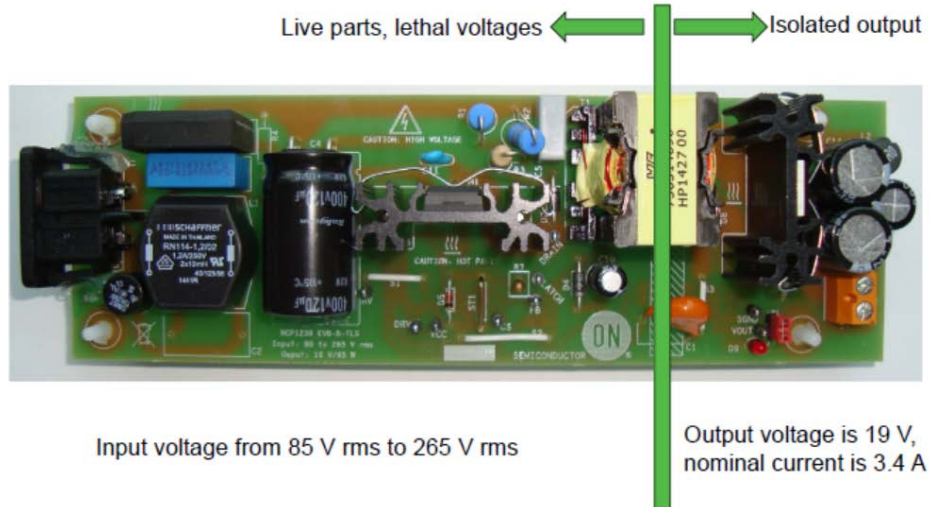




Test Procedure for the NCP1239B65WGEVB Evaluation Board

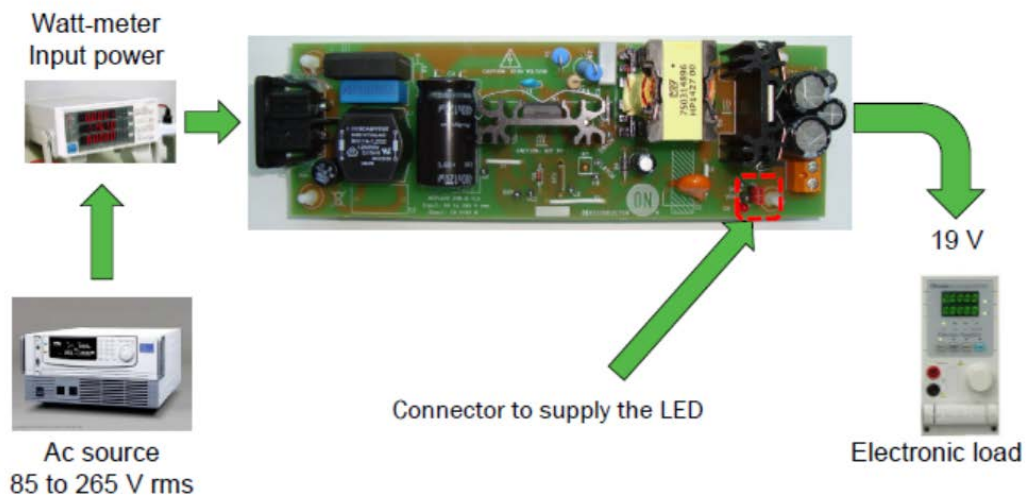
Introduction:



Equipment Required:

1. An ac source (85 to 265 V rms, 60 / 50 Hz), needed power is below 100 W.
2. An input ac watt-meter, up to 100 W.
3. A dc load absorbing up to 50 V, $V_{in(max)} < 30 V$, $I_{out(max)} < 5 A$. Usually, dc electronic load can display dc V and dc A. If not, a voltmeter and ammeter will be needed. If the load does not use local Kelvin sensors, then the output voltage must be measured at the board level, not at the cable ends.

Setup Procedure:



**Test Procedure:**

*****WARNING – Dissipate large 400V capacitor on isolated side of the board (power-in side) before handling after completing the test procedure.*****

Test 1 – No Load Standby

1. Apply the input voltage 115 V rms to J1 connector
2. The LED connector is removed
3. Electronic load is disconnected or set to no load
4. *Check that output voltage is 19 V ($\pm 5\%$)*
5. *Verify that input power is below 45 mW*
6. Apply the input voltage to 230 V rms
7. Repeat above steps
8. *Input power must be below 55 mW*

Test 2 – Nominal Power

1. Apply the input voltage 115 V rms to J1 connector
2. The LED connector is in place
3. Connect electronic load to J2 connector
4. Load is set to 3.4 A
5. *Check that output voltage is 19 V ($\pm 5\%$)*
6. *Verify that input power is: $70\text{ W} < P_{in} < 75\text{ W}$*
7. Apply the input voltage to 265 V rms
8. Repeat above steps

Test 3 – Maximum Power

1. Apply the input voltage 115 V rms to J1 connector
2. The LED connector is in place
3. Connect electronic load to J2 connector
4. Load is increased over nominal current (3.4 A)
5. At a certain point, $I_{out(max)}$, V_{out} collapses and the converter enters in auto-recovery mode (typical is 4.4 A)
6. *Maximum output current is: $3.9\text{ A} < I_{out(max)} < 4.5\text{ A}$*
7. Apply the input voltage to 265 V rms
8. Repeat above steps
9. $I_{out(max)}$ is now typically 4.1 A

Test 4 – Short-Circuit

1. Apply the input voltage 115 V rms to J1 connector
2. The LED connector is in place
3. Short-circuit is applied at the output via the electronic load for instance
4. Load is increased over nominal current (3.4 A)
5. *V_{out} must collapse and the converter enters in auto-recovery mode*
6. *Verify that average input power is below 3 W*
7. Apply the input voltage to 265 V rms
8. Repeat above steps

End of Test.