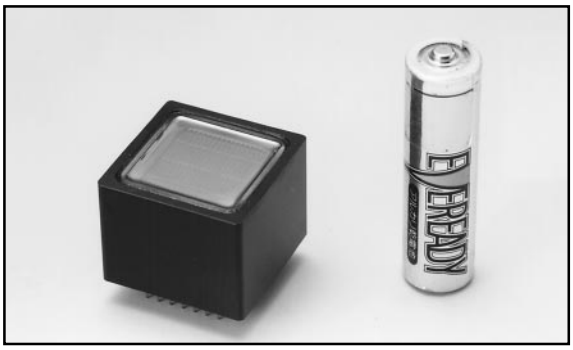
HAMAMATSU

MULTIANODE PHOTOMULTIPLIER TUBE R5900U-00-M4



FEATURES

- **2 × 2 multianode**
- **Newly developed "metal channel dynode"**
- **High speed response**
- **Low cross - talk**

GENERAL

Parameter		Description / Value	Unit
Spectral Response		300 to 650	nm
Wavelength of Maximum Response		420	nm
Photocathode	Material	Bialkali	–
	Minimum Effective Area	18 × 18	mm^2
Window Material		Borosilicate glass	–
Dynode	Structure	Metal channel dynode	–
	Number of Stages	10	–
Weight		Approx. 26	g
Suitable Socket		E678-32B (option)	–

MAXIMUM RATINGS (Absolute Maximum Values)

Parameter		Value	Unit
Supply Voltage	Between Anode and Cathode	900	Vdc
Average Anode Current		0.1	mA

CHARACTERISTICS (at 25 °C)

Parameter		Min.	Typ.	Max.	Unit
Cathode Sensitivity	Luminous (2856 K)	50	70	–	μA/lm
	Blue (CS - 5 - 58 filter)	6	8	–	μA/lm-b
Anode Sensitivity	Luminous (2856 K)	25	140	–	A/lm
Gain		5×10^5	2×10^6	–	–
Anode Dark Current per Channel (after 30min. storage in darkness)		–	0.5	–	nA
Time Response	Anode Pulse Rise Time	–	1.2	–	ns
	Transit Time Spread (FWHM)	–	0.32	–	ns
Pulse Linearity per Channel (± 2 % deviation)		–	5(30ⓐ)	–	mA
Cross - talk (9×9 mm^2 Aperture)		–	2	4	%
Uniformity Between Each Anode		–	1:1.5	1:3	–

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

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

VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

Electrodes	K	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	P
Ratio A	1.5	1.5	1.5	1	1	1	1	1	1	1	1	
Ratio B (Tapered Bleeder)	1.5	1.5	1.5	1	1	1	1	1	1	2	3.6	

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

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Figure 1: Typical Spectral Response

