

8 × 8 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 ²
Window Material		Borosilicate	—
Dynode	Structure	Metal Channel dynode	—
	Number of Stages	12	—
Anode Size		2 × 2	mm ²
Weight		Approx. 30	g

● MAXIMUM RATINGS (Absolute Maximum Values)

Parameter	Value	Unit
Supply Voltage Between Anode and Cathode	1000	Vdc
Average Anode Current in total	0.1	mA

● CHARACTERISTICS (at 25 °C)

Parameter		Typical	Unit
Cathode Sensitivity	Luminous (2856 K)	70	μA/lm
	Blue (CS-5-58 filter)	8	μA/lm-b
Quantum Efficiency	(at 420 nm)	20	%
Anode Sensitivity	Luminous (2856 K)	21	A/lm
Gain at 800V		3.0 × 10 ⁵	—
Anode Dark Current per channel (after 30 min. storage in darkness)		0.2	nA
Time Response (per channel)	Anode Pulse Rise Time	1.5	ns
	Transit Time Spread (FWHM)	0.3	ns
Pulse Linearity per Channel (±5 % deviation)		0.6	mA
Cross-talk (with 1mm Optical Fiber)		2	%
Uniformity among all anodes		1: 3	—

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

VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

Electrodes	K	Dy1	Dy2	Dy3	Dy4	Dy5	...	Dy9	Dy10	Dy11	Dy12	P
Ratio	3	2	2	1	1	1 ... 1		1	1	2	5	

