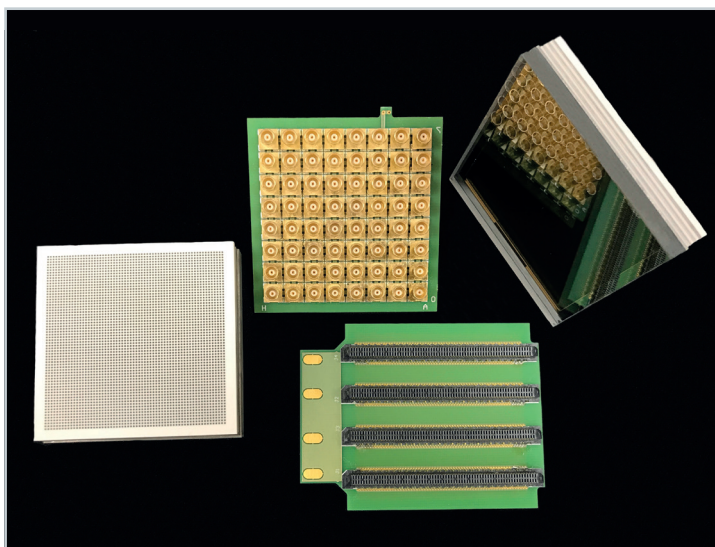


# AuraTek-Square

Next generation Multi-Anode MCP-PMT



**The AuraTek-Square is a next generation Multi-Anode Micro-Channel Plate Photo-Multiplier Tube (MCP-PMT). It can be configured as a multi-channel single photon counter or analog photon pulse analyzer.**

The AuraTek-Square has an active area of 53 mm x 53 mm with standard anode configurations of 64 x 64 with 0.828 mm pitch, 16 x 16 with 3.312 mm pitch, and 8 x 8 with 6.624 mm pitch. Custom readout configurations with different anode pitch and signal connectors can be considered. The overall tube is 59 mm square, enabling efficient tiling of multiple AuraTek-Square's to cover large areas.

The timing performance is state-of-the-art, with pulse rise-time of 330 ps and single photon transit time spread of < 40 ps rms per channel. Ask our experts to help you select the best readout electronics for your application.

## Key Attributes

- > True noiseless photon counting
- > 860 ps FWHM pulse width
- > Transit time spread of < 40 ps rms
- > Extremely low dark counts
- > Highest anode density of any PMT with 0.828mm pitch and 4096 anodes
- > Variety of high QE, low noise photocathodes covering full UV to visible wavelengths
- > Immunity to magnetic fields
- > Assistance with selection of optimal readout electronics

## Applications

- > Ring Imaging Cherenkov (RICH)
- > Detection of Internally Reflected Cherenkov (DIRC)
- > Sampling Calorimeter Readout
- > Wavelength Shifting Fibre Readout
- > Scintillating/Cherenkov Fibre Readout
- > Beam Monitor
- > High Content Screening
- > Time Resolved Spectroscopy
- > LiDAR
- > Standoff Chemical/Biological Detection
- > Microplate Readout

## Product Overview

General Characteristics	
Window	Fused Silica (Optional Fibre Optic/Sapphire)
Active Area	53 x 53 mm
Electron Multiplier	Dual MCP
Anode Formats	64 x 64 on 0.828 mm pitch
	16 x 16 on 3.312 mm pitch
	8 x 8 on 6.624 mm pitch
Photocathode	Solar Blind, Bi-Alkali, S20, S25

