

# Application Guidelines for Evaluation Boards

## Guidelines for EVAL\_DIGITAL\_JQEK SERIES

### Introduction

The Digital JQEK series evaluation board (EVAL\_DIGITAL\_JQEK\_SERIES/ Comcode # 150024004) has multiple layouts of the Half, Quarter, Eighth and Sixteenth brick series of Through Hole (TH) version of the modules. Note that the board comes with a module pre-assembled on the board. The specific combination of module and the board can be ordered using the ordering code list available from your sales representative.

The multiple layouts on the same board also serves as an example layout for applications where multiple layouts may be desirable, e.g. when the required output current is uncertain and there is an advantage in either adding a higher or lower power capability through a dual layout.

### Schematics

Figures 1-1 to 1-3 depict the various sections of the schematic of the evaluation board.

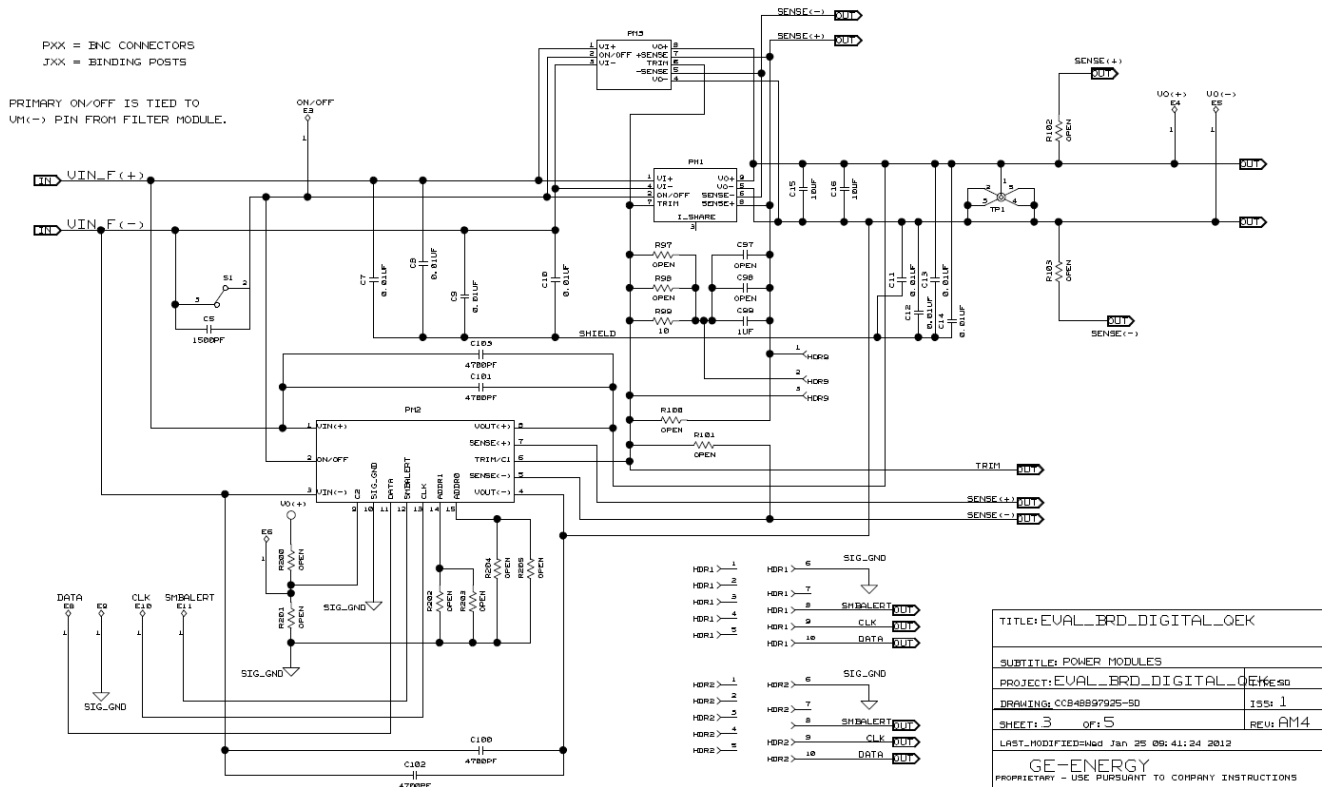


Figure 1-1. Power Modules, Power & Signal Interface

**Note:** Component values are for reference only; refer to the applicable module's data sheet for appropriate values and Fig. 2 for preinstalled components.

