

# 18 mm ULTRA-FAST TIME-OF-FLIGHT DETECTOR

- Highest Performance, Fastest Timing Detectors for TOF Mass Spectrometry
- Improved Mass Resolution
- 350 Picosecond Pulse Width
- 250 Picosecond Rise Time
- 18 mm Collection Diameter
- Low Profile 50  $\Omega$  Conical Anode
- Replaceable MCP Cartridge

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

BURLE's exclusive small pore MCPs, with pores 2 microns in diameter, offer the highest channel densities of any MCP in the world. This channel density provides **dynamic range improvements** of 10 times that of conventional microchannel plates.

Whether you are currently working with or developing a new MALDI-TOF, ESI-TOF, or custom TOF Mass Spec, the **mass resolution** of your instrument is often determined by the detector. Benefiting from our exclusive ultra-small pore microchannel plate technology and a new low profile impedance matched 50  $\Omega$  conical anode, BURLE's Ultra-Fast Time-of-Flight Detector provides ~ 350 ps pulse width (~ 250 ps rise time) – nearly 10 times faster than conventional detectors.



These MCPs also give the Ultra-Fast Time-of-Flight detector superior sensitivity. 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 Burle's replaceable **Quick-Fit®** MCP cartridge. Each cartridge includes a Chevron™ set of 2 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.

High mass resolution, dynamic range improvements, and superior sensitivity, all from the world's largest supplier of standard, retrofit and custom detectors for mass spectrometry.

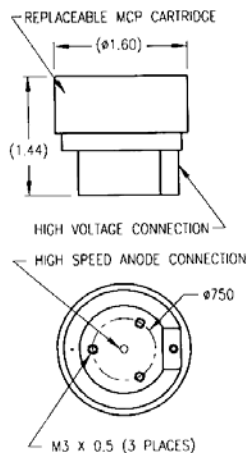


## 18 mm ULTRA-FAST TIME-OF-FLIGHT DETECTOR

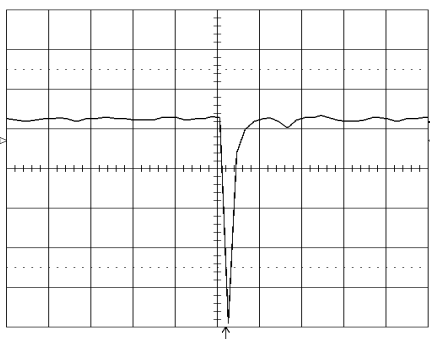
### SPECIFICATIONS

Application:	Time-of-Flight Mass Spectrometry
Microchannel Plate:	Long-Life™ Extended Dynamic Range™
Gain (Minimum):	$5 \times 10^6$ at 2400 V
Dark Count (Maximum):	5 cps/cm <sup>2</sup> at $5 \times 10^6$ Gain
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: SHV available with flange Output Signal: BNC available with flange
Maximum DC Offset Voltage on Output Signal:	500 V

### DETECTOR CONFIGURATION



### TYPICAL PULSE WIDTH MEASUREMENTS



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



The information furnished is believed to be accurate and reliable, but is not guaranteed and is subject to change without notice. No liability is assumed by BURLE INDUSTRIES for its use. Performance data represents typical characteristics and not specifications as actual, individual product performance may vary. Customers should verify that they have the most current BURLE product information before placing orders, and should independently test and evaluate BURLE products for their intended use. No claims or warranties are made as to the application of BURLE products or their suitability or fitness for any particular purpose. This document may not be reproduced, in whole or in part, without the prior written consent of BURLE INDUSTRIES.

Chevron™ and Long-Life™ are trademarks of BURLE INDUSTRIES. All other trademarks are the property of their respective owners.

Copyright 2004 by BURLE Technologies, Inc. All rights reserved.

BURLE® and BURLE INDUSTRIES® are registered trademarks of BURLE Technologies, Inc. Marca(s) Registrada(s). Printed in the U.S.A.

**For additional information in the U.S.A. and Canada, telephone +1-800-648-1800 and for international calls, use +1-508-347-4000, or FAX request to +1-508-347-3849. BURLE Electro-Optics, Inc., Sturbridge Business Park, P.O. Box 1159, Sturbridge, MA 01566-1159 USA**