CCS 3 Amps Charger based on CCS9620 with LT1511

Premise:

This Application Note is written for Electronic Engineers with experience and practice in circuit design and evaluation on the premises of knowledge and understanding for the operation of the used circuits and the necessary steps to be taken to set said circuits into function. Because skill is assumed not every step will be described in detail and normal precautions and check procedures will be taken for granted.

Basic Requirements:

a) CCS9620 Controller Circuit (without SMC, or disabled SMC)
b) LT1511(103) Demo Board (from Linear Technology Corp.)

Settings for LT1511(103) Demo Board

- Power up the LT1511(103) Demo Board.
- Make the necessary jumper settings (JP1,JP2) to limit the maximum voltage (OVP).
  If selectable OVP settings are not suitable, use a potentiometer in place of one jumper. Then connect a load (power resistor or lamp) and in parallel a capacitor (e.g. 1000µF) to the Vbat-output and tune the potentiometer to the desired maximum voltage at Vbat. (Note that the current through the load must be less than the maximum current to get the voltage limited by OVP, otherwise voltage will be limited by maximum current).
- Check current limit function with a low resistive load.
- Disconnect power source.

Necessary Changes and Interface-Connections

- Power supply off.
- On CCS9620 check the appropriate timing MT1,MT2.
- On both boards (CCS9620 and LT1511) connect GND to GND, Vin to Vin, V_{Bat} to V_{Bat}.
- On LT1511(103) Board: Disconnect R11-(4,93k, Pin1) from ground and wire this terminal to the CCS9620-board to TP4 (E/A).
  For variable current settings, a series connection of a 2k2 Resistor with a 50k Potentiometer can be used instead of fixed R11 (4,93k)

Ready for use

- Check correct function according to CCS9620 Evaluation board with the exceptions made by LT1511 board.

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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