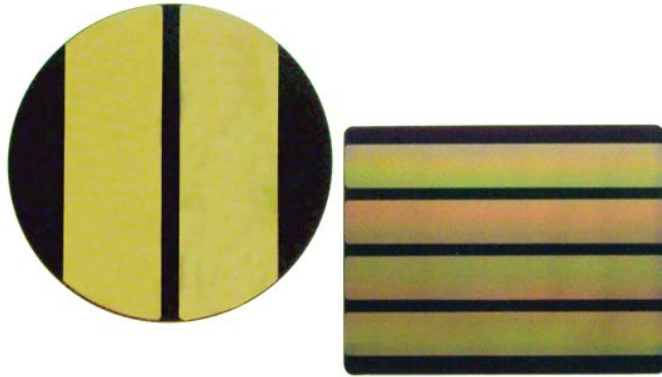


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## Stripline Microchannel Plates

**S**tripline Microchannel Plates allow the capture of sequential images of charged particle events at very high speeds, making them an extremely useful diagnostic component for documenting nuclear events during energy research and process development.

**M**icrochannel plates (MCPs) are components used in the detection and amplification of charged particles and electro-magnetic radiation, and are commonly used in analytical instrumentation. Stripline MCPs use electrode strips to create dielectric polarization, allowing for the movement of ions toward or away from a positive or negative charge. The result is that each individual microchannel within the MCP can be turned on sequentially as fast as the electrical charge can permeate the circuit. The result is a very high-speed sequence of events which can be recorded and analyzed with an analytical instrument.

**A** key component of the PHOTONIS Stripline MCP line is an image-grade patented MountingPad™ Rimless microchannel plate to which several very fine layers of specialized metallization materials have been precisely applied to both the front and back surfaces.

### Enabling Nanosecond Gating

- Microchannel plates with metal stripline coatings are key components in applications such as x-ray framing cameras, where the image from each soft x-ray channel is produced along a single MCP stripline. The front of the MCP is coated with conducting strips and the backside continuously is coated forming micro-strip transmission lines.
- Strips of low resistance materials allow the HV pulse to propagate down the strip, and sequentially turn on individual channels. The result is the ability to capture a very high-speed sequence of events, at high resolution, which can be then be recorded and analyzed.
- Typical coating layers include gold, copper, nichrome and magnesium oxide. The strip line application requires the ability to deposit multiple thin, highly uniform coatings without breaking vacuum.