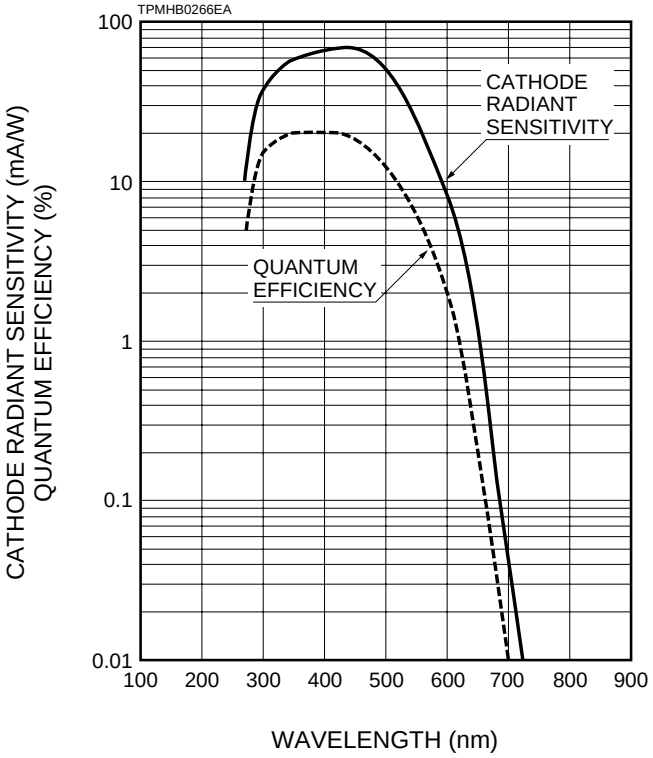


Figure 2: Typical Gain and Anode Dark Current

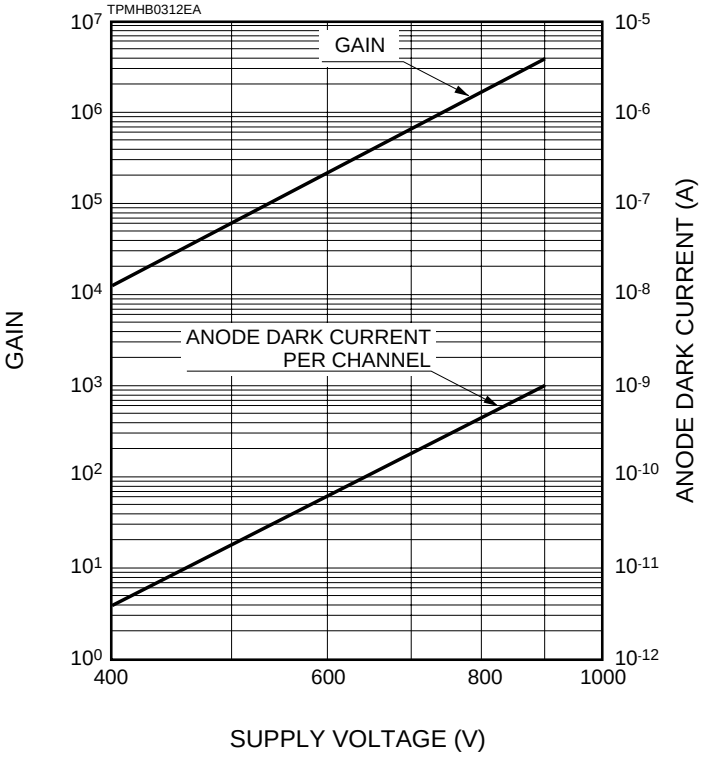


Figure 3: Typical Time Response

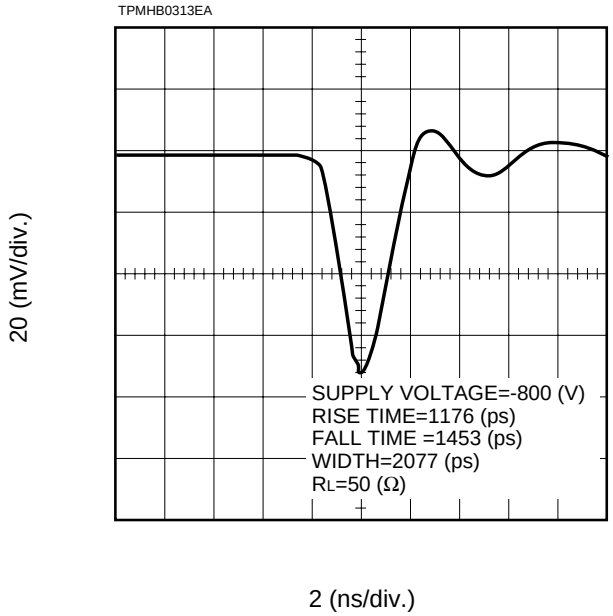


Figure 4: Typical T.T.S. Characteristic

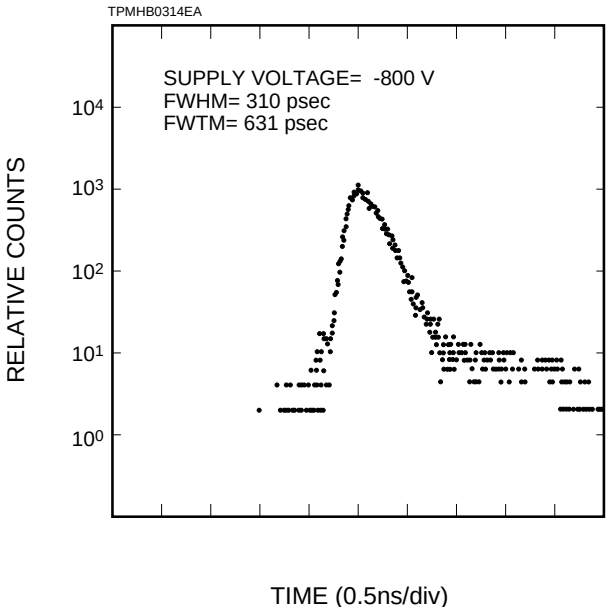


