

DESCRIPTION

The EV9218-GT-00A is an evaluation board designed to demonstrate the performance of the MP9218, a high-performance regulated charge pump converter. This board is a fully assembled and tested PCB. Its input voltage ranges from 2.8V to V_{OUT} , and its output voltage is regulated to a fixed 5V.

No external inductor is required, which provides additional simplicity and compactness. Internal soft-start circuitry effectively reduces the inrush current during start-up and while the device changes modes.

The MP9218 is a compact system solution, and is available in a TQFN-6 (2mmx2mm) package.

ELECTRICAL SPECIFICATIONS

| Parameter | Symbol | Value | Units |
|----------------|-----------|------------------|-------|
| Input voltage | V_{IN} | 2.8 to V_{OUT} | V |
| Output voltage | V_{OUT} | 5 | V |

FEATURES

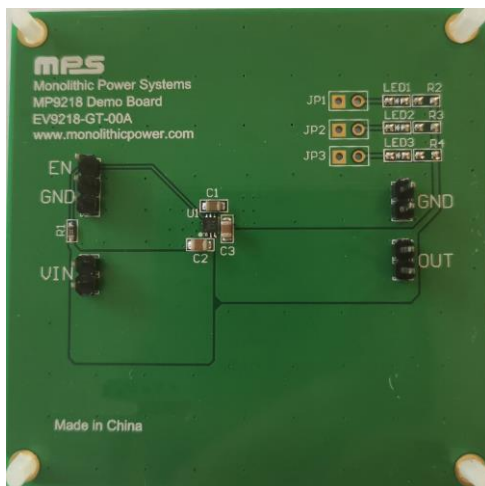
- Input Voltage Range: 2.8V to V_{OUT}
- Internal Soft Start
- Output Maximum Current up to 110mA
- Fixed 5V Output Voltage with 30mV Ripple
- 2x Charge Pump
- Fixed 1MHz Switching Frequency
- Over-Current Protection (OCP)
- Short-Circuit Protection (SCP)
- Inrush Current Limit
- Fully Assembled and Tested
- Available in a TQFN-6 (2mmx2mm) Package

APPLICATIONS

- Cell Phones, Smartphones, LED Backlights
- PDAs or Handheld Computers
- Cameras, Flash White LEDs
- LCD Display Supplies
- TV Remote Controls

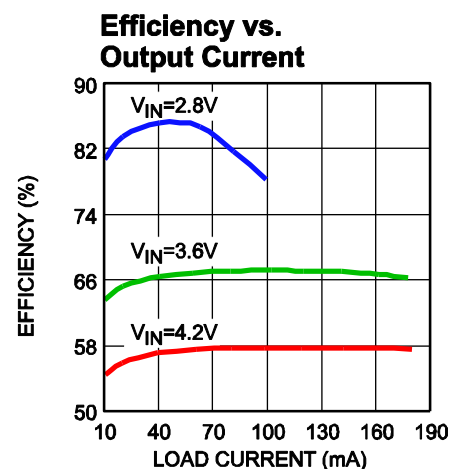
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EV9218-GT-00A EVALUATION BOARD



(LxW) 6.35cmx6.35cm

| Board Number | MPS IC Number |
|---------------|---------------|
| EV9218-GT-00A | MP9218DG |



QUICK START GUIDE

1. Connect the load terminals to:
 - a. Positive (+): VOUT
 - b. Negative (-): GND
2. Connect the power supply output terminals to:
 - a. Positive (+): VIN
 - b. Negative (-): GND
3. Preset the power supply output between 2.8V and 5V, then turn the power supply off.
4. Turn the power supply on. The EV9218-GT-00A should automatically start up.
5. To use the enable function, apply an input to the EN pin. Drive EN above 1.5V to turn the regulator on; drive EN below 0.4V to turn it off.
6. The switching frequency on the board is preset to 1.3MHz.

