

# AP-TOF

## 18mm Ultra-Fast Time-of-Flight Detector

### Applications

- ✓ Highest performance, fastest timing detectors for TOF mass spectrometry

### Features

- ✓ Improved mass resolution
- ✓ 350 picosecond pulse widths
- ✓ 250 picosecond rise time
- ✓ 18mm Ø collection
- ✓ Low profile 50Ω conical anode
- ✓ Replaceable MCP cartridge



The PHOTONIS **Ultra-Fast Time-of-Flight Detector** offers previously unobtainable levels of mass resolution, dynamic range, and detection sensitivity for Time-of-Flight Mass Spectrometry.

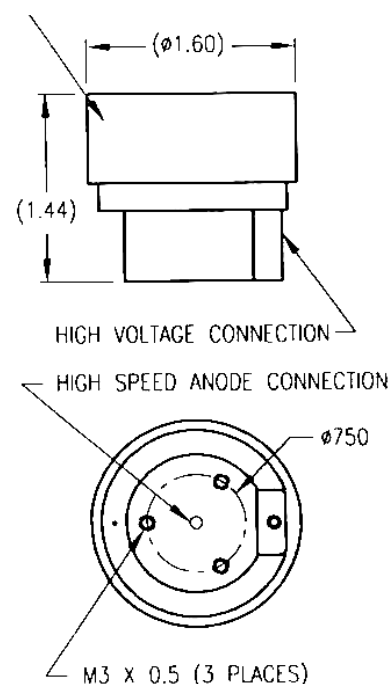
Our exclusive MCPs, with 2 microns diameter pores, offer the highest channel densities available. This channel density provides dynamic range improvements of ten times that of conventional microchannel plates.

In MALDI-TOF, ESI-TOF, or custom TOF Mass Spec, the mass resolution of your instrument is often determined by the detector. With our exclusive ultra-small pore microchannel plate technology and a new low profile, 50Ω impedance matched conical anode, PHOTONIS Ultra-Fast Time-of-Flight Detector provides ~350 ps pulse widths (~250ps rise time) - nearly ten times faster than conventional detectors.

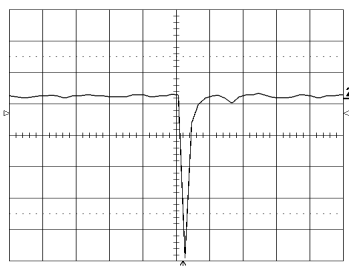
These MCPs also give the Ultra-Fast Time-of-Flight detector superior sensitivity and excellent temporal resolution. The flat input surface provides uniform ion conversion and the higher aspect ratio of the MCPs provides gains in excess of  $5 \times 10^6$ . Installation is a snap with PHOTONIS replaceable Quick-Fit® MCP cartridge. Each cartridge includes a Chevron™ set of two Long-Life™ 2 micron pore Extended Dynamic Range MCPs, and a high transmission grid mounted in a rugged module. This module can be purchased separately and allows the operator to replace MCPs quickly and easily.

General Specifications		Unit
Microchannel Plate	Long-Life™ Extended Dynamic Range™	
Gain (minimum at 2400V)	$5 \times 10^6$	
Dark Count (maximum at 2400 V)	5	cps/cm <sup>2</sup>
Resistance (reference)	66 - 400	MΩ
Detection Diameter	18	mm
Operating Temperature Range	-50 to 100	°C
Operating Pressure (maximum)	$1.0 \times 10^{-6}$	Torr
Vacuum Flange	4.5" and 6" conflat available	
Electrical Connections	High Voltage: Output Signal:	SHV available with flange BNC available with flange
DC Offset Voltage on Output Signal (maximum)	500	V

### Detector Configuration (dimensions in inches except when specified)



### Typical Pulse Width



1 ns/div ; Rise Time ~250 ps ; FWHM ~350 ps

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