Test Procedure for the NCP3066 SEPIC DFN Evaluation Board
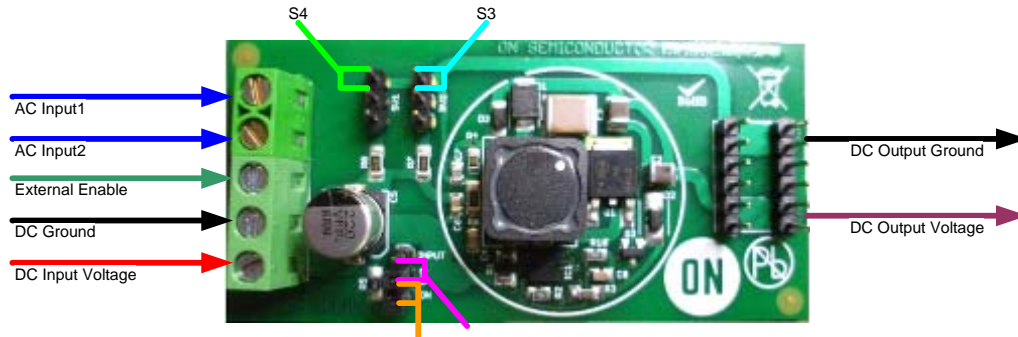

Figure 1: NCP3066 SEPIC PCB

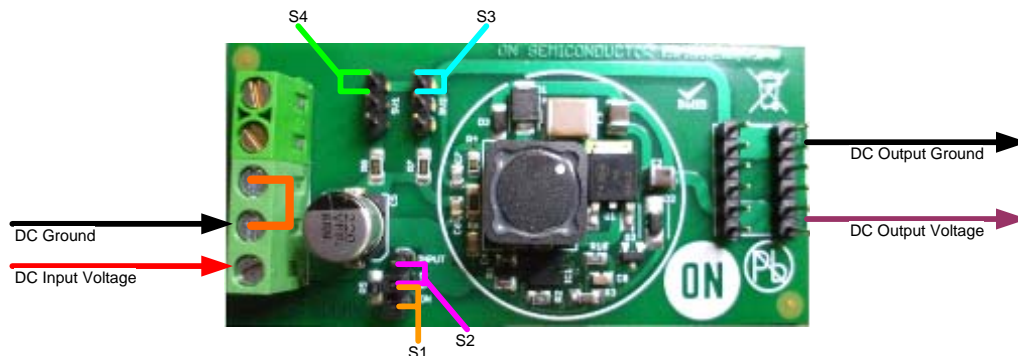| Voltage Supply (12 V, 3 A)	Voltage Meter	Electronic Load or Current Source

Figure 2: NCP3066 SEPIC DC Input PCB Enable Setup

DC Input PCB Enable Setup and Test

1. Connect the input DC voltage between DC input voltage node and DC ground nodes, ensure the voltage is between 12V and 24V.
2. Place a jumper between DC ground and external enable.
3. Place a removable jumper as shown in Figure 2 as S1 to enable the part, S2 will disable the part.
4. Shorting either S4 or S3 as shown in Figure 1 will place R7 and R6 current sense resistors in parallel with R8. The NCP3066 SEPIC demonstration PCB is configured to output 350 mA when the LED load is set to 7.2 V. Placing one resistor in parallel with R8 by connecting either S4 or S3 will increase the current to 700 mA. Once the aforementioned steps are completed, both S4 and S3 will be shorted and the current limit will increase to 1.05 A.
5. Set the electronic load to 7.2 V in voltage mode or connect the appropriate LED string.
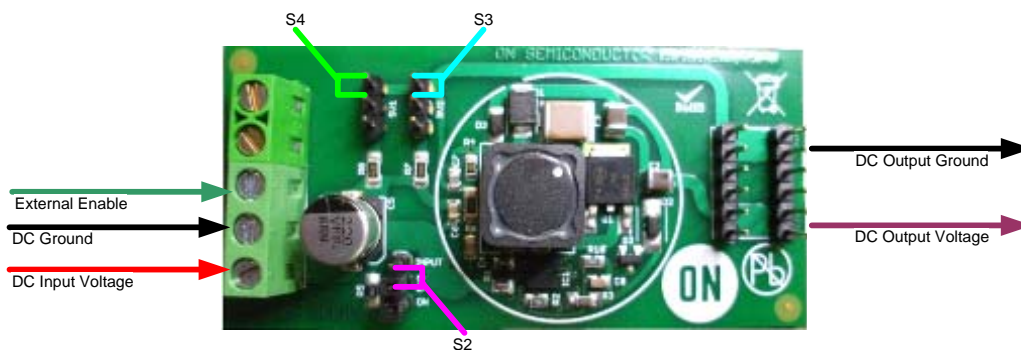6. Monitor Iout and ensure the desired output current is 350 mA, 700 mA, or 1.05 A.

