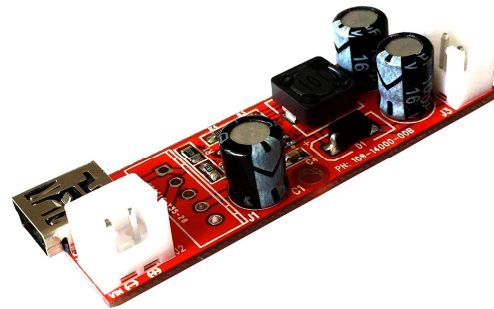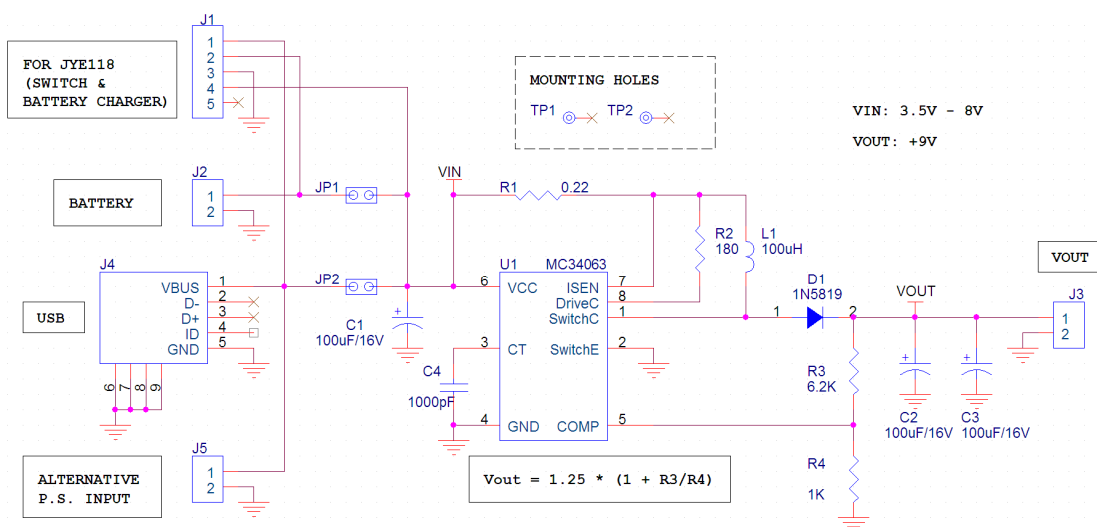# 3.5V to 9V Step-up Converter
JYE140

JYE140 is a step-up DC-DC converter designed on the base of MC34063. It can take input voltage as low as 3.5V and boost it up to 9V with current capacity of 150mA. It is ideal for applications that run on 9V and require Li-ion or USB as power sources.

1. Specifications

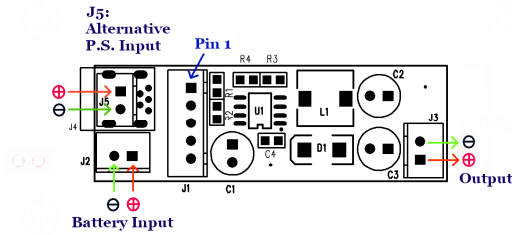| Parameter	Conditions	Min	Typ	Max	Units
Output Voltage			9.0		V
Input Voltage		3.5		8.0	V
Output Current	Input voltage = 5V Output voltage = 8.8V		150		mA
Ripple	Output current = 150mA		100		mVpk
Efficiency			60		%

2. Schematic

3. Application Tips

1) **Input Connections**

   JYE140 provides options to accommodate different power supply sources. These options are explained below.

   a) **Battery** Battery should be connected to connector J2. The jumper JP1 (on the side opposite to component side) should be closed so as J2 is connected to the circuit input. Jumper JP2 should be kept open.

   b) **USB** USB should be connected via connector J4. In this case the jumper JP2 should be closed and jumper JP1 should be left open.

