

DESCRIPTION

The EV3212DQ-00A is the evaluation board of MP3212, a constant frequency, 10-pin QFN current mode step-up converter intended for small, low power applications. The EV3212DQ operates from an input voltage as low as 2.3V and can generate as high as 28V output voltage and up to 100mA output current.

The EV3212 features PFM at light loads for high efficiency. The EV3212 includes under-voltage lockout, output over-voltage protection, current limiting, and thermal overload protection to prevent damage in the event of an output overload.

ELECTRICAL SPECIFICATIONS

| Parameter | Symbol | Value | Units |
|----------------|-----------|------------|-------|
| Supply Voltage | V_{IN} | 2.3 to 5.5 | V |
| Output Current | I_{OUT} | 0 to 100 | mA |

FEATURES

- 180 μ A Quiescent Current
- 2.3V to 5.5V Input Voltage
- 1MHz Fixed Switching Frequency
- 1.3A Switch Current Limit
- Input-output disconnect
- Up to 28V Output Voltage
- Automatic Pulse Frequency Modulation Mode at Light Loads
- Over 85% Efficiency
- Available in a 10-Pin QFN Package

APPLICATIONS

- OLED Biasing
- LCD Bias Supply
- White LED Driver
- PDAs
- Digital Still Cameras

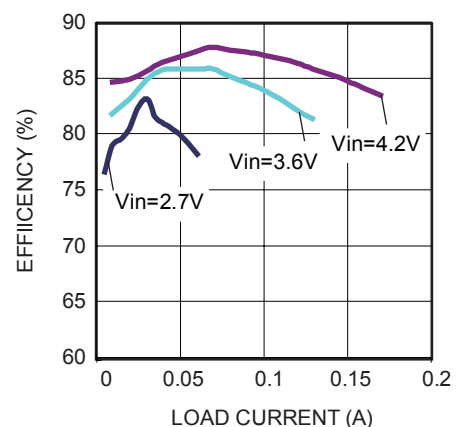
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EV3212DQ-00A EVALUATION BOARD

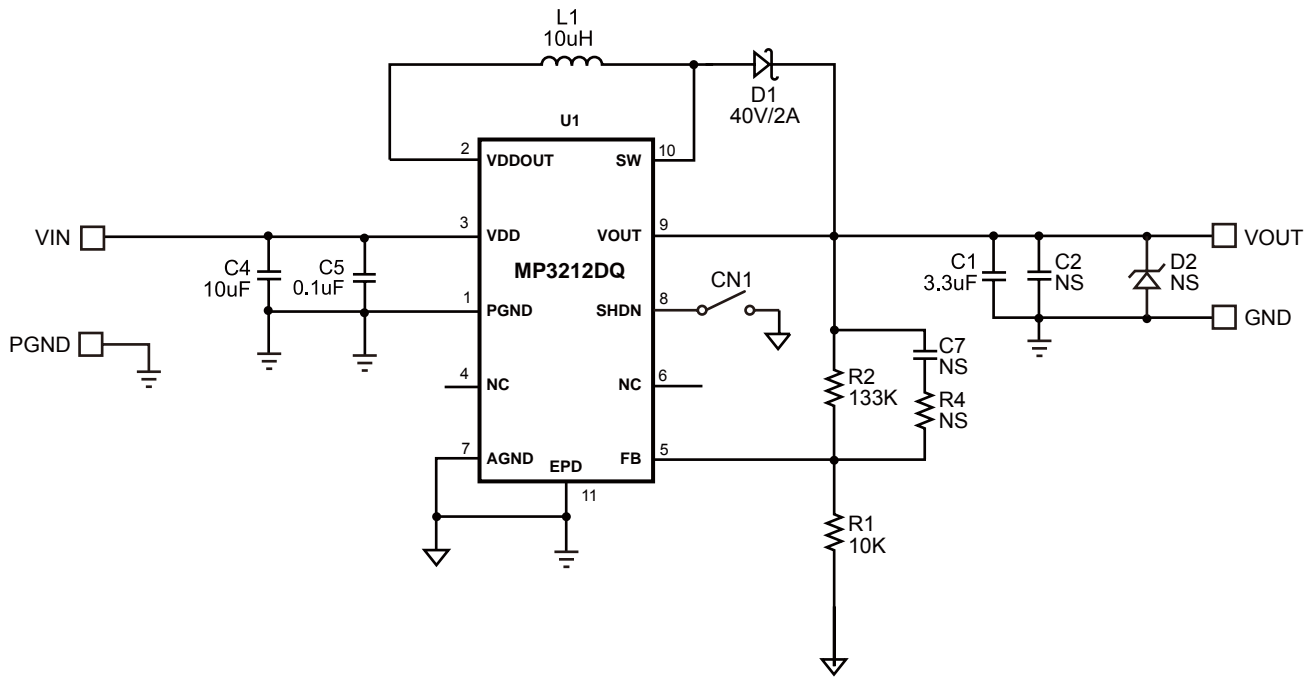


| Board Number | MPS IC Number |
|--------------|---------------|
| EV3212DQ-00A | MP3212DQ |

