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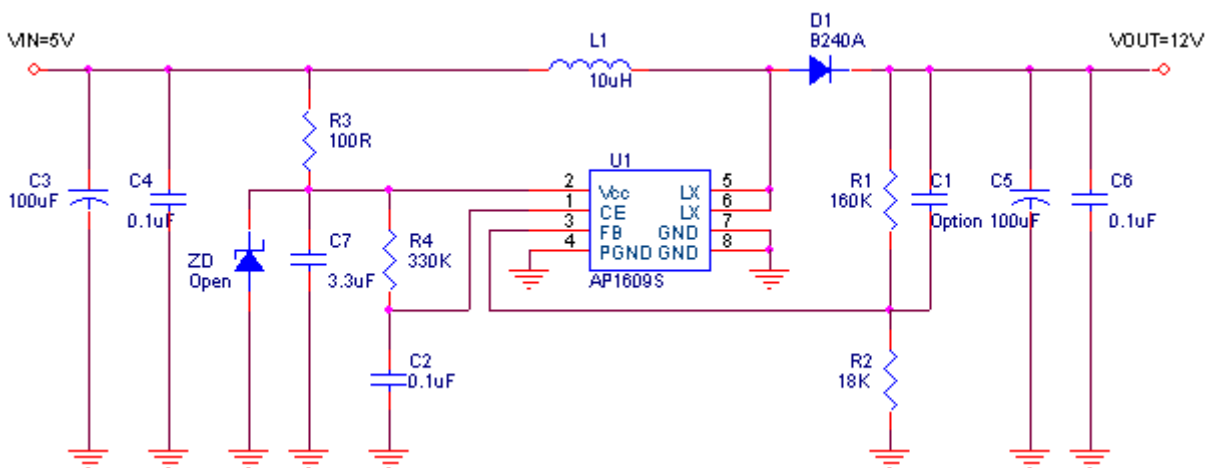
Application Note

AP1609 Application Information and Demo Board User Guide

**1. Description**

The AP1609(Boost) evaluation modules (EVM) provide a means for the user to evaluate quickly the functionality and electrical performance of the AP1609 device. All inputs and outputs are brought out to test points for control and monitoring. All passive components are included on the EVM for device operation. The input pin should be connected to an external supply; the output should be connected to a load.

**2. EVM Schematic**



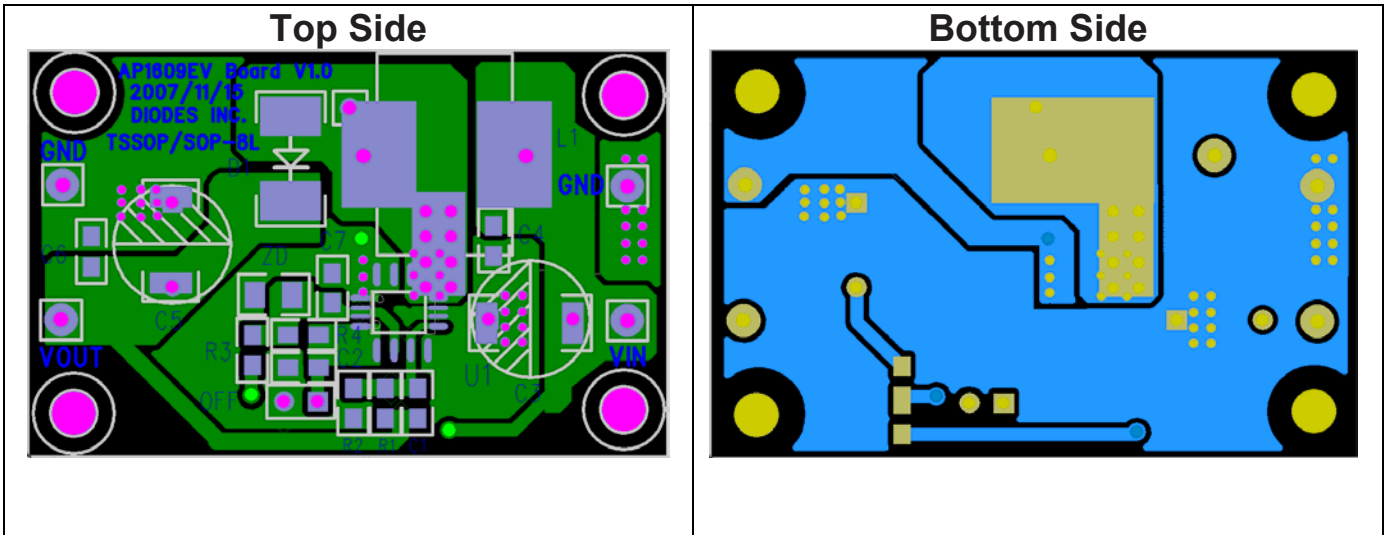
$$V_{OUT} = V_{FB} * (1 + R1/R2), R2 = 10k\Omega \sim 100k\Omega$$

**Figure 1. STEP-UP DC/DC CONVERTER**

## Application Note

### AP1609 Application Information and Demo Board User Guide

### 3. Board Layout(Boost)



### 4. Bill of Materials

#### BOM:

| Component Location | Quantity | Specification              | Mark        | Maker Part No.     | Size       |
|--------------------|----------|----------------------------|-------------|--------------------|------------|
| C3,C5              | 2        | Cap 100uF 25V              | TEAPO       | DSJ107MO25S1A5G07K | -          |
| C2,C4,C6           | 3        | Cap MLCC 0.1uF/50V/X7R SMD | TAIYO YUDEN | UMK212B7104KG-T    | C0805      |
| C7                 | 1        | Cap MLCC 3.3uF/10V/X7R SMD | TAIYO YUDEN | LMK212B7335KG-T    | C0805      |
| D1                 | 1        | 2A/40V,SMD schottky diode  | Diodes Inc. | B240A              | SMA        |
| J1(VIN)            | 1        | Header_1                   | -           | -                  | 2.2X1.35mm |
| J2(VOUT)           | 1        | Header_1                   | -           | -                  | 2.2X1.35mm |
| J3,J4(GND)         | 2        | Header_1                   | -           | -                  | 2.2X1.35mm |
| SW1(Bottom)        | 1        | short to Vcc               | -           | -                  | -          |
| L1                 | 1        | 10uH/ 3.5A SMD             | TREND       | -                  | -          |
| R1                 | 1        | Res,160K,1% SMD            | YAGEO       | -                  | R0805      |
| R2                 | 1        | Res,18K,1% SMD             | YAGEO       | -                  | R0805      |
| R3                 | 1        | Res, 100Ω,1% SMD           | YAGEO       | -                  | R0805      |
| R4                 | 1        | Res,330KΩ,1% SMD           | YAGEO       | -                  | R0805      |
| U1                 | 1        | AP1609                     | Diodes Inc. | -                  | SOP-8L     |
| PCB                | 1        | AP1609 EV Board            | Diodes Inc. | TDB0014            | 48mmX31mm  |

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