Figure 3: NCP3066 SEPIC DC Input with External Enable Setup

DC Input with External Enable Setup

1. Connect the input DC voltage between DC input voltage node and DC ground nodes, ensure the voltage is between 12V and 24V.
2. Place a removable jumper as shown in Figure 3 as S2 to allow an external enable through the provided pin.
3. Shorting either S4 or S3 as shown in Figure 1 will place R7 and R6 current sense resistors in parallel with R8. The NCP3066 SEPIC demonstration PCB is configured to output 350 mA when the LED load is set to 7.2 V. Placing one resistor in parallel with R8 by connecting either S4 or S3 will increase the current to 700 mA. Once the aforementioned steps are completed, both S4 and S3 will be shorted and the current limit will increase to 1.05 A.
4. Set the electronic load to 7.2 V in voltage mode or connect the appropriate LED string.
5. Monitor Iout and ensure the desired output current is 350 mA, 700 mA, or 1.05 A.
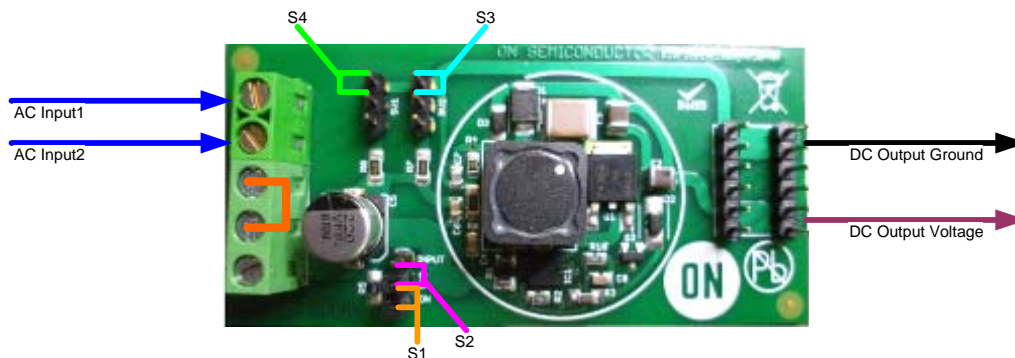

Figure 4: NCP3066 SEPIC AC Input PCB Enable Setup

AC Input with PCB Enable Setup

1. Connect the input AC voltage between AC Input1 voltage node and AC Input2 node, ensure the voltage is no more than 35V peak to peak.
2. Place a jumper between DC ground and external enable.
3. Place a removable jumper as shown in Figure 4 as S1 to enable the part, S2 will disable the part.

4. Shorting either S4 or S3 as shown in Figure 1 will place R7 and R6 current sense resistors in parallel with R8.   The NCP3066 SEPIC demonstration PCB is configured to output 350 mA when the LED load is set to 7.2 V. Placing one resistor in parallel with R8 by connecting either S4 or S3 will increase the current to 700 mA. Once the aforementioned steps are completed, both S4 and S3 are shorted and the current limit will increase to 1.05 A.
5. Set the electronic load to 7.2 V in voltage mode or connect the appropriate LED string.
6. Monitor Iout and ensure the desired output current is 350 mA, 700 mA, or 1.05A.
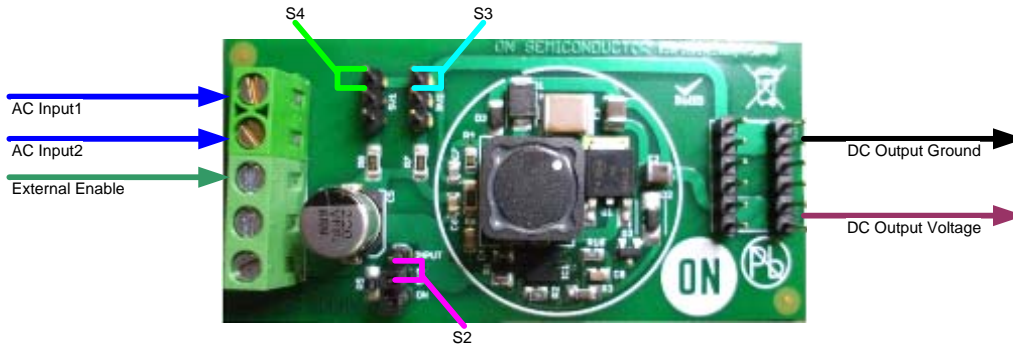

Figure 5: NCP3066 SEPIC AC Input with PCB Enable Setup

AC Input with External Enable Setup

1. Connect the input AC voltage between AC Input1 voltage node and AC Input2 node, ensure the voltage is no more than 35V peak to peak.
2. Shorting either S4 or S3 as shown in Figure 5 will place R7 and R6 current sense resistors in parallel with R8.   The NCP3066 SEPIC demonstration PCB is configured to output 350 mA when the LED load is set to 7.2 V. Placing one resistor in parallel with R8 by connecting either S4 or S3 will increase the current to 700 mA. Once the aforementioned steps are completed, both S4 and S3 are shorted and the current limit will increase to 1.05 A.
3. Set the electronic load to 7.2 V in voltage mode or connect the appropriate LED string.
4. Monitor Iout and ensure the desired output current is 350 mA, 700 mA, or 1.05 A.