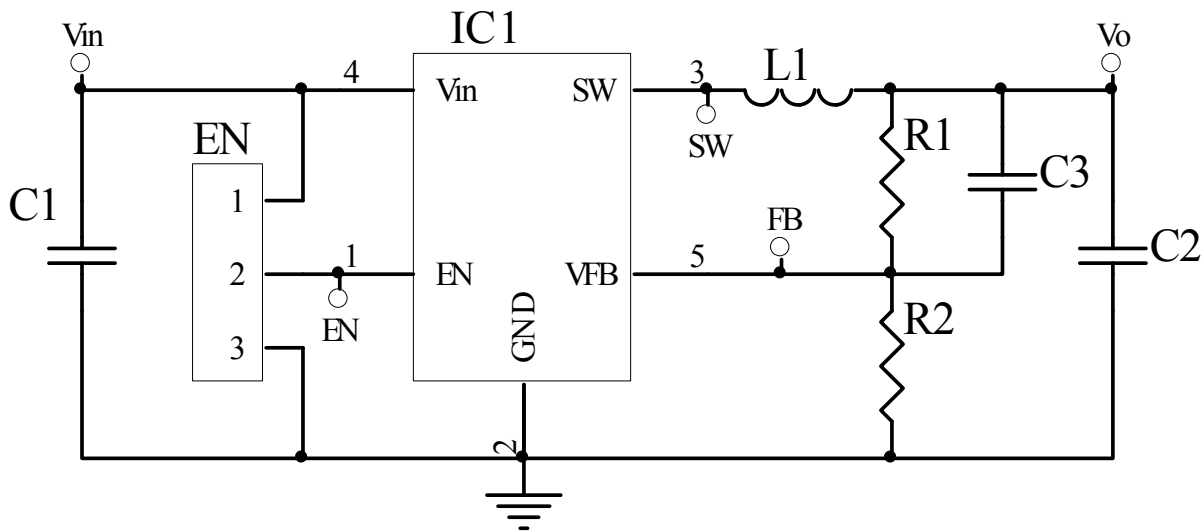




### 3. Key Features

- Efficiency up to 94%
- 40uA(TYP.) Quiescent Current
- Internal Synchronous Rectifier
- 3MHz Switching frequency to minimize inductor value
- Soft Start
- Under-Voltage Lockout
- Short Circuit Protection
- Up to 1A output current
- Thermal Shutdown
- 5-pin Small SOT23-5 Package
- RoHS Pass and Green Package

