TE-Cooled MPPC Module

MDT Staff

Hamamatsu Photonics introduces the new C11208 MPPC module which integrates the S11028 series MPPC, a pixelated silicon avalanche photodiode operated in Geiger-mode, with the addition of a high performance thermoelectric cooler. Along with the TE cooled MPPC, the module houses a current-to-voltage converter, high speed comparator, high voltage power supply circuit, temperature control and counting circuits as well as a micro controller.

The module gives the operator a choice of three separate signal outputs of analogue current, digital voltage or USB. The threshold level for photon detection, together with all MPPC functions, can be controlled externally on a PC when the module is connected via the USB interface.

Three versions are available with either 1600, 400 and 100 pixels, corresponding to pixel sizes of 25 x 25µm, 50 x 50µm and 100 x 100µm respectively. A photon detection efficiency of up to 50% is possible with the largest pixel version.

The integrated thermoelectric cooler allows for a large reduction in the detector dark count, approximately 1/20 that of the standard MPPC module range, making it suitable for ultra-low-level light measurements.

The C11208 series is ideal for evaluation of the MPPC and research in many fields including high-energy physics, DNA sequencing, fluorescence measurement, flow cytometry, bioluminescence, medical diagnostic equipment and environmental analysis.

For more information, visit www.hamamatsu.com [1].

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