   > Note: Do not apply battery and USB the same time if both JP1 and JP2 are closed.

   c) **Alternative Power Source** If power source other than battery and USB is to be used connect it to connector J5 (do not install J4 in this case). Close JP2 and leave JP1 open as in the case where USB is used.
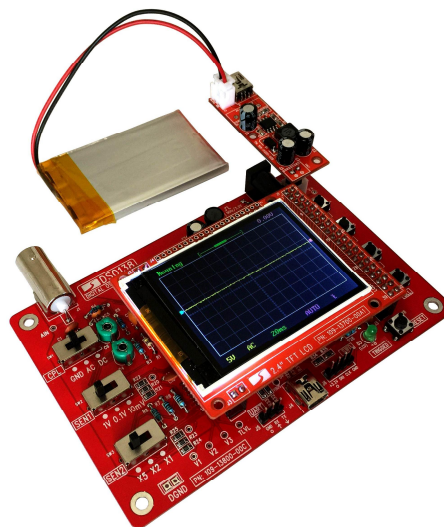
2) **Working with Battery Charger**

   JYE140 is designed to be able to work with battery charger JYE118 so that battery can be charged when USB power is connected. JYE118 can be installed to the location of J1 (J1 is pin to pin match with JYE118). Please make sure input voltage does not exceed the allowed range of JYE118. Refer to the datasheet of JYE118 for details.
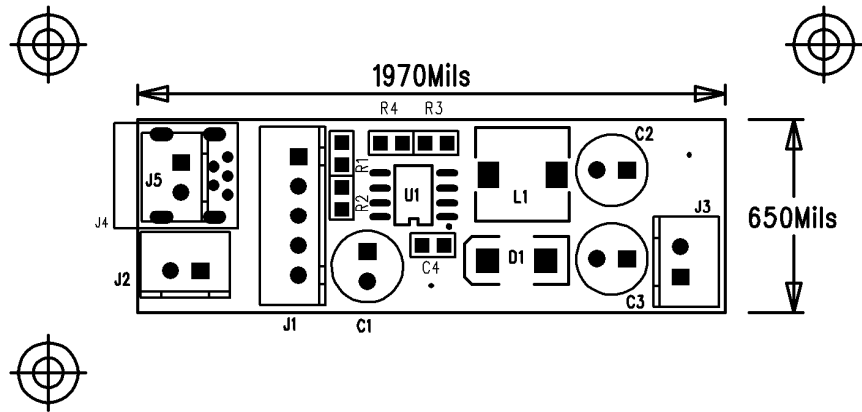
   > Note: Keep jumpers JP1 and JP2 open if battery charger JYE118 is installed. JYE118 can automatically select USB or battery as input source.
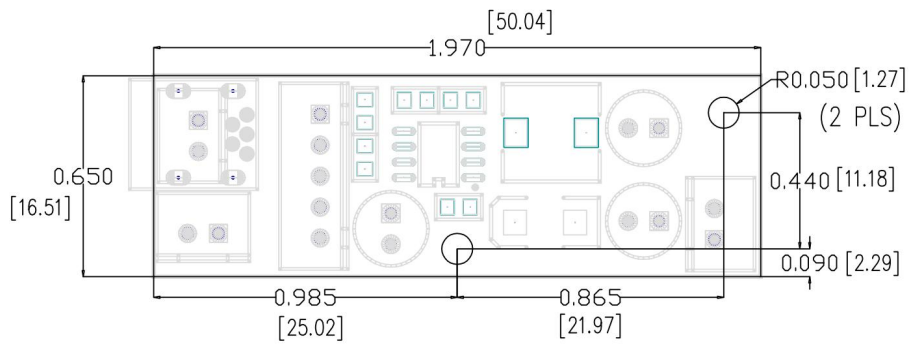
3) **Working with DSO138**

   JYE140 allows DSO138 to be powered by battery or USB. A two-pin female header is provided with JYE140 (if you purchased JYE140 as a kit) to easy off the connection with DSO138. For this purpose do not install J3 (or remove it if it has been installed). Solder the two-pin female header at the opposite side to the holes of J3. This will allow the JYE140 assembly be directly plugged to the connector J9 on DSO138 mainboard, as shown in the photo below.

4. Assembly Drawing and Dimensions

Assembly Drawing

Dimensions

Revision History

Revision	Date	Summary
v01	2015.01.07	Draft