### 4. EV Board Schematic

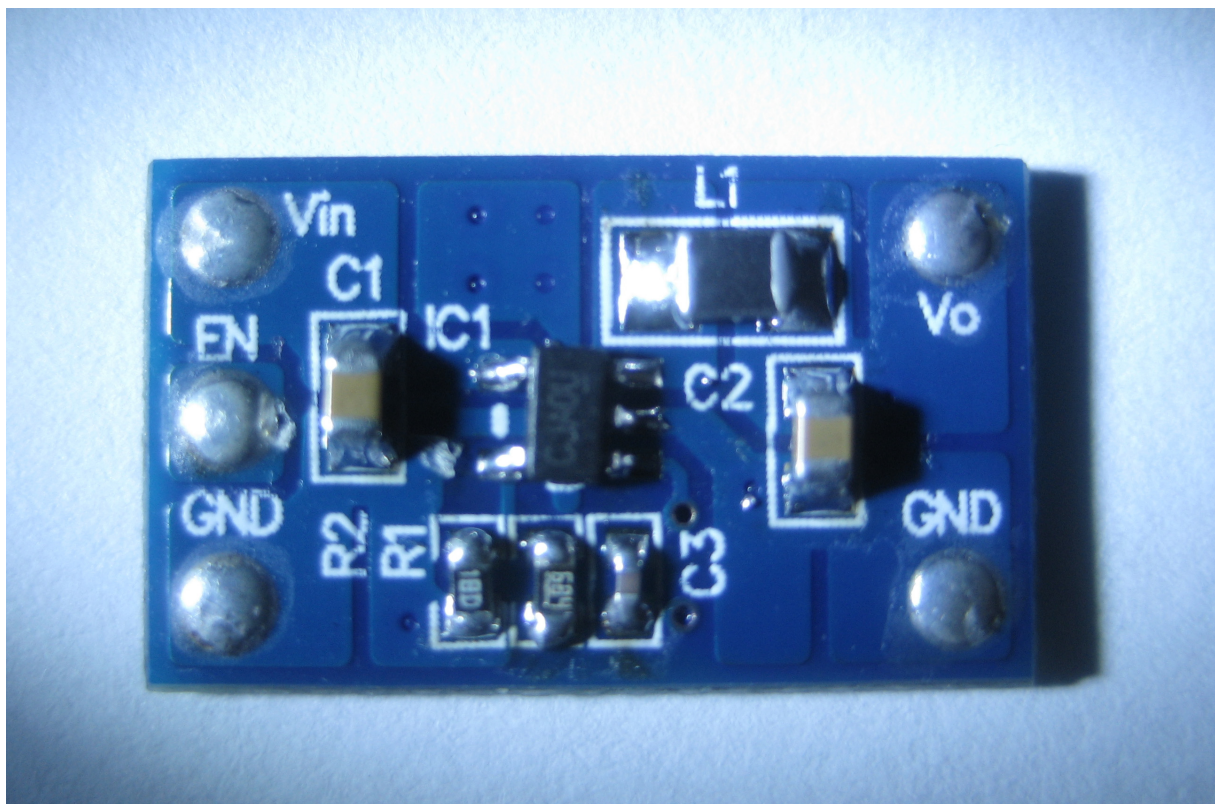


### 5. EVB PAM2304 EB11AA Description

PAM2304 EB11AA is an evaluation board for the PAM2304, a 3MHz DC/DC converter. The board is targeted to be used in providing a simple and convenient evaluation environment for the PAM2304. Requires parts, power supply jacks etc. on the board, which makes it easy to be evaluated.

## 6. EV Board View

### Top View



EV board operational sequence:

- a. Connect power supply to  $V_{IN}$  and GND.
- b. Connect load to  $V_O$  and GND.
- c. Connect EN to high to enable the chip.
- d. This demo board output current is up to 500mA.

## 7. EV Board BOM List

Item	Value	Type	Rating	Description	Vender and Part No.
C1	10μF	X5R/X7R, Ceramic/0805	10V	Input coupling CAP	JMK212BJ106MA
C2	10μF	X5R/X7R, Ceramic/0805	10V	Input coupling CAP	JMK212BJ106MA
C3	100pF	NPO/COG, 0603	50V	Forward CAP	UMK105 CG101JV-F
L1	1μH	1008	0.5A	Inductor	Wurth 74479787210
IC1	PAM2304	SOT-23-5		Power management IC	PAM2304
PCB		PAM2304 EB11AA 20*12mm			

$$V_{OUT} = (1+R1/R2) \times V_{REF} \quad (V_{REF} = 0.6V)$$

Vo	R1	R2
1.2V	150k	150k
1.5V	225k	150k
1.8V	300k	150k
2.5V	475k	150k
3.3V	680k	150k

## 8. External Components Selection

### Input & output Capacitors (C1, C2)

- (1) For lower output ripple, low ESR is required.
- (2) Low leakage current needed, 10uF, X5R/X7R ceramic recommend

### Feed forward capacitor (C3)

- (1) Lower the output ripple
- (2) Low leakage current needed, 20-100pF, NPO/COG ceramic recommend

### Output Voltage programmer resistors (R1, R2)

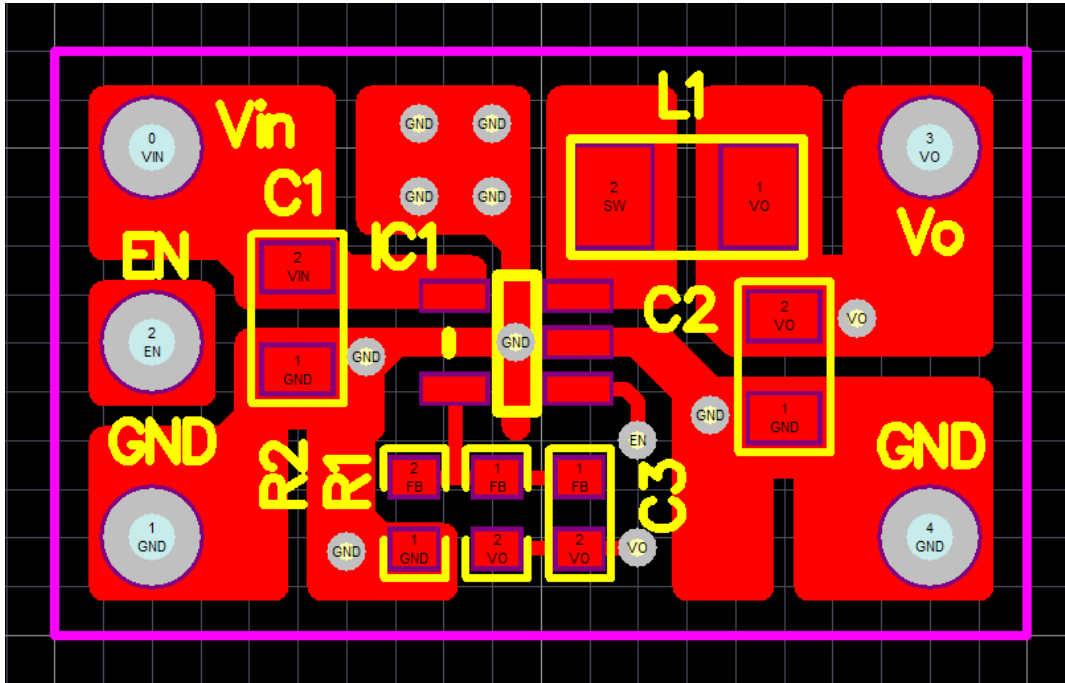
- (1) For programmer output voltage
- (2) For accurate output voltage, 1% tolerance is required.

### Inductor (L1)

- (1) Low DCR for good efficiency
- (2) Inductor rated Current must higher than the output current

**9. PCB Layout Example**

**Top Layer**



**Bottom Layer**