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

MULTIANODE PHOTOMULTIPLIER TUBE R5900-00-M64

Figure 1: Typical Spectral Response

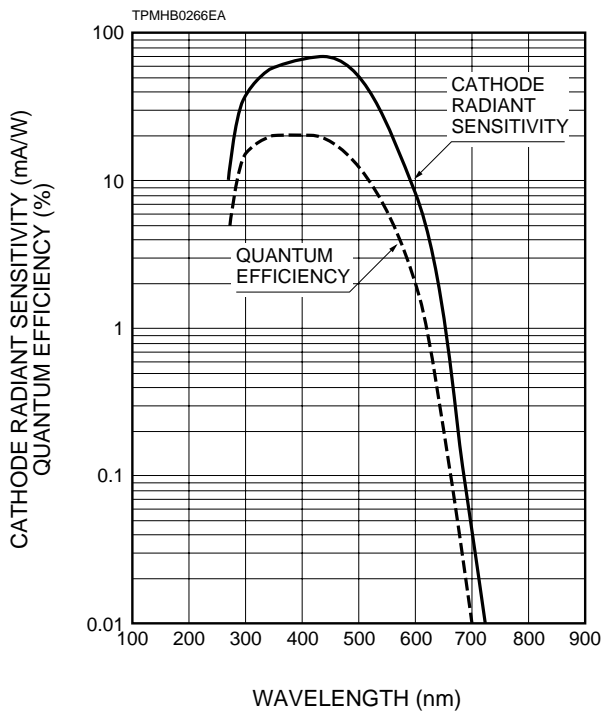


Figure 2: Typical Gain and Dark Current

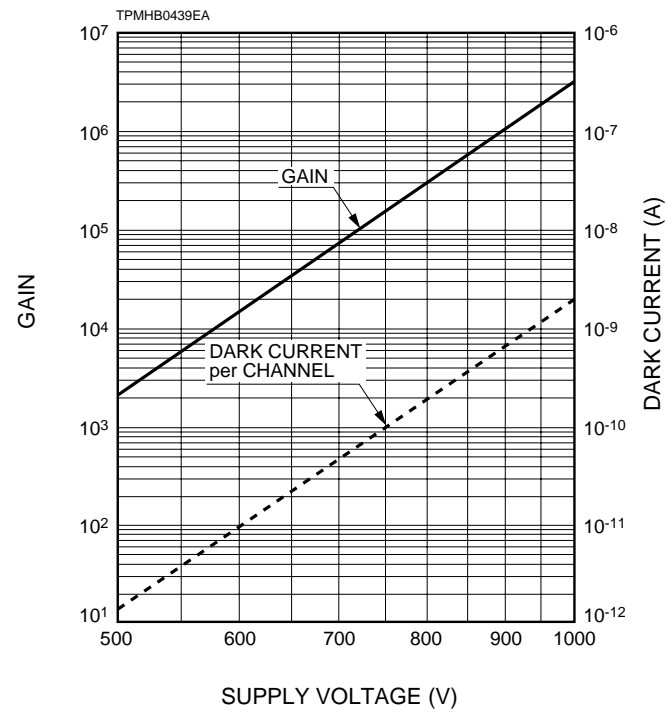


Figure 3: Typical Time Response

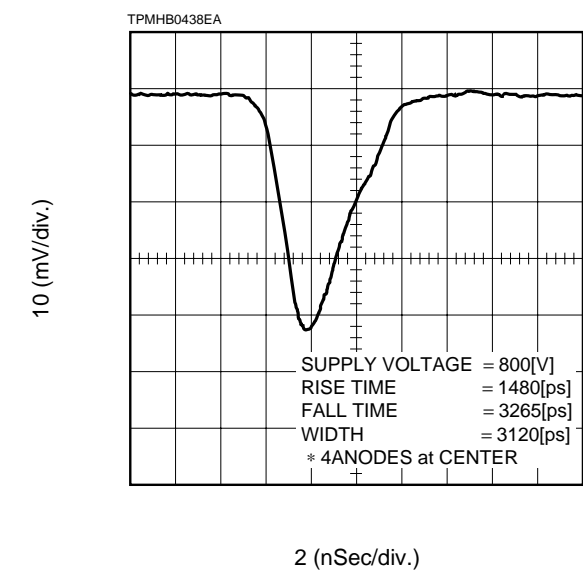


Figure 4: Typical Single Photoelectron PHD

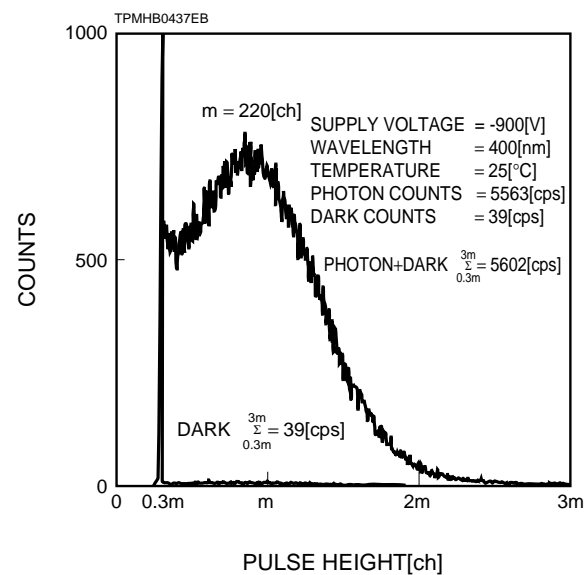
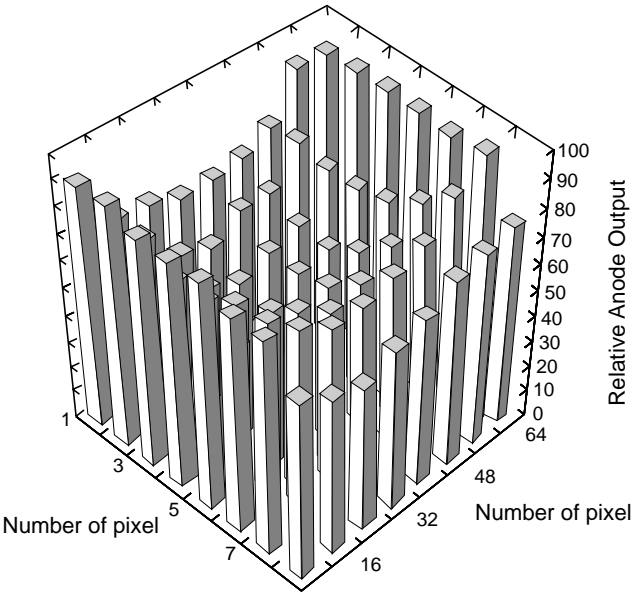


Figure 5: Typical Anode Uniformity



TPMHB0472EA

Figure 6: Typical Anode Cross Talk

0.3	1.3	0.3
0.8	100	0.8
0.2	1	0.2

Bottom View

Each square corresponds to each pixel of 9 anodes.
APPLIED VOLTAGE = 800 [V]
LIGHT SOURCE = SCSF78 (DC LIGHT)
(KURARAY Scintillating Fiber with 1 mm in diameter.)

TPMHC0147EB

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



GUIDE MARK (The center line of tube is not matched to the location of Guide Mark.)

The guide marks are holes of 0.3 mm in diameter on the electrode plate. They can be seen from top of the R5900-00-M64 through its photocathode.

As the guide marks are located nearly on the center line of 64 pixels, they can be used for positioning when scintillating or optical fibers are coupled to the R5900-00-M64.

TPMHA0404EC

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