

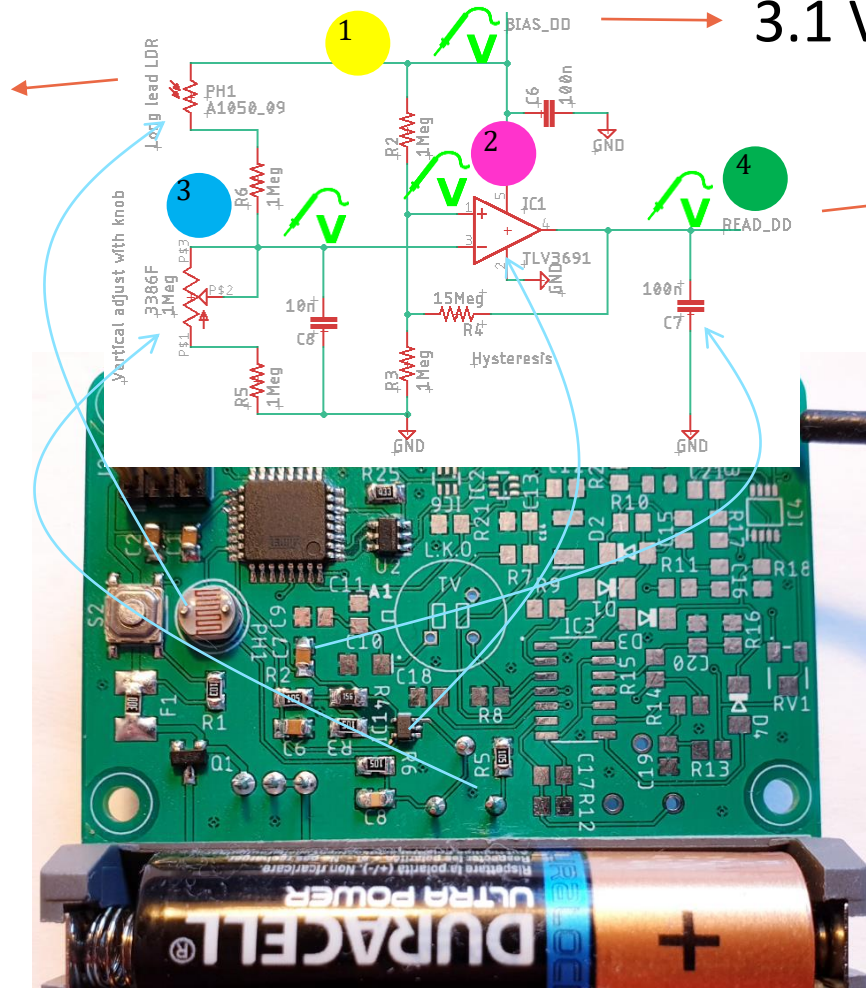


TLV3691 comparator malfunction

MEASUREMENT REPORT

Circuit schematic

Light dependent resistor to measure ambient light

