# EV9361DJ-00A

## High Performance Regulated Charge Pump Evaluation Board

The Future of Analog IC Technology

## DESCRIPTION

The EV9361DJ-00A evaluation board is a fully assembled and tested PCB that demonstrates the performance of MP9361, a high performance, regulated charge pump converter. Its input voltage ranges from 2.8V to $V_{OUT}$. The output voltage is regulated to a fixed 5V.

No external inductor is required for simplicity and compactness. Internal soft-start circuit effectively reduces the in-rush current both while start-up and mode change.

This device, available in a TSOT23-6 package, provides a very compact system solution.

## ELECTRICAL SPECIFICATIONS

| Parameter | Symbol | Value | Units |
|---|---|---|---|
| Input Voltage | $V_{IN}$ | 2.8 –$V_{OUT}$ | V |
| Output Voltage | $V_{OUT}$ | 5 | V |

## FEATURES

- Input Voltage Range: 2.8V to $V_{OUT}$
- Internal Soft-Start
- Output Maximum Current up to 110mA
- Fixed 5V Output Voltage with 30mV Ripple
- 2X Charge Pump
- Fixed 1MHz Switching Frequency
- Over Current Protection
- Short Circuit Protection
- In-rush Current limit
- Available in a TSOT23-6 package and Lead (pb)-Free
- Fully Assembled and Tested

## APPLICATIONS

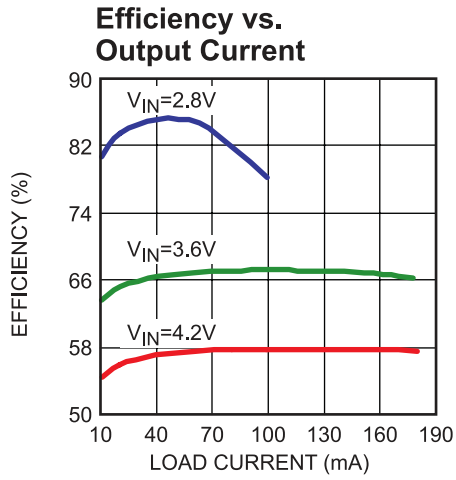
- Cell phone, Smart phone, LED backlight
- PDA or hand Held Computer
- Camera Flash White LED
- LCD Display Supply
- TV-Remote Control



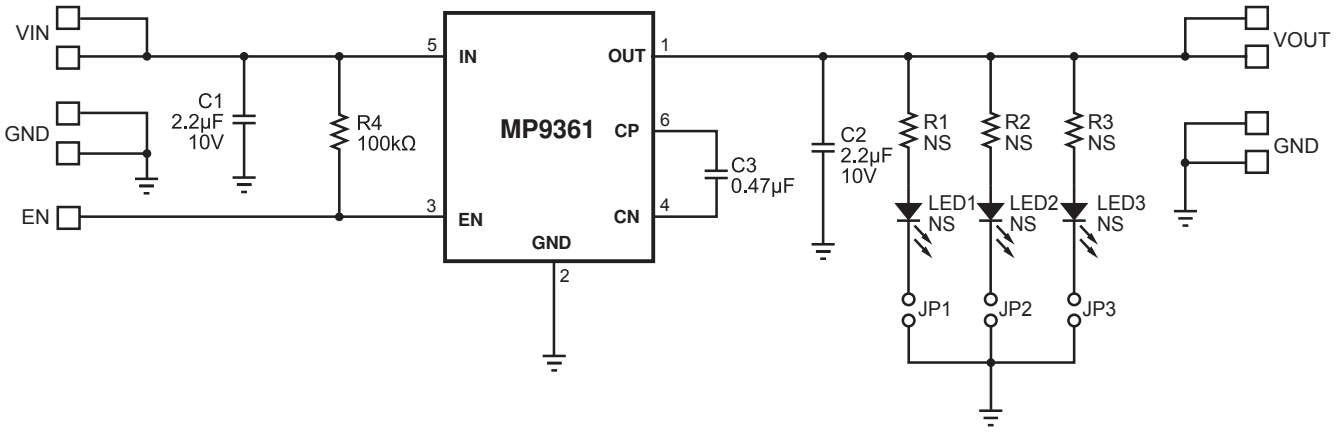
## EV9361DJ-00A EVALUATION BOARD


**(L x W x H) 2.9" x 2.9" x 0.5"**
**(7.5cm x 7.5cm x 1.2cm)**

| Board Number | MPS IC Number |
|---|---|
| EV9361DJ-00A | MP9361DJ |



## EVALUATION BOARD SCHEMATIC




## EV9361DJ-00A BILL OF MATERIALS

| Qty | Ref | Value | Description | Package | Manufacturer | Part Number |
|---|---|---|---|---|---|---|
| 2 | C1, C2 | 2.2µF | Ceramic Cap., 10V, X5R | 805 | TDK | C2012X7R1C225K |
| 1 | C3 | 0.47µF | Ceramic Cap., 25V, X7R | 805 | TDK | C2012X7R1E474M |
| 3 | R1, R2, R3 | NS | Not Stuffed | | | |
| 1 | R4 | 100kΩ | Film Res.100KΩ, 5% | 603 | Panasonic | ERJ-3GEY1003V |
| 3 | LED1, LED2, LED3 | | Led Green, Surface Mount | 603 | Lumex | SML-LX0603GW-TR |
| 1 | VIN | | Connector Header, 7-Pin, 0.100" | | Sullins | |
| 1 | VOUT | | Connector Header, 5-Pin, 0.100" | | Sullins | |
| 1 | JP1 | | 3-Pin Connector Header, 0.100" | | Sullins | PTC03SAAN |
| 1 | U1 | | Step-Up Converter | TSOT23-6 | MPS | MP9361DJ |

