

NEW

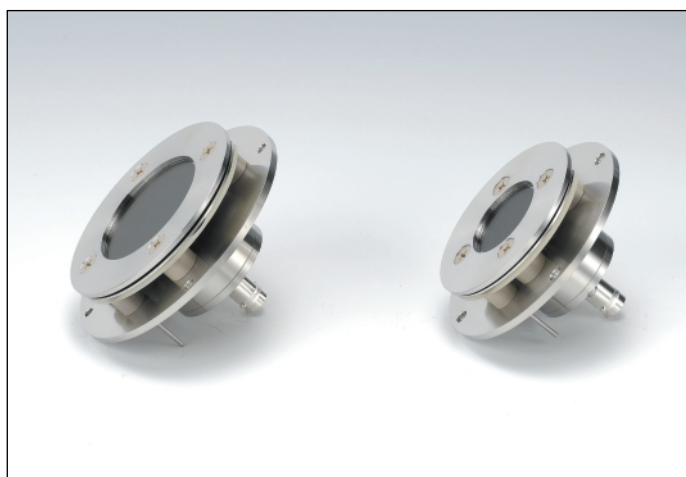
MCP ASSEMBLY

F9890-11/-12, F9892-11/-12

HIGH TIME RESOLUTION TOF-MS DETECTOR HIGH VOLTAGE FLOATING OPERATION

FEATURES

- High voltage floating operation
MCP-IN ± 10 kV
- Fast time response
- Large effective area
F9890-11/-12 $\phi 27$ mm
F9892-11/-12 $\phi 42$ mm
- Excellent MCP flatness
- Robust MCP
- Less ringing
- Small time jitter

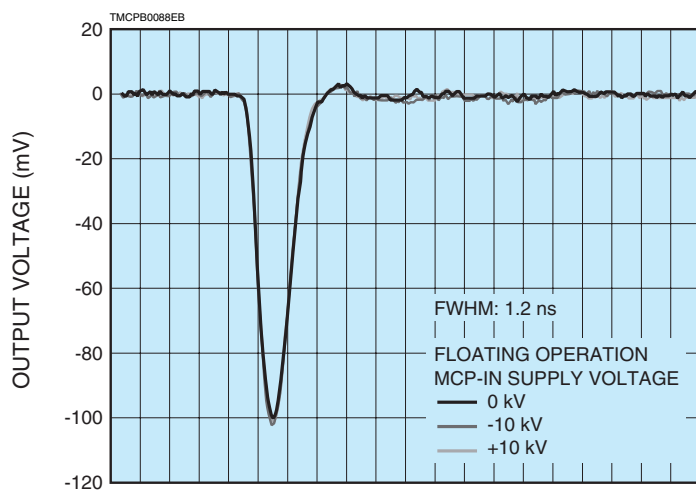


OVERVIEW

The F9890-11/-12 and F9892-11/-12 are ideal detectors with large effective area for TOF-MS (Time of Flight Mass Spectrometry).

Our own advanced technology in optimizing the assembly design with flat MCP allows excellent time resolution of 1.2 ns (FWHM: F9892-11/-12) with negligible ringing at both ± 10 kV high voltage floating operation.

Figure 1: Typical Output Waveform (F9892-12)



RESPONSE TIME (1 ns/div.)

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SPECIFICATIONS

GENERAL

Parameter	F9890-11	F9890-12	F9892-11	F9892-12	Unit
MCP Channel Diameter	12	6	12	6	μm
Bias Angle	12				degree
Effective Area	φ 27		φ 42		mm
Assembly Outer Size	φ 81		φ 92		mm
Assembly Height Size	54.1	53.7	54.1	53.7	mm
Number of MCPs	2				—

TYPICAL ELECTRICAL CHARACTERISTICS (Supply Voltage: 2 kV, Vacuum: 1.3×10^{-4} Pa, Operating Ambient Temperature: +25 °C)

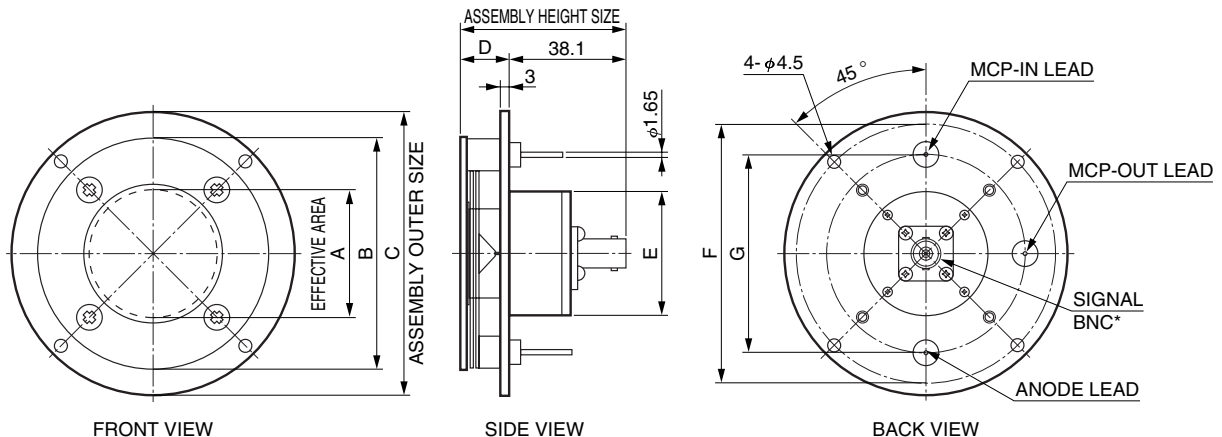
Parameter	F9890-11	F9890-12	F9892-11	F9892-12	Unit
Gain (Min.)	1×10^6				—
Plate Resistance per MCP	10 to 40		8 to 32		MΩ
Dark Count (Max.)			3		s ⁻¹ ·cm ⁻²
Pulse Width (FWHM) (TYP.)	0.9		1.2		ns

RATINGS

Parameter	F9890-11	F9890-12	F9892-11	F9892-12	Unit
MCP Supply Voltage (Max.)	2.0				kV
MCP-OUT to Anode Supply Voltage (Max.)	0.5				kV
MCP-IN Supply Voltage (Max.)	±10				kV
Operating Vacuum Condition (Max.)	1.3×10^{-4} ^(A)				Pa

NOTE: (A) Better vacuum than 1.3×10^{-4} Pa.

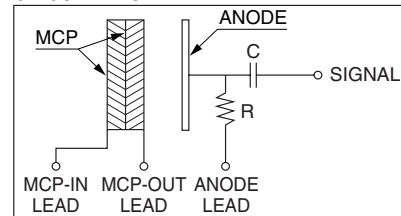
DIMENSIONAL OUTLINES (Unit: mm)



* SMA connector type also available.

Type No.	A	B	C	D	E	F	G
F9890-11	φ 27	φ 63	φ 81	16	φ 35	φ 72	φ 52
F9890-12				15.6			
F9892-11	φ 42	φ 75	φ 92	16	φ 40	φ 84	φ 64
F9892-12				15.6			

CIRCUIT DIAGRAM



TMCPA0072EA

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