MCP

MCP ASSEMBLY
F14844

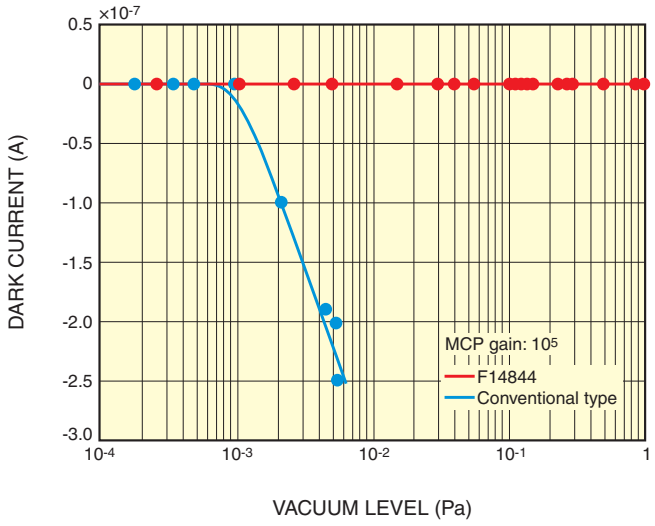
FEATURES

- MCP-based ion detector (Triode type)
- Compact size for miniature mass spectrometer
- High pressure operation: up to 1 Pa
- Effective area: ϕ14.5 mm
- Long life characteristic: 3 Coulomb/cm^2 or more

OVERVIEW

Usually MCP-based ion detectors and electron multipliers cannot be operated at high pressure (more than 10^{-2} Pa) because of ion feedback, which causes discharge and a decrease in S/N. However, HAMAMATSU offers a novel MCP-based ion detector for higher pressure operation up to 1 Pa.
This detector combines a triode structure with a novel potential mode, and it has a gain of 1×10^6 at 1 Pa.

OUTPUT STABILITY (Typ.)



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SPECIFICATIONS

GENERAL

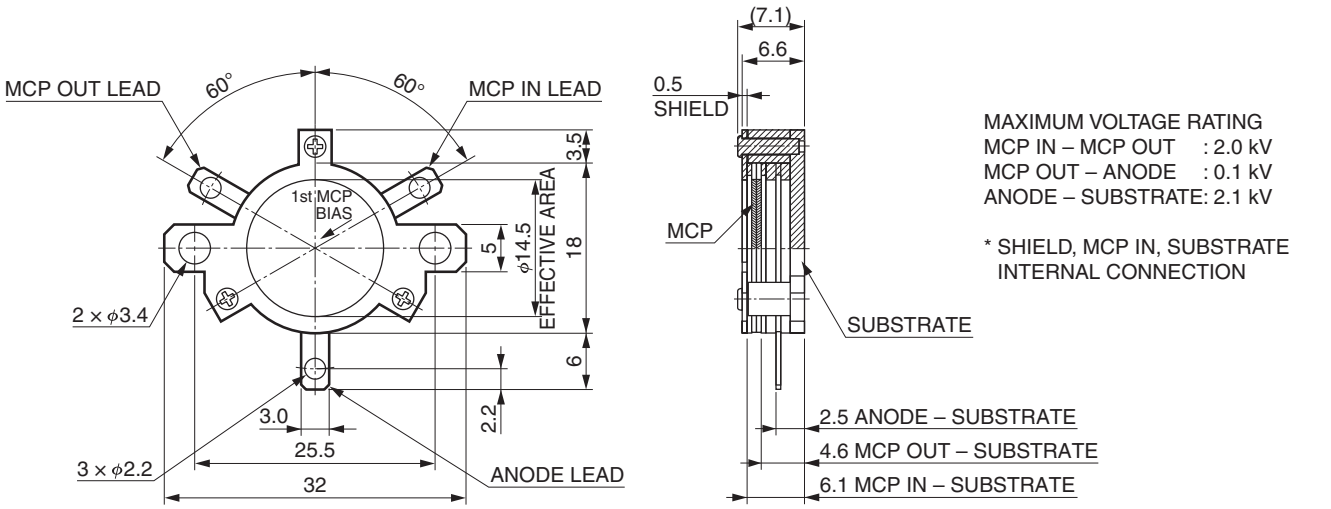
Parameter	Value	Unit
MCP channel diameter	12	µm
Bias angle	8	degree
Effective area	ϕ14.5	mm
Number of MCPs	2	—
Open area ratio (Typ.)	60	%

ELECTRICAL CHARACTERISTICS

Parameter		Value	Unit
Gain (Min.) Ⓐ		1×10^6	—
Resistance (Typ.) Ⓐ		300 to 600	MΩ
Dark count (Max.) Ⓐ		3	$s^{-1} \cdot cm^{-2}$
Max. operating pressure		1	Pa
Operating temperature		0 to 50	°C
Typical capacitance Ⓑ	Between MCP IN LEAD and ANODE LEAD	5.0	pF
	Between MCP OUT LEAD and ANODE LEAD	4.0	pF

NOTE: ⒶSupply voltage: 1.0 kV/1 MCP, Vacuum pressure: 1.3×10^{-4} Pa, Operating ambient temperature: +25 °C
ⒷMeasured by A4261A [Hewlett packard]

DIMENSIONAL OUTLINES (Unit: mm)



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