Figure 5: Pulse Linearity per Channel

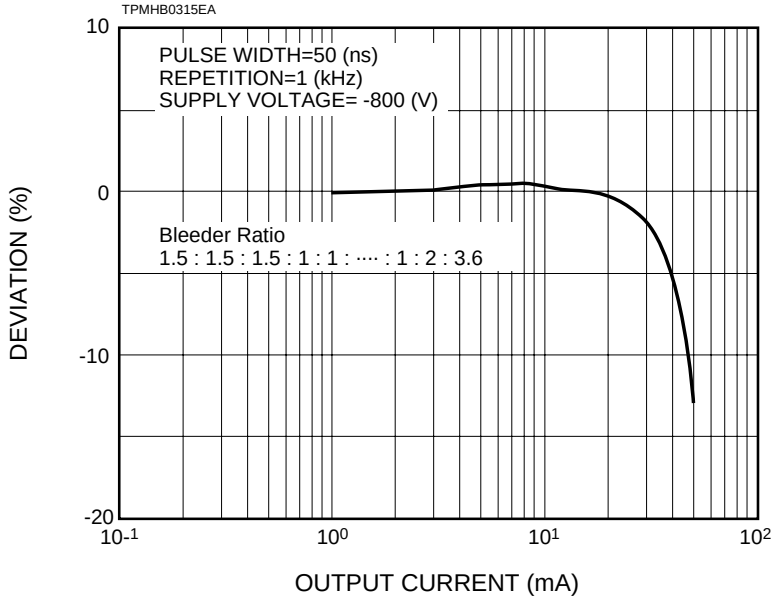


Figure 6: Anode Uniformity (Example)

82	95
97	100

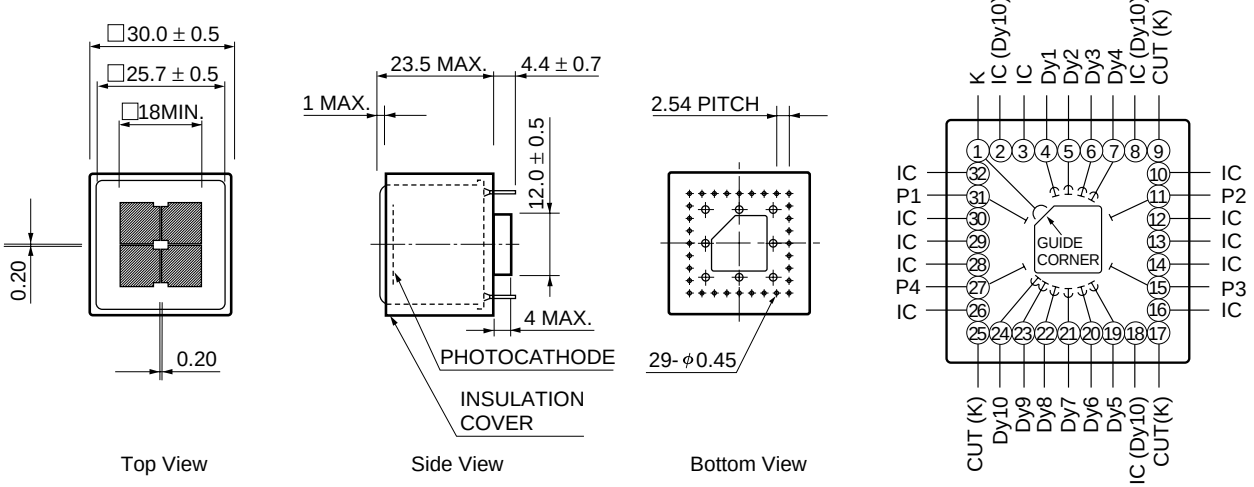
Supply Voltage : 800 V
Light Source : Lamp(uniform DC light)
Full Illumination