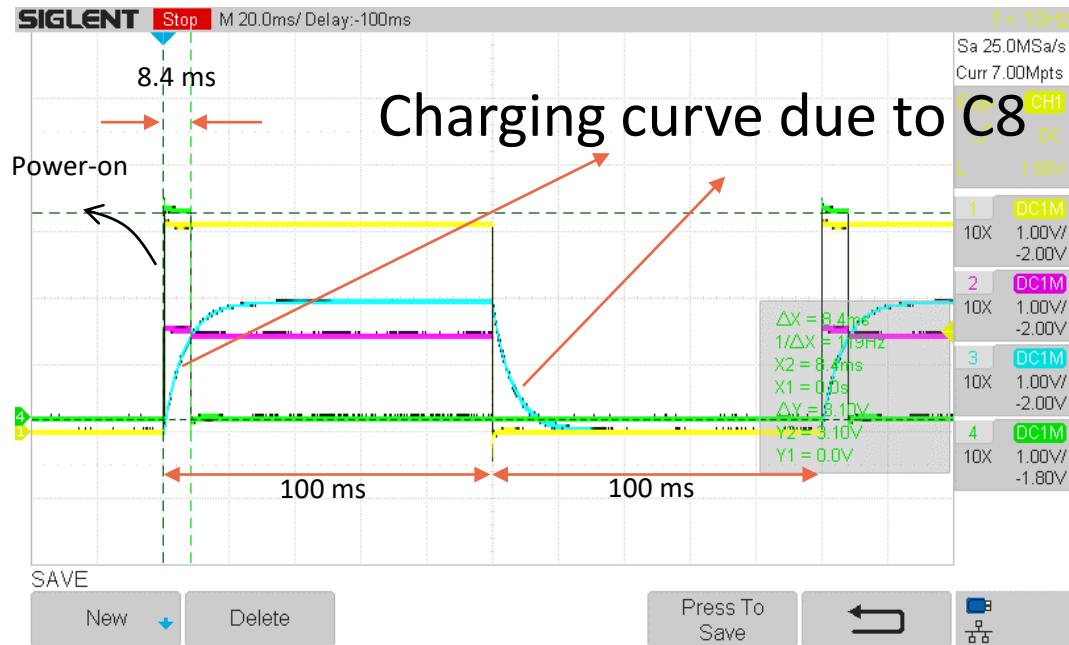


3.1 V from AVR MCU output

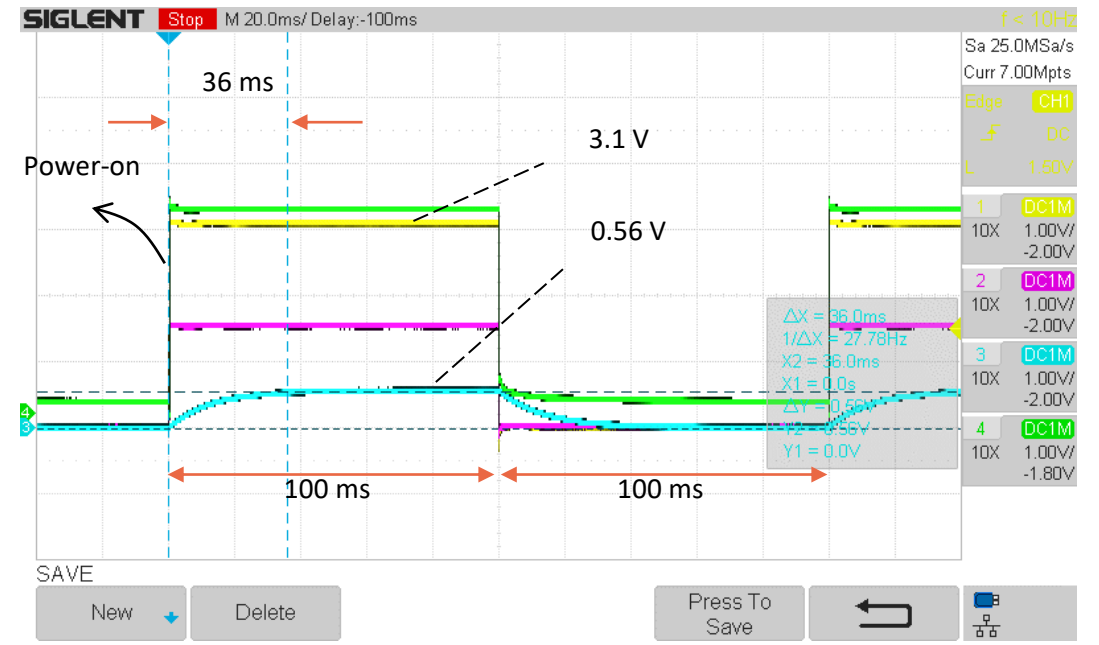
Goes to AVR MCU input

Measurement

Light condition ($R_{LDR} \approx 1k\Omega$)



