

## Simple I<sup>2</sup>C and Power Isolation with **ADM3260**

### FEATURES

- Simple evaluation kit for **ADM3260**
- Designed to be used with **USB-SDP-CABLEZ** USB to I<sup>2</sup>C dongle
- Micro-MaTch connectors for simple connection
- Multiple test points for easy node access
- Special layout to minimize electromagnetic interference (EMI)

### EVALUATION KIT CONTENTS

- EVAL-ADM3260MEBZ** board
- 10-way Micro-MaTch cable

### RELATED DOCUMENTS

- ADM3260** data sheet
- USB-SDP-CABLEZ** user guide

### GENERAL DESCRIPTION

This user guide describes information related to the **EVAL-ADM3260MEBZ** evaluation board. The evaluation board provides an easy way for users to add isolation to the existing USB to I<sup>2</sup>C interface provided by the **USB-SDP-CABLEZ** dongle through the use of the **ADM3260** hot swappable, dual I<sup>2</sup>C isolators with integrated dc-to-dc converter. See Figure 2 and Figure 3 for an example of a **USB-SDP-CABLEZ** and **EVAL-ADM3260MEBZ** setup.

The **EVAL-ADM3260MEBZ** evaluation board is simple to use. All users need to do is to connect it in between the **USB-SDP-CABLEZ** dongle and a supported evaluation kit from Analog Devices, Inc. (see Figure 2). The result is a 2.5 kV isolation barrier created between the PC and the supported evaluation kit, with I<sup>2</sup>C signal communication and power delivery still maintained.

For additional information on how to achieve data and power transferring across isolation, refer to the **ADM3260** data sheet.

Based on the *isoPower* technology, the integrated isolated dc-to-dc converter on the **ADM3260** uses high frequency switching elements to transfer power through its transformer. Special care is taken during board layout to meet emissions standards. See the [AN-0971 Application Note](#) for board layout recommendations.

For full details, see the **ADM3260** data sheet, which must be used in conjunction with this user guide when using the evaluation board.

### EVALUATION BOARD PHOTO



Figure 1. **EVAL-ADM3260MEBZ** Evaluation Board

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**REVISION HISTORY**

**10/2017—Rev. 0 to Rev. A**

Changes to General Description Section .....	1
Changes to Board Connection Section.....	3
Changes to Figure 4.....	4
Added Figure 6; Renumbered Sequentially .....	5
Changes to Figure 5, Figure 7, and Figure 8.....	5
Changes to Figure 9.....	6
Changes to Table 1.....	7

**9/2014—Revision 0: Initial Version**

## BOARD CONNECTION

Figure 2 and Figure 3 provide an example of the [USB-SDP-CABLEZ](#) and [EVAL-ADM3260MEBZ](#) setups.