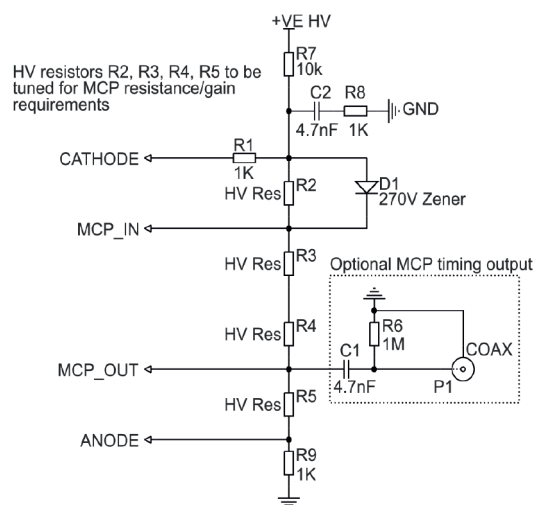
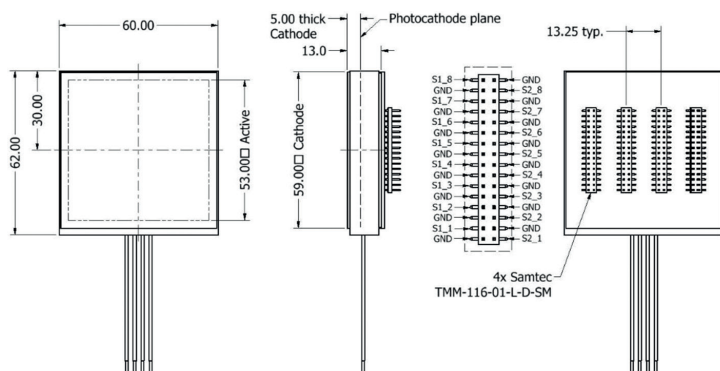
## Specifications

Single Photon Response	Typical
Dark Counts per Anode	< 2 cps
Pulse Risetime (10% to 90%)	330 ps
Pulse Width	860 ps FWHM
Transit Time Spread	< 40 ps RMS
Pulse Height Distribution	100% FWHM
Linear Total Count Rate	Up to 10 MHz

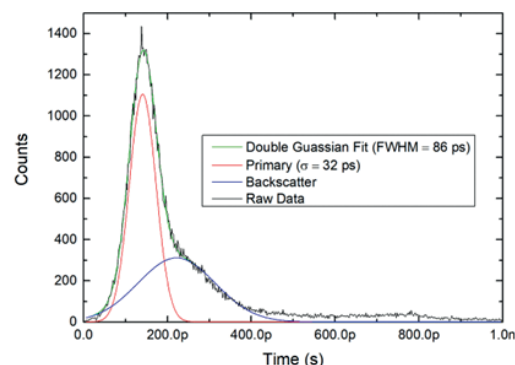
## Maximum Ratings

Overall Voltage	< 3500 V
Operating Temperature	-50°C to +50°C
Storage Temperature	-50°C to +50°C

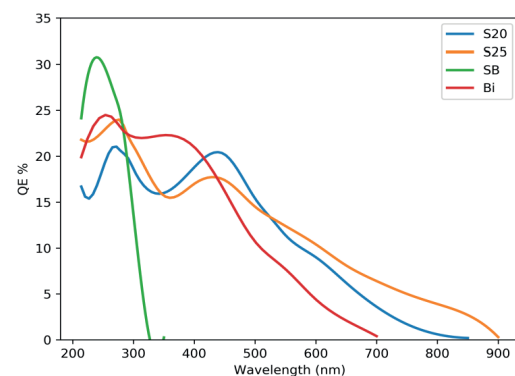
## Outline Drawing



**Figure 1 :** Typical dropper chain example



**Figure 2 :** Transit time spread of an AuraTek-Square in response to a 40 ps laser source.



**Figure 3 :** Available photocathodes on fused silica window. Optional fibre optic window will reduce sensitivity and no response below 300 nm.

## About Photek

**Photek is a specialist manufacturer of vacuum based tubes and camera systems for photon detection.**

Our product range includes; Camera Systems, Image Intensifiers, Photomultiplier Tubes, Streak Tubes plus a range of associated electronics.

We are experts in large area and ultra-high speed imaging and advanced photon counting camera systems.

Our continuing success is built upon continuous innovation and product development, and by harnessing and applying knowledge to find solutions for all of our customers' applications.

**Photek is accredited to ISO 9001 and ISO 14001.**



## Contact Us

**Our team of specialist engineers and scientists are ready to discuss your application requirements in depth.**

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