



DESIGNER'S NOTES:

- 1.) The YX8018 has a built-in boost converter and 200kHz crystal oscillator that generates a square wave, causing its internal capacitor to build up 3V with the help of the inductor (L1);
- 2.) Change the value of the inductor to get desired amount of current passing through the LED;
 - The specific design uses a 100 uH inductor to generate approx. 10 to 15mA of current, as the straw hat LED's max forward current is 21 mA, which helps in avoiding long-term damage;
- 3.) Capacitor is added in addition to datasheet application circuit to ensure sufficient voltage is passing through the circuit;
- 4.) For this particular application, it is assumed that the solar panel will not always output 5V. As such, it is not required to add a safety circuit for charging the battery. The user may change this should it be required for a different application.

REFERENCES:

https://www.youtube.com/watch?v=7TRyD_EXCbA
<https://www.datasheet-pdf.info/entry/YX8018-Datasheet-YX8018-Solar-LED-driver>
<https://datasheetpdf.com/pdf/710956/Shiningic/YX8018/1>

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