

Test Procedure for the NCP5602 Evaluation Board

ON Semiconductor



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Power Supply:

Connect a DC power supply, with 500mA output current capability, across the two pins built with connector J2. Make sure the polarity is properly respected: reverse polarity will destroy the NCP5602.

Set up the power supply to 3.6V. Although the supply voltage can be adjusted between 2.85V – 5.5V for engineering purpose, the associated MCU test board is limited to 3.6V; double check the power supply before to turn ON the supply.

Test Procedure:

1. Connect the IDC10/J1 connector to the external MCU board with the ribbon cable. Double check the power supply is set up at 3.6V, maximum rating is 3.8V.
2. The MCU board is powered by the same external DC supply once the ribbon cable is attached on both boards.
3. Turn ON the power supply: LED D1 on the MCU board shall turn ON. Reset the MCU if necessary by pushing the RESET button S7.
4. Push control button F1: the two LED shall be activated and the brightness can be increased by pushing the F1 control.
5. Push control button F5: the two LED shall be dimmed toward zero with consecutive pushes on the F2 command.
6. Push command F3: the ICON mode shall be activated, same as #4. Since bounces are generated by the manual push buttons, non linear operation can happen during the test. This is normal and the part shall NOT be rejected for such a reason. The final test is complete when all the steps #4 to #7 are proven OK. However, it is not necessary to cover all the sixteen steps to ramp up/ down the brightness: the system is fully debugged if the four tests mentioned above are successful.

Digital Control:

It is possible to drive the NCP5602 by means of an external controller, leaving aside the MCU test package. In this case, one shall connect an external I2C system to connector J1 /IDC10. The external controller shall send the data according to the I2C protocol depicted into the NCP5602 data sheet. The chip is capable to support a 400 kHz transfer rate.

System Operation:

1- Double check the power supply is set up between 3.0V to 5.5V; make sure the external MCU can support the same power supply range.

2- Turn ON the power supply

3 - Send the appropriate data frame to control the two LED