

51003

MINIATURE ADVANCED PERFORMANCE TIME-OF-FLIGHT DETECTOR

- Compact, High Performance, Fast Timing Detectors for Field Portable TOF Mass Spectrometry
- Bakeable to 150 °C
- Improved Mass Resolution
- Sub-nanosecond Pulse Widths
- 8mm Collection Diameter
- Low Profile Conical Anode

The Burle **Miniature Advanced Performance Time-of-Flight Detector** offers previously unobtainable levels of mass resolution, dynamic range, and detection sensitivity specifically designed for field portable Time-of-Flight Mass Spectrometry. This high performance TOF detector had been incorporated into the smallest package available anywhere in the world.

This new TOF detector may be operated at up to 100 °C and vacuum baked at up to 150 °C. This allows rapid chamber degassing and ultra quiet instrument operation.

Burle's exclusive small pore (five micron diameter) microchannel plates (MCPs) offer one of the highest channel densities of any MCP in the world. This channel density provides **dynamic range improvements** of up to ten times that of conventional microchannel plates. The combination of the new microchannel plate technology and a low profile,



50 ohm, impedance-matched anode extends the dynamic range far beyond previously attainable levels.

These MCPs also give the new Miniature Time-of-Flight detector **superior sensitivity and the best temporal resolution available anywhere**. The flat input surface provides uniform ion conversion and the higher aspect ratio of the MCPs provides gains in excess of 10^6 .

Each Detector utilizes two Long-Life™, small pore, Extended Dynamic Range microchannel plates (arranged as a Chevron™) mounted on a compact vacuum flange for easy installation.

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.

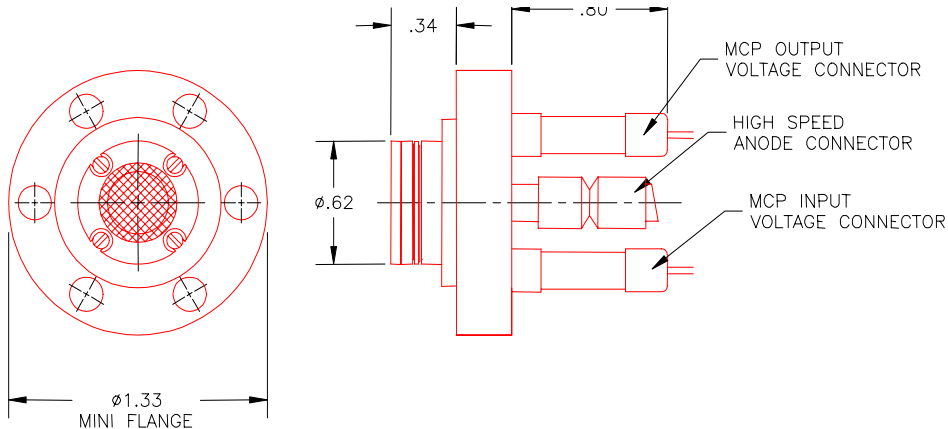


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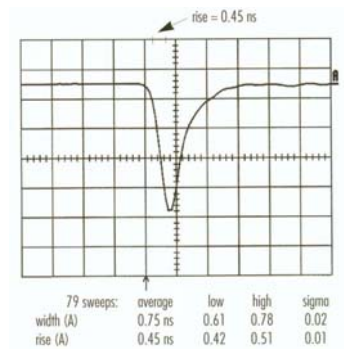
SPECIFICATIONS

Application:	Time-of-Flight Mass Spectrometry
Microchannel Plate:	Long-Life™ Extended Dynamic Range
Gain (Minimum):	1 x 10 ⁶ at 2000V
Dark Count (Maximum):	2.5 counts/second at 2400 Volts
Resistance (Reference):	66-400 Megohms
Detection Diameter:	8mm
Operating Temperature Range:	-50° to 100 °C
Bake out temperature (Maximum)	150 °C
Operating Pressure (Maximum)	1.0 x 10 ⁻⁵ Torr
Vacuum Flange:	1.33" Mini-Conflat
Electrical Connections:	High Voltage: ϕ 0.032" Cu Posts Output Signal: SMB (connector provided)
Maximum DC Offset Voltage On Output Signal:	500 Volts

DETECTOR CONFIGURATION



TYPICAL PULSE WIDTH MEASUREMENTS



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