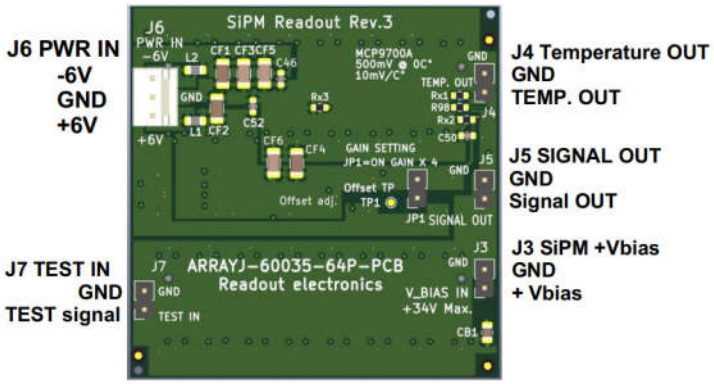
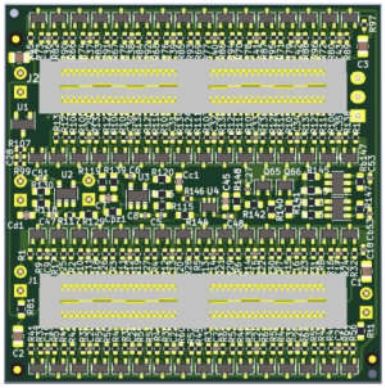
Readout circuit for the SiPM ARRAYJ-60035-64P-PCB

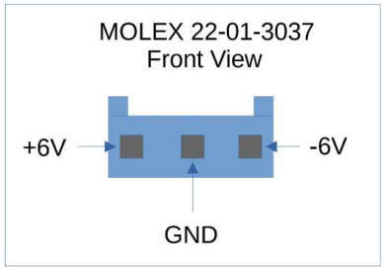
It is an active circuit that provide the sum signal of the 64 SiPMs of the ARRAYJ-60035-64P-PCB It is directly connected on conn J1 and J2 of the PCB (fig.3) It is necessary to supply a +/-6V power to the J6 connector through a MOLEX 22-01-3037 connector with contact pins MOLEX 08-50-0032.
The PIN arrangement is shown of fig.2 The output signal is available on the conn. J5, (fig.1). The GND side is writen on the PCB.
This signal Output is negative and has a maximum amplitude of 4V (2V into 50ohm).
The SiPM Positive Bias voltage is supplied on Conn. J3 and the max. value is 35V. On the Conn. J4 a temperature signal provided by the MCP9700 integrated circuit is available. The output has a 50 ohm back termination and provides a temperature measurement of 10mV/C° with a value of 500mV at zero C°.
The temperature is given by the formula T= [Vout(mV) - 500]/10 A gain of a factor 4X can be set by placing a jumper on JP1 A Test input in present on J7.
It has an impedance of 50 ohms. A signal on this input, attenuated by a factor of 5, is connected directly to one of the Anodes of the SiPM array

Main features
Board Dimension : 51 x 51 mm
Noise Output < = 150uV RMS
Max Output : 4V (50 ohm back termination)
Min. Fall Time: <= 7ns
Linearity : +/- 0.05%
Temperature Sensor output (MCP9700): T= [Vout(mV) - 500]/10
Power Supply: +/- 6V (70mA)

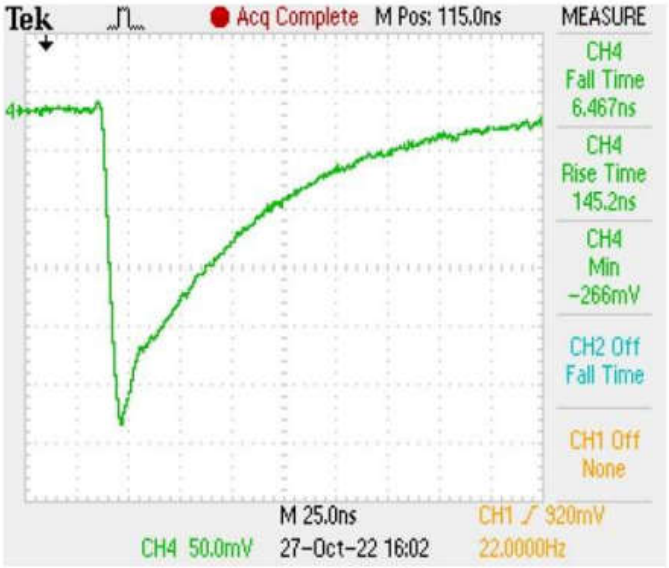


SiPM Read Out PCB Top


SiPM Read Out Bottom



Power Connector Arrangement



Signal Output with LaserPulse