Figure 7: Anode Cross Talk (Example)

0.1	0.9
1.3	100

Supply Voltage : 800 V
Light Source : Lamp(uniform DC light)
Spot Illumination : 9 × 9 mm²

Figure 8: Dimensional Outline and Basing Diagram (Unit: mm)



K : Photocathode
Dy : Dynode
P : Anode
CUT : Short Pin
IC : Internal Connection (Don't Use)

Basing Diagram

TPMHB297EF

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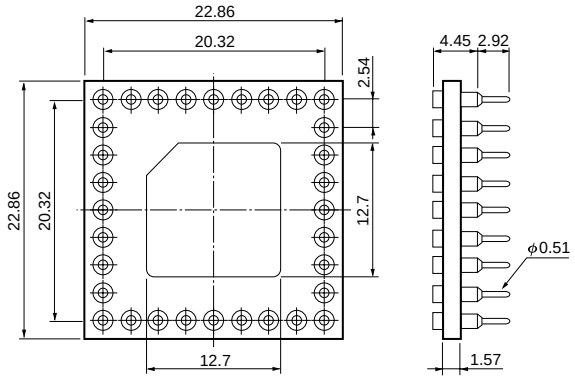
[ACCESSORIES] OPTION

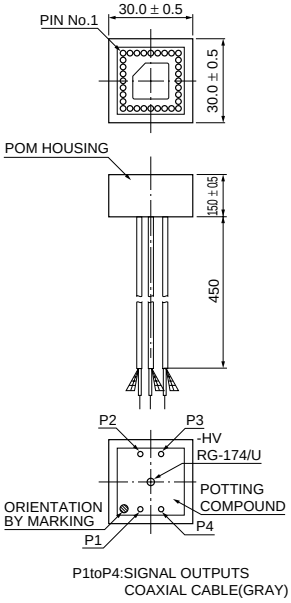
● Socket E678-32B



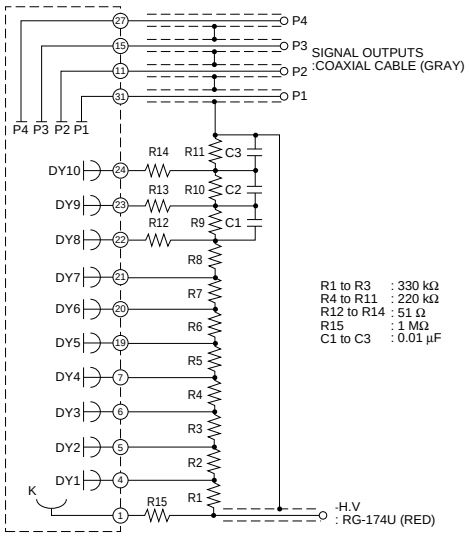
MATERIAL: Glass Epoxy

TACCA0094ED

● D Type Socket Assembly E7083



P1toP4:SIGNAL OUTPUTS
COAXIAL CABLE(GRAY)



*For a stable operation, all of anodes should be connected to ground potential through load resistors such as 100 k ohm or so, even if they are not used.

TACCA0162EC

⚠ 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 Pat. No. 5410211 PATENT PENDING: JAPAN11, USA1, EUROPE2

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