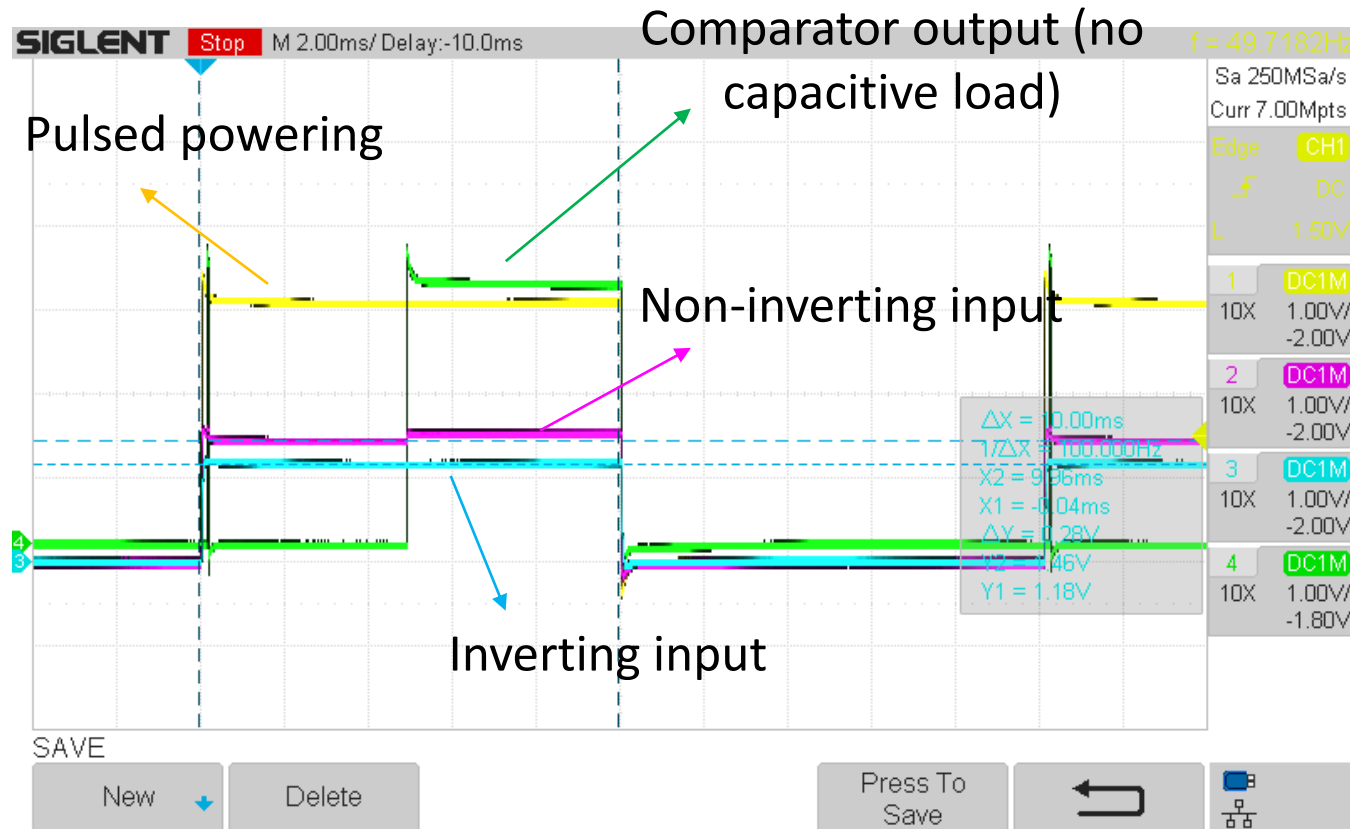
Dark condition ($R_{LDR} \approx 8\text{M}\Omega$)



Normal output result when $V(+)$ is very different from $V(-)$

Measurement

Encountered problem



Circuit that has been measured:

- C8 (10 nF) has been removed
- Capacitive load C7 (100 nF) has been removed



Even with differential voltage of 280 mV, it takes 5 ms to output HIGH

Question

What can be the reason for the long output delay?

- The capacitive loading has been eliminated to respect the specification
- Measure have been performed with probe at 1 M Ω and 10 M Ω , same result obtained
- Datasheet claims 3 mV V_{os} , 24 μ s response time and propagation time of 40 μ s