Figure 2. Board Connection Example

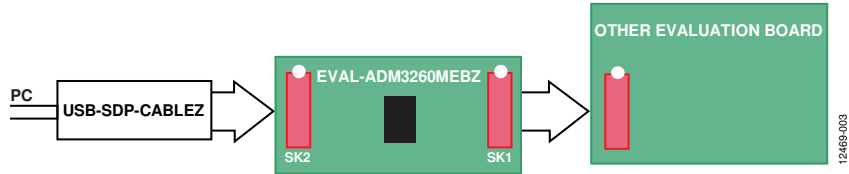


Figure 3. Board Connection Diagram

EVALUATION BOARD SCHEMATIC

12469-004

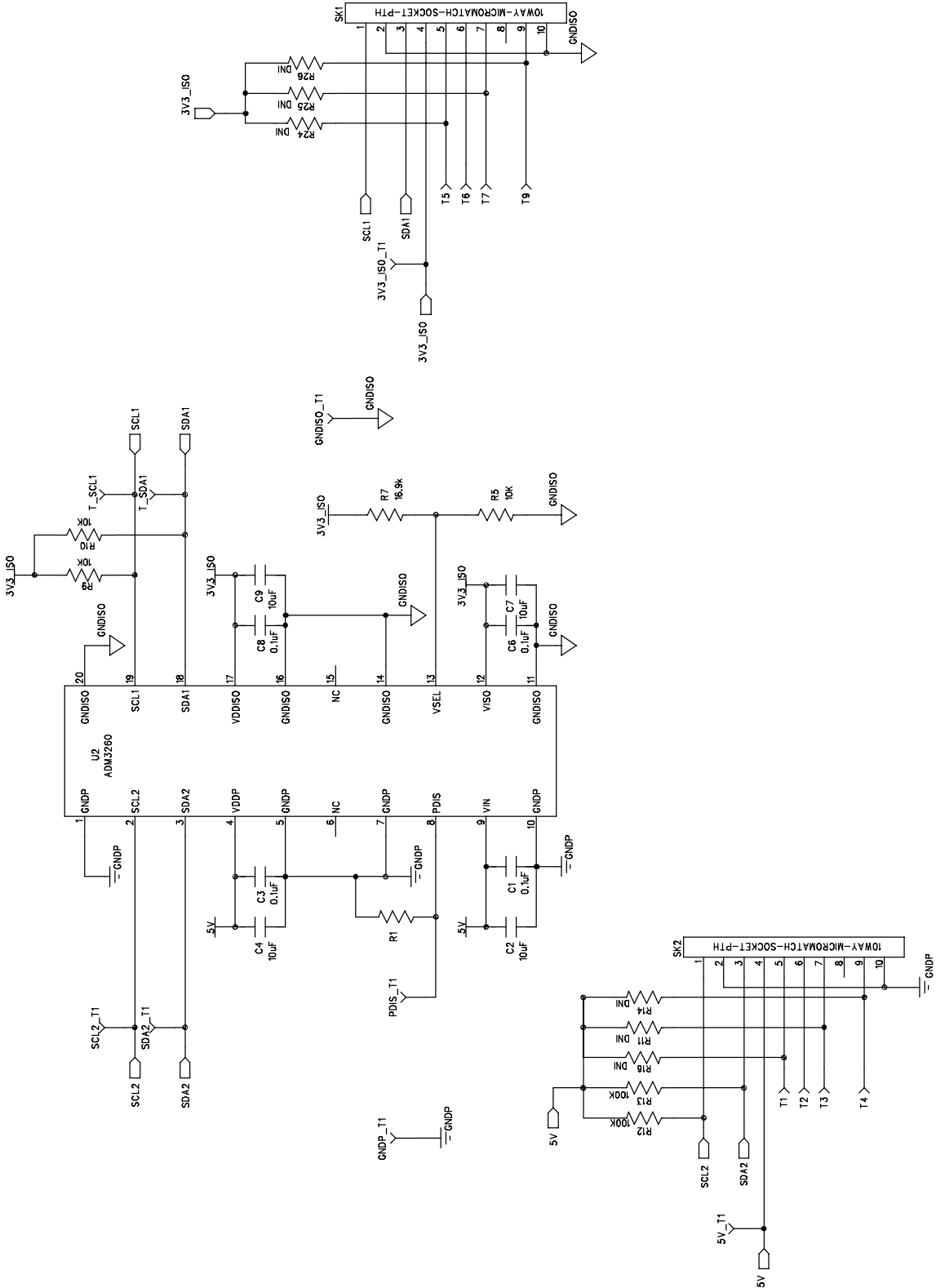


Figure 4. EVAL-ADM3260MEBZ Evaluation Board Schematic

## EVALUATION BOARD LAYOUT LAYERS

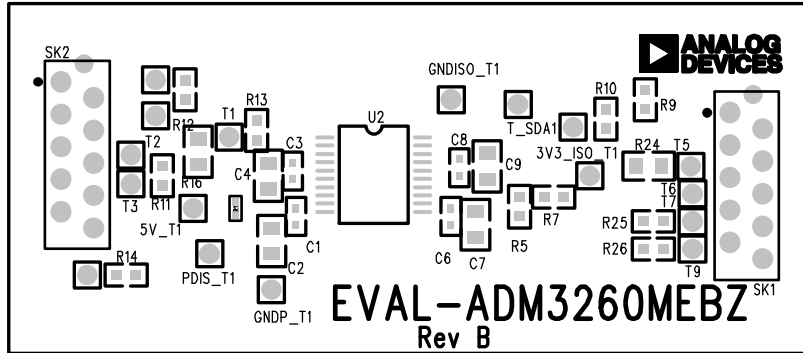


Figure 5. EVAL-ADM3260MEBZ Evaluation Board Layout Layer 1 and Top Silk Screen

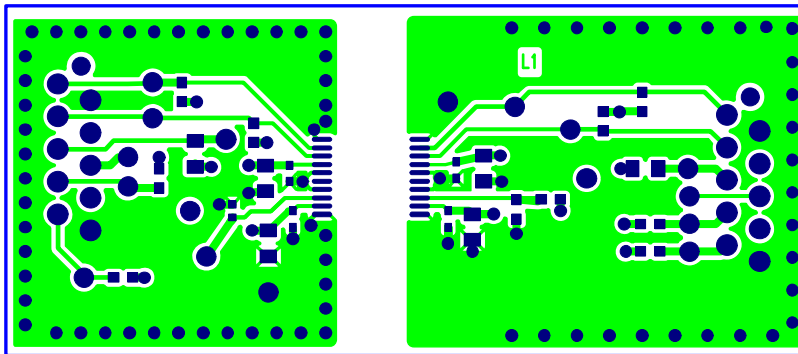


Figure 6. EVAL-ADM3260MEBZ Evaluation Board Layout, Layer 1

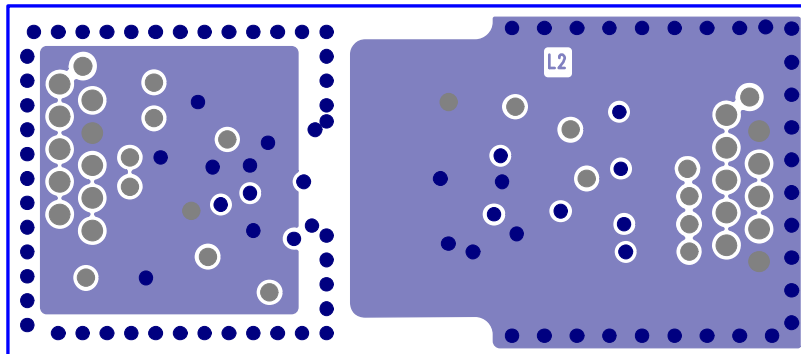


Figure 7. EVAL-ADM3260MEBZ Evaluation Board Layout, Layer 2

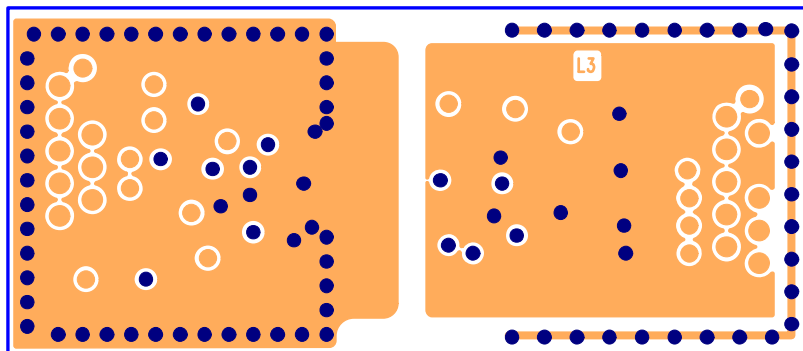


Figure 8. EVAL-ADM3260MEBZ Evaluation Board Layout, Layer 3

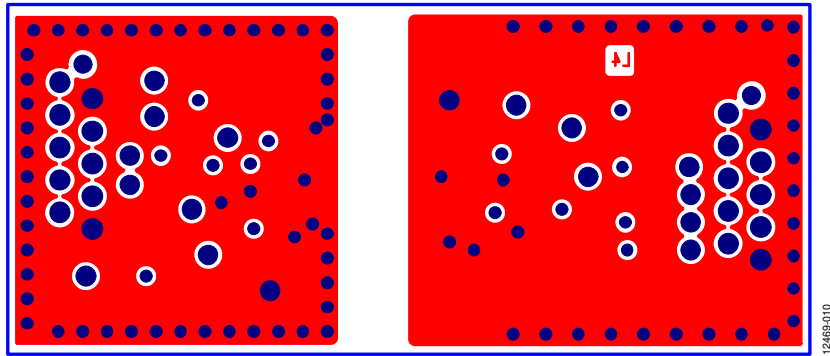


Figure 9. EVAL-ADM3260MEBZ Evaluation Board Layout, Layer 4 (Bottom)

# ORDERING INFORMATION

## BILL OF MATERIALS

Table 1.

Quantity	Reference Designator	Part Description	Manufacturer/Part Number
4	C1, C3, C6, C8	0.1 μF, 0402, X7R, capacitors	Kemet/C0402C104K4RAC
4	C2, C4, C7, C9	10 μF, 0805, X7R, capacitors	Taiyo Yuden/JMK212B7106KG-T
1	R1	0 Ω, 0402, resistor	Panasonic/ERJ2GE0R00X
