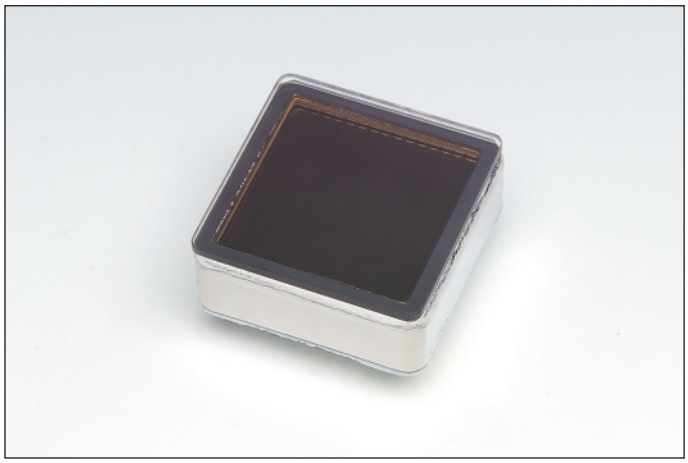
HAMAMATSU

PHOTON IS OUR BUSINESS

MICROCHANNEL PLATE PHOTOMULTIPLIER TUBE
R10754-07-M16

FEATURES

- 27.6 mm square shape
- 16 matrix multianode
- Small dead space
- Fast time response
- High magnetic field immunity



APPLICATIONS

- High energy physics
- Multichannel time resolved fluorescence detection measurement
- Light detection and ranging

SPECIFICATIONS

GENERAL

Parameter		Ratings	Unit
Spectral response		160 to 850	nm
Wavelength of maximum response		350 to 400	nm
Input window	Material	Synthetic silica	—
	Thickness	1.5	mm
Photocathode	Material	Multialkali	—
	Minimum effective area	23 × 23	mm
Microchannel plate (MCP)	Construction	2 stages	—
	Channel diameter	10	µm
Number of anode pixels		16 (4 × 4 matrix)	—
Anode pixel size		5.28 × 5.28	mm

RATINGS

Parameter		Maximum ratings	Unit
Supply voltage	Photocathode – Anodes	2000 to 3600 Ⓐ	V
Operating ambient temperature Ⓑ		-30 to +45	°C
Storage temperature Ⓑ		-30 to +50	°C

CHARACTERISTICS (at 25 °C)

Parameter		Min.	Typ.	Max.	Unit
Photocathode	Luminous sensitivity	—	170	—	µA/lm
	Quantum efficiency at peak response	17	24	—	%
Gain (at maximum supply voltage Ⓒ)		0.4×10^6	1×10^6	—	—
Dark current at maximum supply voltage (all anodes)		—	30	1000	nA
Dark counts at maximum supply voltage (all anodes)		—	5000	—	s^{-1}
Time response	Rise time	—	180	—	ps
	I.R.F. (FWHM)	—	70	—	ps

Ⓐ The maximum supply voltage will be determined between 2000 V to 3600 V in order to satisfy the specification of MCP gain.
Ⓑ No condensation
Ⓒ The ratio of dividing resistors is 0.5: 2.5: 2.5: 2.5: 1.5

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Figure 1: Typical spectral response

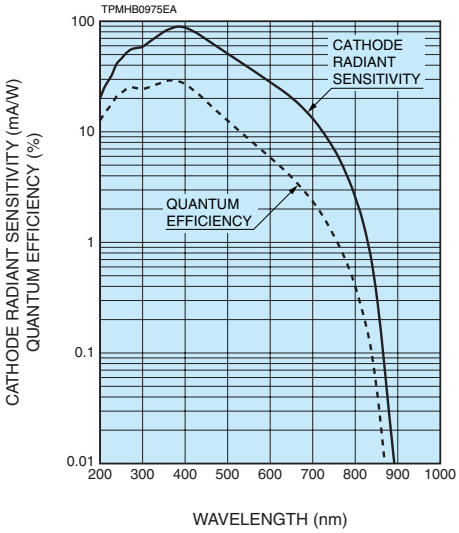


Figure 2: I.R.F.
(Insturment response function)
(Example)

