



Test Procedure for the NCV898032LEDSEPGVB Evaluation Board

Operational Guidelines

This evaluation board was designed for a 360 mA four series string OSRAM LUW H9GP.CE LED load connected between VOUT and VFB via connector J3 (J1 open). The evaluation board uses MOSFET Q2 (LED string model equivalent zener voltage) in series with resistors R2, R3, R4 (LED string model equivalent series AC resistance) as a 360 mA operating point model (J1 short, J3 open).

A different LED load may be emulated by varying the sum value of resistors R2, R3, R3 as well as Q2's regulation voltage operating point. LED current sense resistor R11 would need to be revised for an LED current other than 360 mA. Resulting modifications could necessitate revision of feedback loop compensation components.

This test procedure is to be used when the evaluation board LED simulator is used (J1-short, J3 open):

1. Connect a DC input voltage, within the 6 V to 40 V range, between VIN and GND.
2. Connect a DC enable voltage, within the 2.0 V to 5.0 V range, between EN/SYNC and GND.
3. The demo board feedback components were selected for continuous operation and rated to operate a 360 mA four series string OSRAM LUW H9GP.CE LED load at a minimum input voltage of 6 V.
 - When regulating, output voltage may be expected to be ~12-14 V. **VFB shall be 200 mV +/- 2%.**
 - The NCV898032 IC-VIN has its operational voltage diode-ored between the converter output (14 V) and input voltages. The converter turns-on typically at 6.7 V. Once energized, the output voltage supplies power to the IC when the battery voltage is below (approximately) 13 V. The decreasing VIN UVLO voltage depends on load current as well as VIN, and will be less than 6 V when operating below rated output current.

Separable LED Load Simulator

The evaluation board contains a separable LED simulator board. With removal of jumpers R20 and R21, the board is v-scored so that it may be easily removed for external connectivity during NCV898032 testing within a temperature chamber. With its removal and connectivity across J3, a specific application's LED load may be attached and evaluated. The new LED load would require adjustment of the LED current sense resistor R11 for a LED current other than 360 mA and could necessitate revision of feedback loop compensation components.