3	R5, R9, R10	10 kΩ, 0603, resistors	Vishay Draloric/CRCW060310K0FKEAHP
1	R7	16.9 kΩ, 0603, resistor	Panasonic/ERJP03F1692V
2	SK1, SK2	10-way, female, PTH Micro-MaTch	TE Connectivity/8-215079-0
17	3V3_ISO_T1, 5V_T1, GNDISO_T1, GNDP_T1, PDIS_T1, SCL2_T1, SDA2_T1 to SDA2-T7, T9, T_SCL1, T_SDA1	Printed circuit board (PCB) test point	Not applicable
6	R11, R14, R16, R24, R25, R26	Do not insert, resistor	Not applicable
1	U2	Hot swappable, dual I <sup>2</sup> C isolators with integrated dc-to-dc converter	Analog Devices/ <a href="#">ADM3260ARSZ</a>

I<sup>2</sup>C refers to a communications protocol originally developed by Philips Semiconductors (now NXP Semiconductors).



**ESD Caution**

**ESD (electrostatic discharge) sensitive device.** Charged devices and circuit boards can discharge without detection. Although this product features patented or proprietary protection circuitry, damage may occur on devices subjected to high energy ESD. Therefore, proper ESD precautions should be taken to avoid performance degradation or loss of functionality.

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