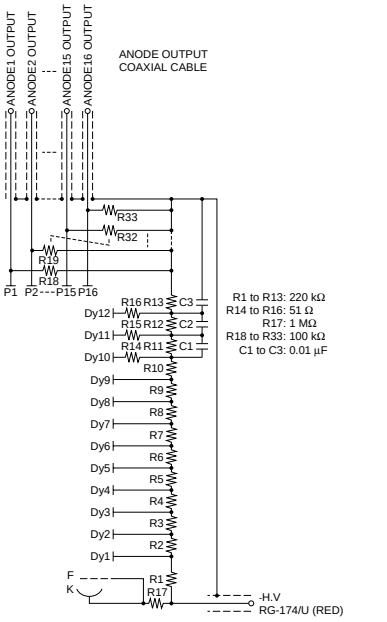
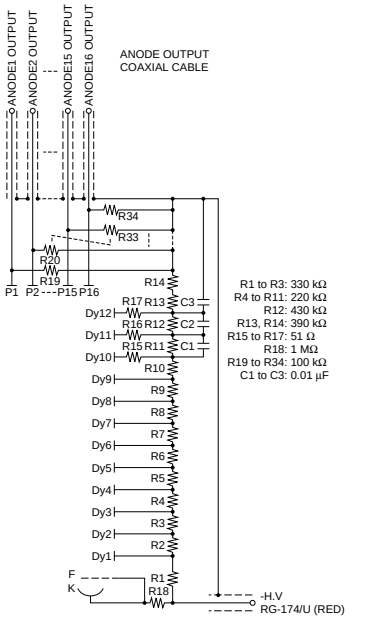
Figure 8: Dimensional Outilne and Circuit Diagram (Unit: mm)







⚠ WARNING ~ High Voltage ~

The product is operated at high voltage potential. Further, the metal housing of the product is conndcted to the photocathode (potential) so that it becomes a high voltage potential when the product is operated at a negatibe high boltage (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 Pat. No. 5410211 PATENTE PENDING: JAPAN 11, USA 1, EUROPE 2

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