

Figure 4. SLG59M1693C Connection Circuit

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Description

The SLG59M1693C is a 17.4 mΩ, ~ 1 A single-channel load switch that is able to switch 0.8 V to 2 V power rails. The product is packaged in an ultra-small 0.75 x 0.75 mm package.

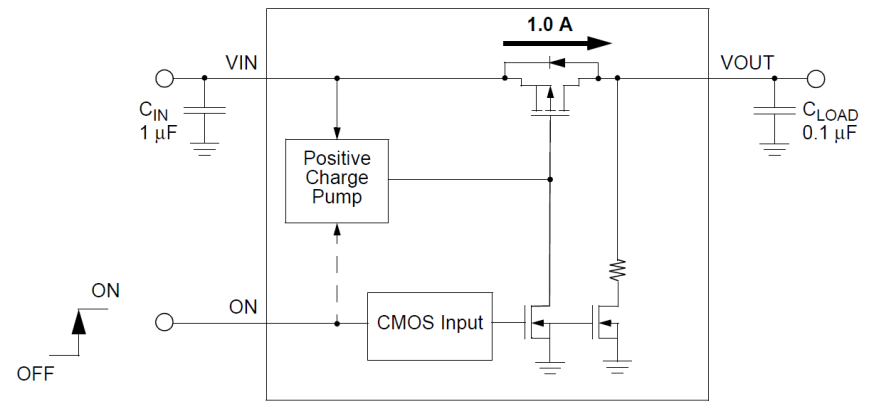


Figure 1: SLG59M1693C Block Diagram

This layout guide provides some important information about the PCB layout of SLG59M1693C applications.

SILEGO WLCSP 0.75x0.75-4L PKG

Unit: μm

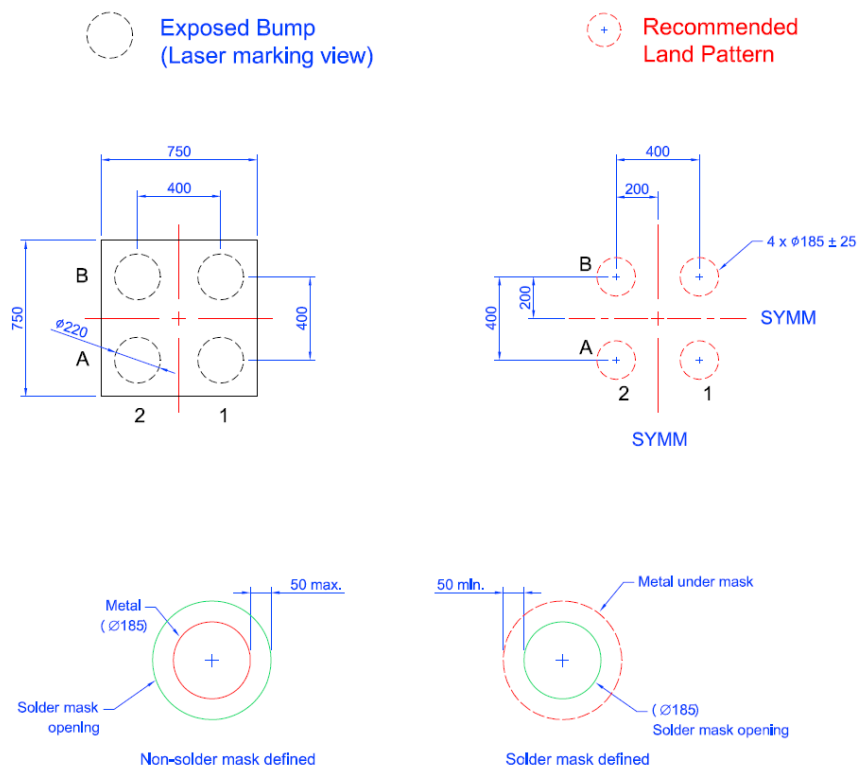


Figure 2. SLG59M1693C Package Dimensions and Recommended Land Pattern

2. Power and Ground Planes

- 2.1. The trace length from the control IC to the ON pin (A1) should be as short as possible and must avoid crossing this trace with power rails.
- 2.2. The D/VIN and S/VOUT pins carry significant current. Please note how the D/VIN and S/VOUT pads are placed directly on the power planes in Figure 3, which minimizes the $R_{DS(ON)}$ associated with long, narrow traces. The D/VIN, S/VOUT and GND pins dissipate most of the heat generated during high-load current condition. The layout shown in Figure 3 is illustrating a proper solution for heat to transfer as efficiently as possible out of the device.
- 2.3. The GND pin (A2) should be connected to GND.