Efficiency vs. Load Current



EVALUATION BOARD SCHEMATIC



EV3212DQ-00A BILL OF MATERIALS

| Qty | Ref | Value | Description | Package | Manufacturer | Manufacturer P/N |
|-----|--------|--------|---|---------|--------------|--------------------|
| 1 | C1 | 3.3uF | Ceramic Cap., 50V, X7R | 1210 | Murata | GRM32DR71H335KA88L |
| 2 | C2,C7 | NS | | | | |
| 1 | C4 | 10uF | Ceramic Cap., 16V, X7R | 1206 | Murata | GRM31CR71C106KA64L |
| 1 | C5 | 0.1uF | Ceramic Cap., 16V, X7R | 0603 | Murata | GRM188R71C104KA01D |
| 1 | R1 | 10KΩ | Film Resistor, 1% | 0603 | Yageo | RC0603FR-0710K0L |
| 1 | R2 | 133KΩ | Film Resistor, 1% | 0603 | Yageo | RC0603FR-0133K0L |
| 1 | D1 | 2A,40V | Schottky Diode | SMA | Diode Inc | B240A-13-F |
| 1 | D2 | NS | | | | |
| 1 | CN1 | | 2-Pin Header,0.1" | | Sullins | PTC02SAAN |
| 1 | Jumper | Short | 2 PIN 2.54mm Short Jumper | 0.1" | Sullins | STC02SYAN |
| 1 | L1 | 10 uH | Inductor, I _{dc} =2.7A, DCR=71mΩ | 8x8x4mm | TOKO | B1015AS-100M |
| 1 | U1 | | Step-down Regulator | QFN10 | MPS | MP3212DQ-R1 |

PRINTED CIRCUIT BOARD LAYOUT

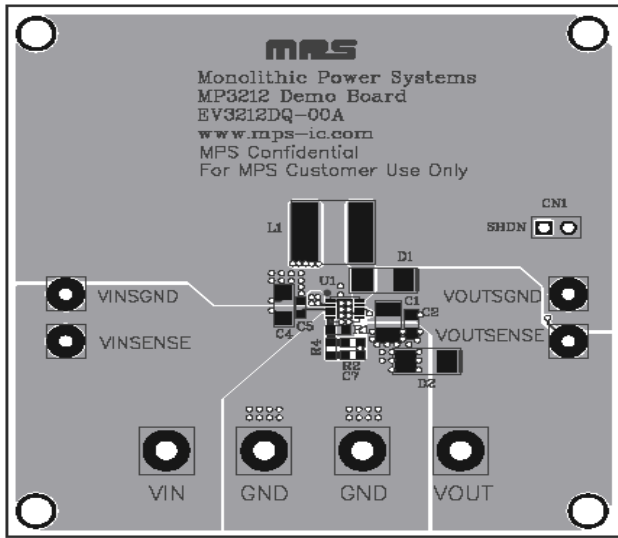


Figure 1—Top and Top Silk Layer

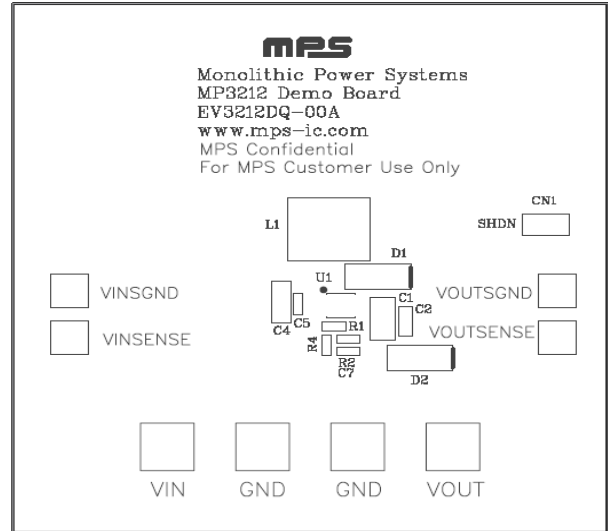


Figure 2—Top Silk Layer

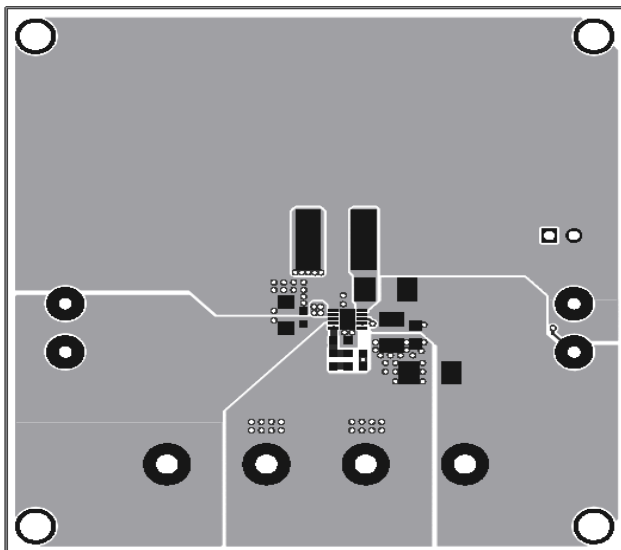


Figure 3—Top Layer

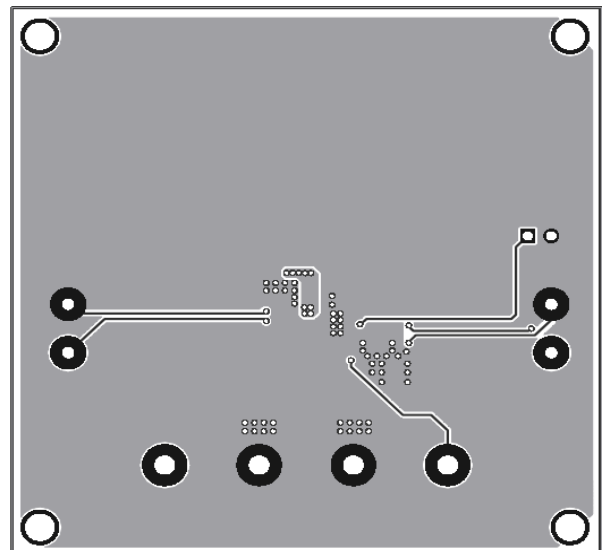


Figure 4—Bottom Layer