Using External Vcc Power the Next Generation of PowerBlox™ Parts

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Part Number: SP766X

Electrical Requirements:

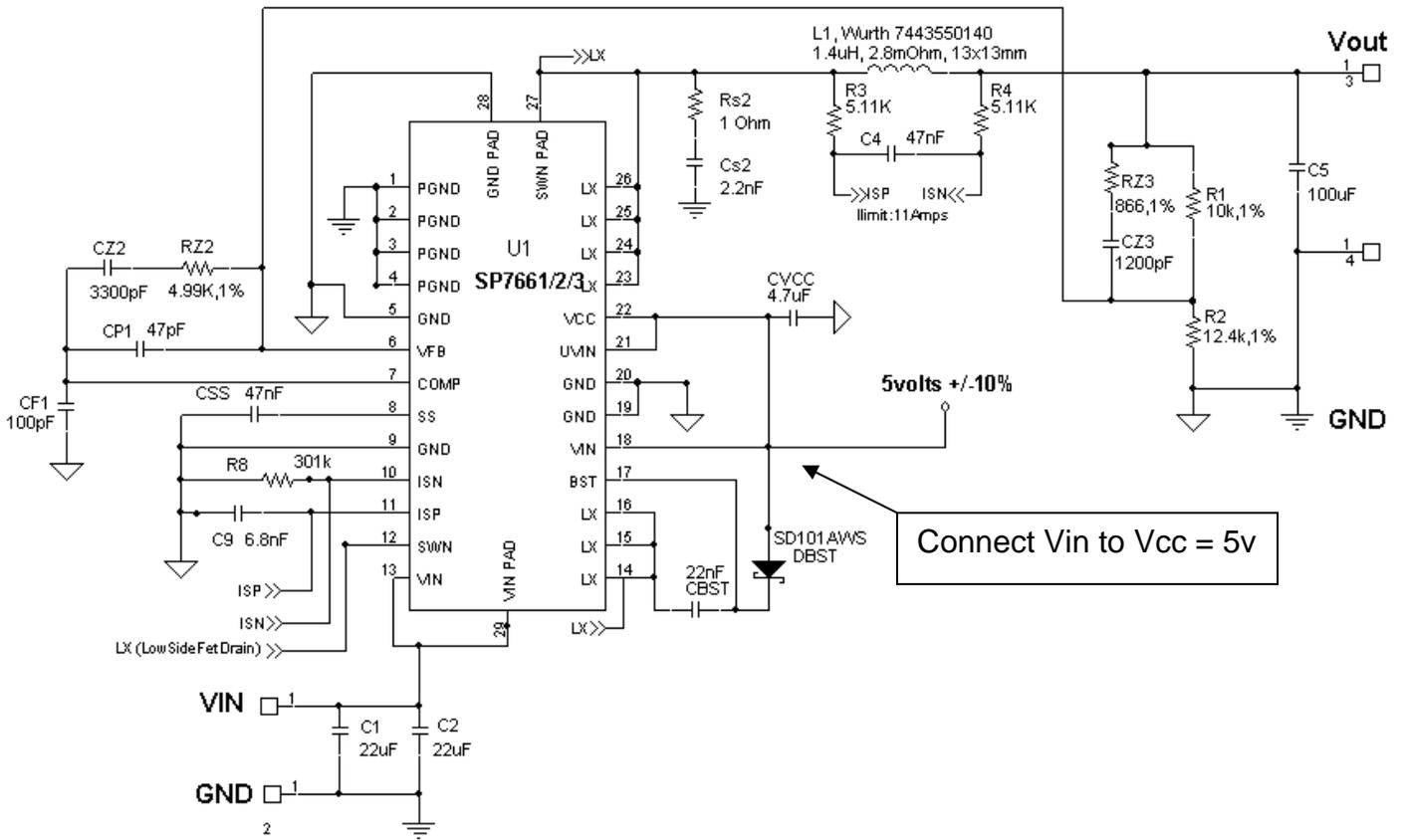|	
Input Voltage	NA
Output Voltage	NA
Output Curent	NA

Circuit Description:

This design solution covers the electrical connections for using the SP766X parts with external 5V Vcc. There are three reasons why the user should connect using these guidelines verses just connecting the 5V Vcc to the Vin pin 18 alone or to the IC Vcc pin 22.

1. The 5V Vcc can be +/-10% using these connections since the user avoids the internal LDO's voltage drop. Hence we add 250mV extra margin when operating with 5V Vcc to clear the internal under voltage lock out (4.5V maximum) internal to the part.

2. Avoiding using the internal LDO also enables the user to save some power since the LDO will not convert power to run the IC.

3. **5V Vcc cannot be connected to pin 22 only since this leaves a floating input to the internal LDO which can possibly damage the part.**

This also enables the user of the PowerBlox™ to convert input voltages between 3V and 4.5V which is less than the required minimum voltage to run the part. This report includes the application schematic with the proper Vcc connections.

In this example UVIN pin is also connected to Vcc to assure that the converter turns on when an external Vcc is present. The UVIN pin can have an external divider if so desired.

Schematic **Figure 1.**