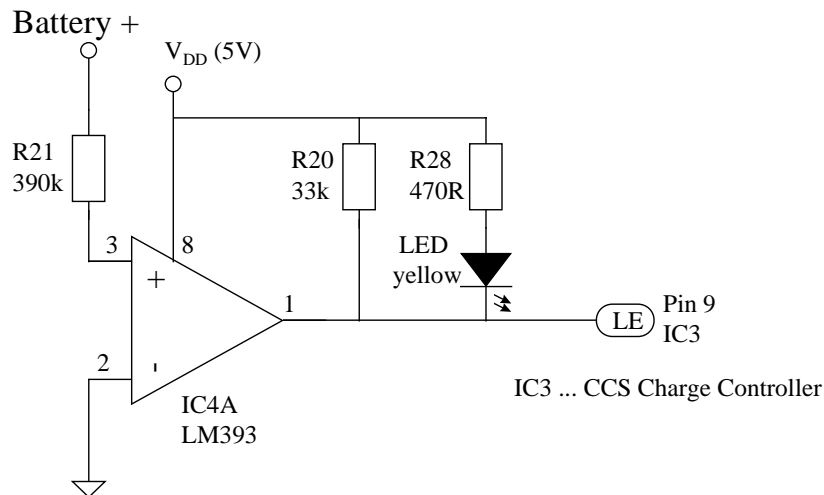


Application Note 843-2 applies to the CCS Charge Controllers with LE Pin

■ CCS9505, CCS9620 and CCS9630

Reverse Polarity Protection for CCS Charge Controllers with LE Pin



Component numbers and values are referred to the typical charge circuit described in Datasheets or in the CCSEB Evaluation Board Manual.

Functional Description:

With this additional application it is possible to detect Reverse Battery Polarity in CCS charger circuits (AC Schematic). In the case of wrong connected battery, the circuit

- A) signals „Wrong Polarity“ (yellow LED on) and
- B) disables charge current.

CCS Charge Controllers with charge enable LE Pin:

When a battery with wrong polarity (Battery+ lower than 0V) is connected, Pin 1 of the LM393 comparator changes to low level (0V). This turns on the yellow LED and tells the CCS charge controller through Pin LE (LE = Charge Enable Pin, see Datasheet) to disable charge.

When the battery is connected correctly, Pin 1 of the LM393 and Pin LE of the CCS charge controller is high level (5V) and normal charge will happen.

Remark: The reverse polarity detection is not foreseen in the layout of the CCSEB PCB. Therefore some changes on the PCB (disconnection of wires, changes of resistors, etc.) must be made.

Attention: The reverse polarity protection does not work with the CCS9620EB or CCS9620EV3!! Reversed polarity may destroy the LT1510!

Comments: Our aim is to help you best in the design of superior chargers with CCS-technology. This Application Note was carefully composed. However, according to the wide range of solutions not all aspects and possibilities can be covered by this publication. Furthermore errors cannot be completely excluded and we do not provide any responsibility for the given applications. Therefore we welcome your response comments and suggestions for further improving our CCS-Application Notes. **Thank you!**

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