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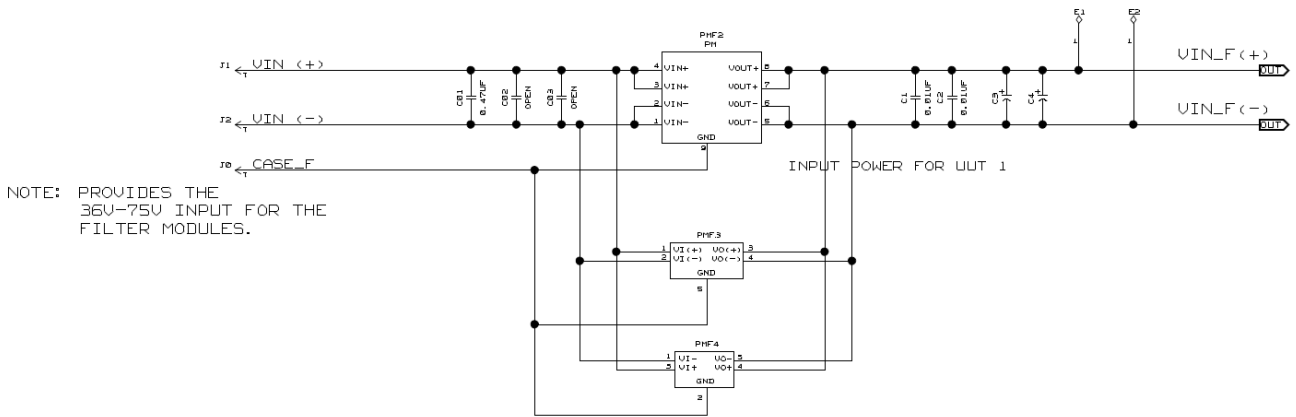


Figure 1-2. Input Filter/Capacitors

Note: Component values are for reference only; refer to the applicable module's data sheet for appropriate values and Fig. 2 for preinstalled components.

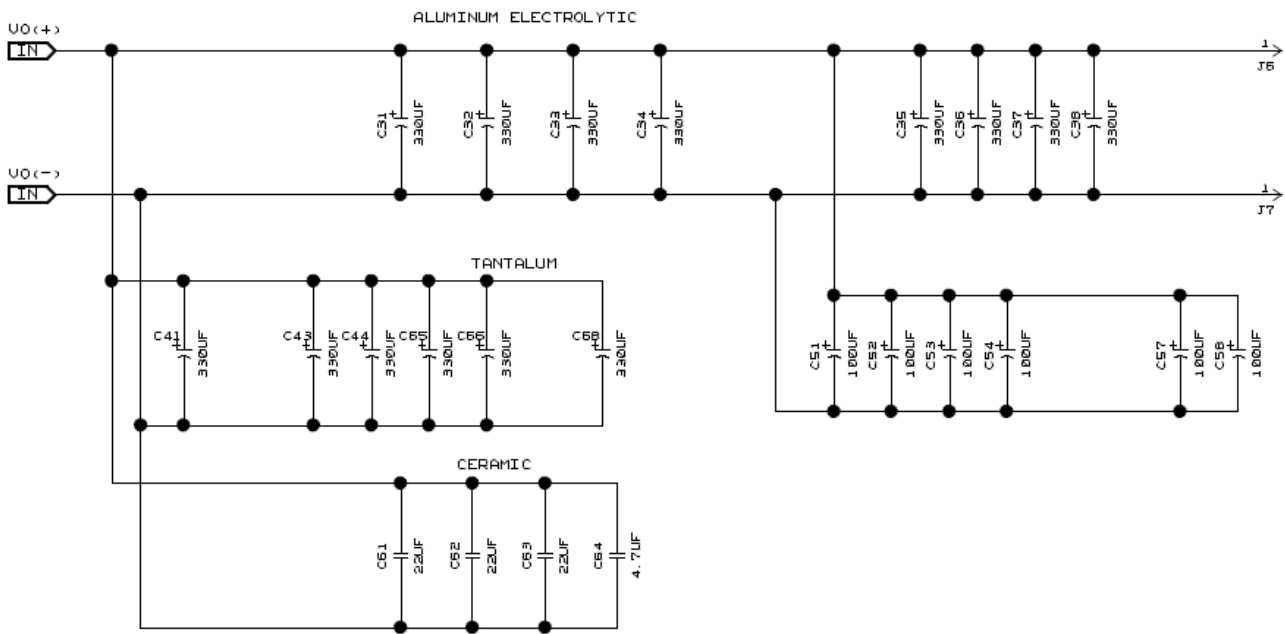


Figure 1-3. Output Capacitors

Note: Component values are for reference only; refer to the applicable module's data sheet for appropriate values and Fig. 2 for preinstalled components.

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Physical Description

An annotated picture of the evaluation board is shown in Fig. 2 below. The arrows indicate locations of various components that are pre-installed.