## PRINTED CIRCUIT BOARD LAYOUT

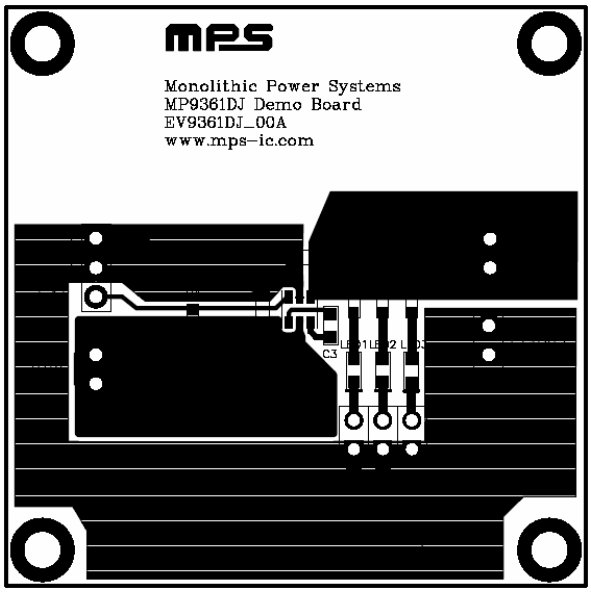



**Figure 1—Top Layer**

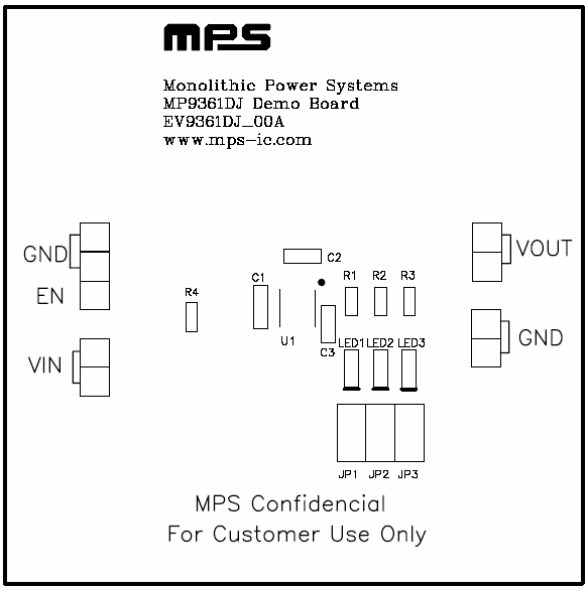



**Figure 2—Top Silk Layer**

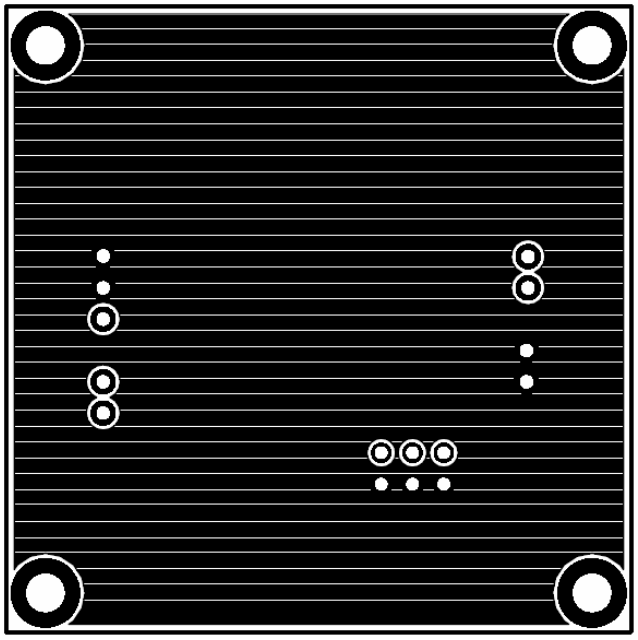


**Figure 3—Bottom Layer**

## QUICK START GUIDE

1. Connect the positive terminal of the load to VOUT pin, and the negative terminal of the load to GND pin
2. Connect the positive terminal of the power supply output to the VIN pin and the negative terminal of the power supply output to the GND pin
3. Preset the power supply output to 2.8V to 5V and turn off the power supply
4. Turn on the power supply. The EV9361DJ-00A will automatically start up
5. To use the Enable function, apply a input to the EN pin. Drive EN higher than 1.5V to turn on the regulator or less than 0.4V to turn it off
6. The switching frequency on the board is preset to 1.3MHz