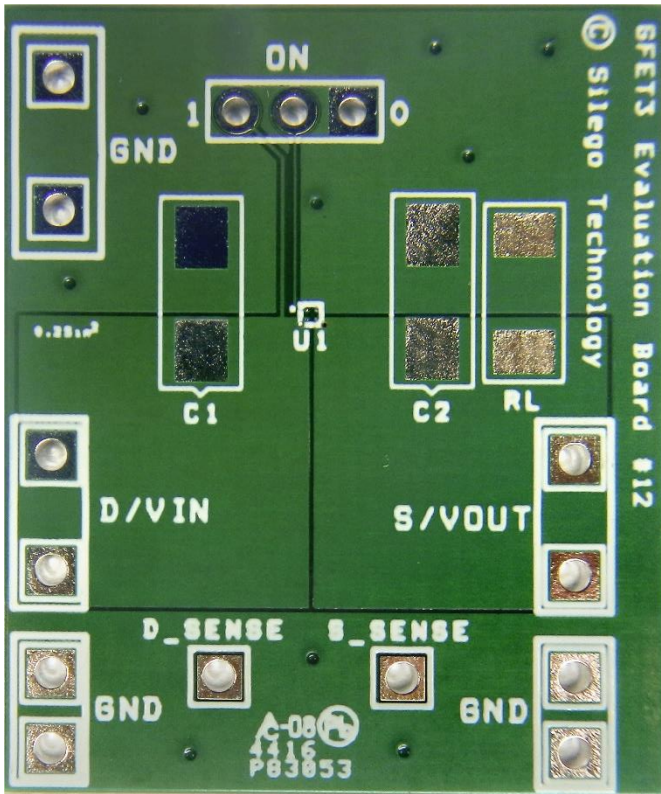


Figure 3. SLG59M1693C Evaluation Test Board

Note: Evaluation board has D_Sense and S_Sense pads. Please use them only for RDS(ON) evaluation.

3. Basic Test Setup and Connections

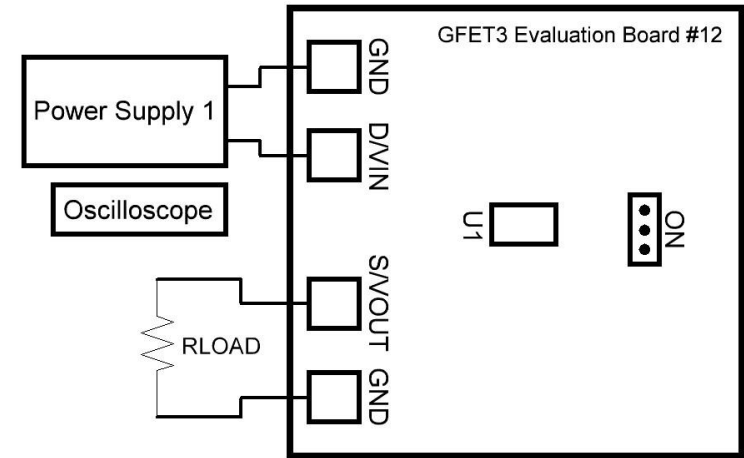


Figure 5. Typical connections for GFET3 Evaluation

2.1 EVB Configuration

1. Connect oscilloscope probes to D/VIN, S/VOUT, ON, etc.
2. Turn ON Power Supply and set desirable V_{IN} in range of 0.8V to 2 V.
3. Switch ON to High or Low to evaluate GFET3 operation.