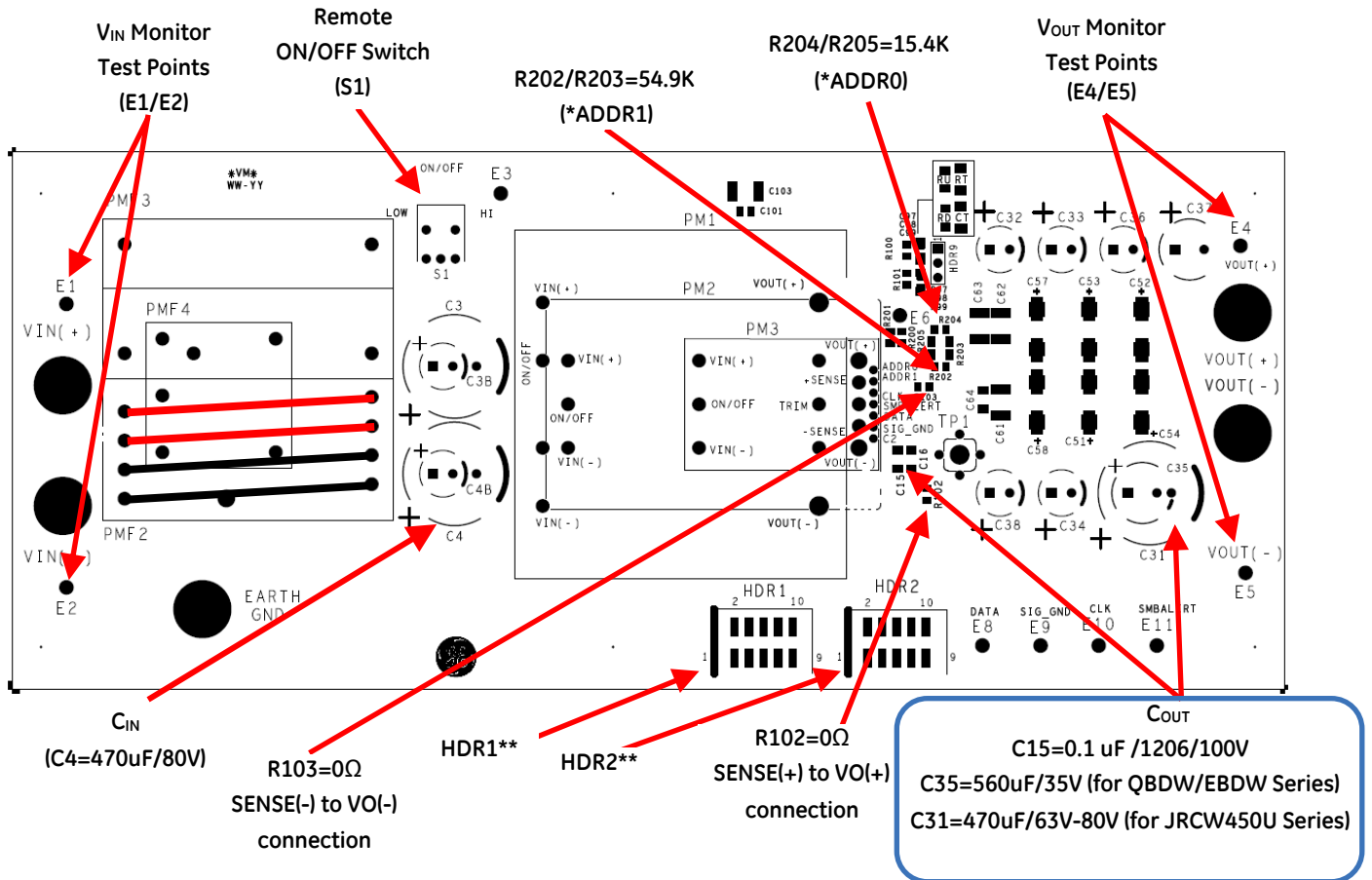


Figure2. Power and Signal Interface

**Caution!** Before applying power, make sure that the externally installed capacitors (input & output) have appropriate voltage and polarity ratings based on the application.

Notes:

\*The digital Module can be assigned a specific address by connecting resistors (R202/R203) from the ADDR1 pin to SIG\_GND and resistors (R204/R205) from the ADDR0 pin to SIG\_GND. The evaluation board comes with preinstalled ADDR1 resistor, R202=54.9kΩ and ADDR0 resistor, R204=15.4kΩ as an example. For the QBDW025/033 modules, these values correspond to Octal digits "4 1" equivalent to 33 decimal). Please refer to the applicable module's data sheet for additional details.

\*\* HDR1/HDR2 allow the unit on the Eval board to interface (via GE Energy supplied 10-pin Interface Ribbon Cable) with another unit on a different Eval Board and/or to GE Energy supplied "USB Interface Adapter" module in order for the module(s) to be configured, controlled and monitored by the GUI via PM Bus Digital interface. For further details, please refer to the Lineage Power document/kit, "Digital Power Insight™ User Manual".

**Note:** The red wire on the ribbon cable should be aligned to Pin 1 (left side) of the HDR1 or HDR2 connecto

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