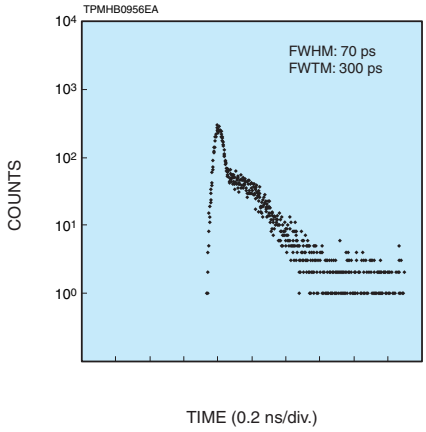


Figure 3: Output waveform (Example)

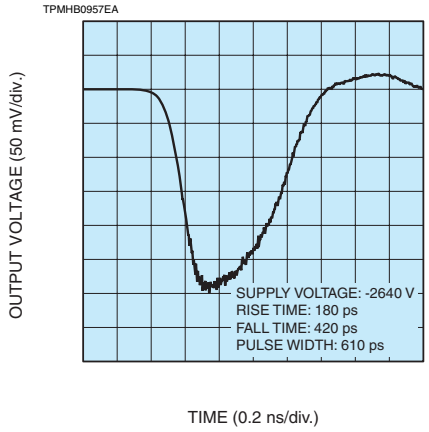
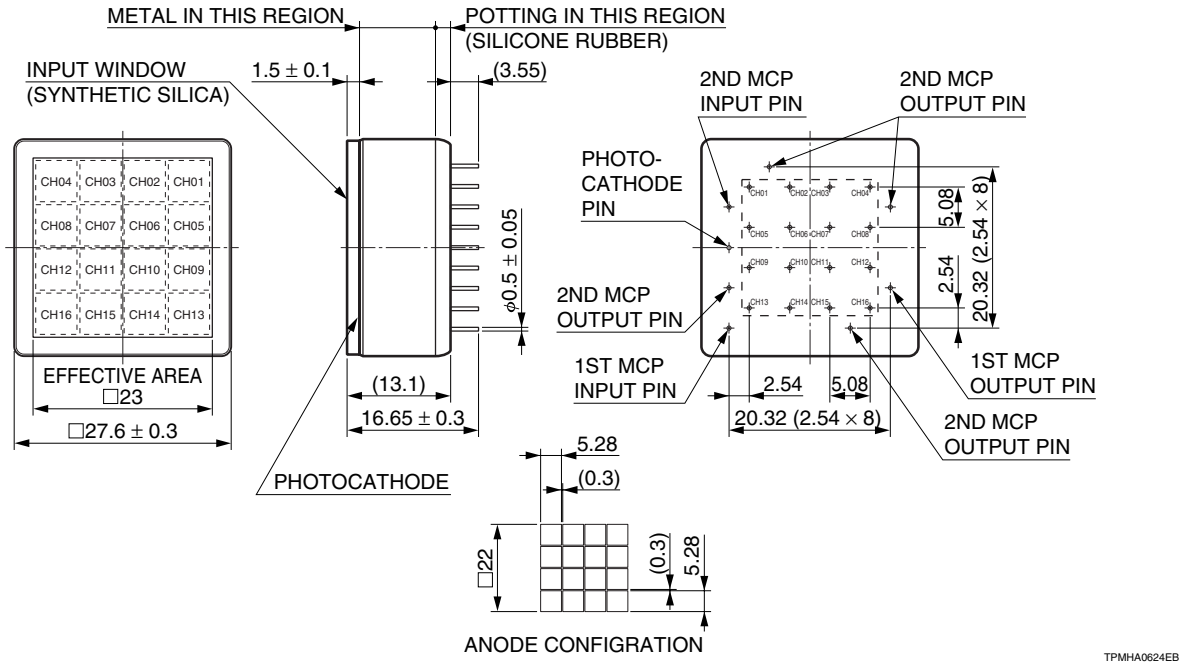


Figure 4: Dimensional outlines (Unit: mm)



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