

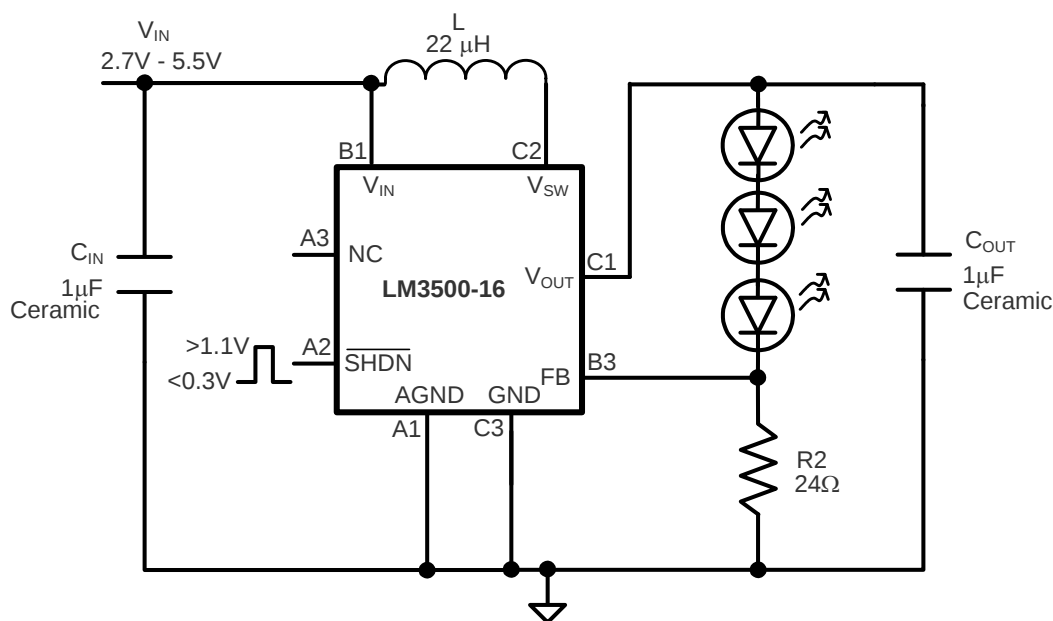
## AN-1309 LM3500 Evaluation Board

### 1 Introduction

The LM3500 is a synchronous step-up DC/DC converter designed for white LED applications. The evaluation board is set up to drive 3 standard  $V_F$  white LEDs from a single Li-Ion battery. A fourth LED pad (D4) is included for testing of up to 4 low  $V_F$  white LEDs.

The LED current is set using the resistor R2 and the equation  $I_{LED} = 0.5V/R2$ . The evaluation board comes set up for approximately 20 mA LED current. Please note that for correct operation the SHDN pin must have a voltage greater than 1.1V applied to it.

### 2 Schematic



### 3 Bill of Materials

| Designator       | Component                             | Manufacturer      |
|------------------|---------------------------------------|-------------------|
| U1               | LM3500, DSBGA 8-lead                  | Texas Instruments |
| L                | 22 µH, DT1608C-223                    | Coilcraft         |
| C <sub>IN</sub>  | 1 µF, 25V Ceramic C3216X7R1E105K      | TDK               |
| C <sub>OUT</sub> | 1 µF, 25V Ceramic C3216X7R1E105K      | TDK               |
| D1–D3            | White LED, LWT67C                     | Osram             |
| D4               | 0Ω Resistor, 1206 Case, CRCW1206–000J | Vishay            |
| R1               | 24Ω, 1206 Case, CRCW1206–240J         | Vishay            |

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