EVALUATION BOARD SCHEMATIC

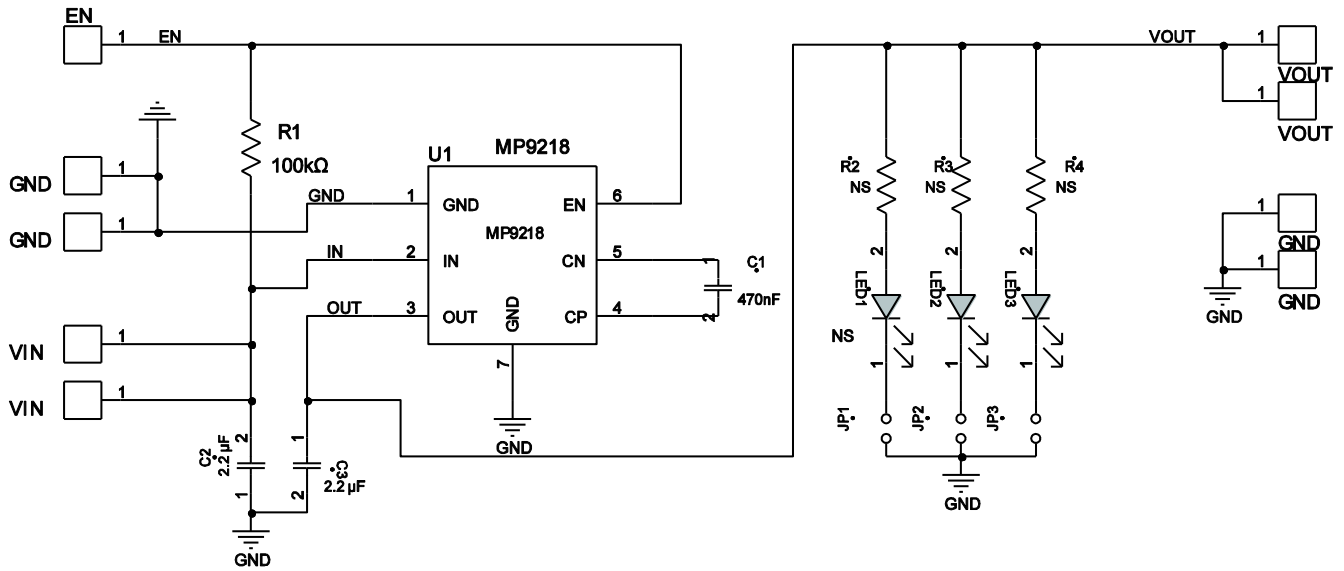


Figure 1: Evaluation Board Schematic

EV9218-GT-00A BILL OF MATERIALS

| Qty | Ref | Value | Description | Package | Manufacturer | Manufacturer P/N |
|-----|------------------------|--------------------------|--------------------------------------|---------------------|--------------|------------------------|
| 1 | C1 | 470nF | Ceramic capacitor, 16V, X7R, 0805 | 0805 | Murata | GRM219R71C474KA0 1D |
| 2 | C2, C3 | 2.2μF | Ceramic capacitor, 50V, X5R | 0805 | Murata | GRM21BR61C225KA8 8L |
| 1 | R1 | 100kΩ | Film resistor, 1% | 0603 | Yageo | RC0603FR-0710RL |
| 3 | R2, R3, R4 | NC | Film resistor, 5% | 0603 | | |
| 3 | LED1, LED2, LED3 | NC | | | | |
| 3 | JP1, JP2, JP3 | NC | | | | |
| 1 | U1 | MP9218 | Regulated charge pump converter | TQFN-6 (2mmx2mm) | MPS | MP9218DGT-LF-Z |
| 9 | TP1-TP5 | VIN, EN, VOUT, GND | TP | Straight Line | | |

PCB LAYOUT

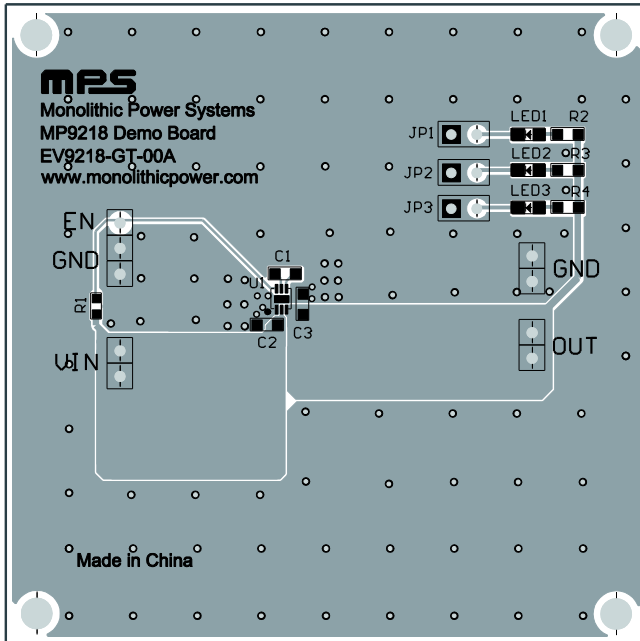


Figure 2: Top Layer

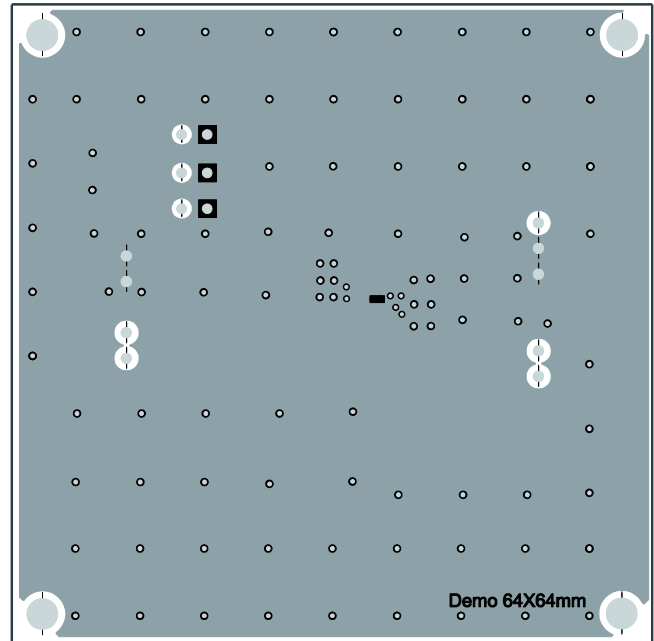


Figure 3: Bottom Layer



Revision History

| Revision # | Revision Date | Description | Pages Updated |
|------------|---------------|-----------------|---------------|
| 1.0 | 10/27/2020 | Initial Release | - |

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