

Simple I²C and Power Isolation with **ADM3260**

FEATURES

Simple evaluation kit for **ADM3260**
 Designed to be used with **USB-SDP-CABLEZ** USB to I²C
 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 I²C interface provided by the **USB-SDP-CABLEZ** dongle through the use of the **ADM3260** hot swappable, dual I²C 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 I²C 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
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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.

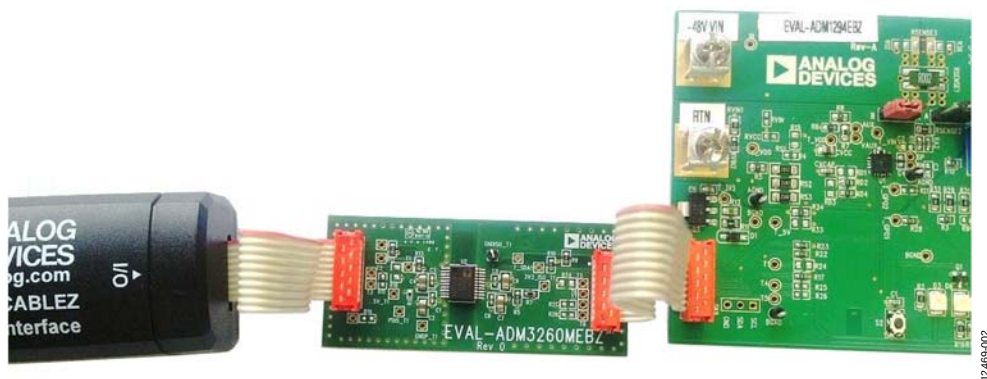


Figure 2. Board Connection Example

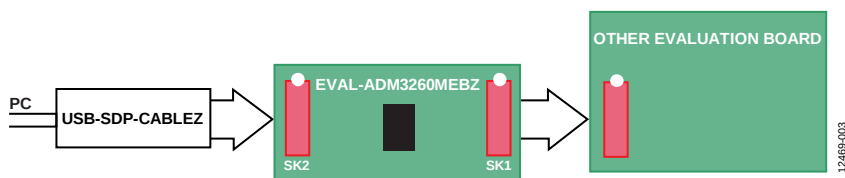


Figure 3. Board Connection Diagram

EVALUATION BOARD SCHEMATIC

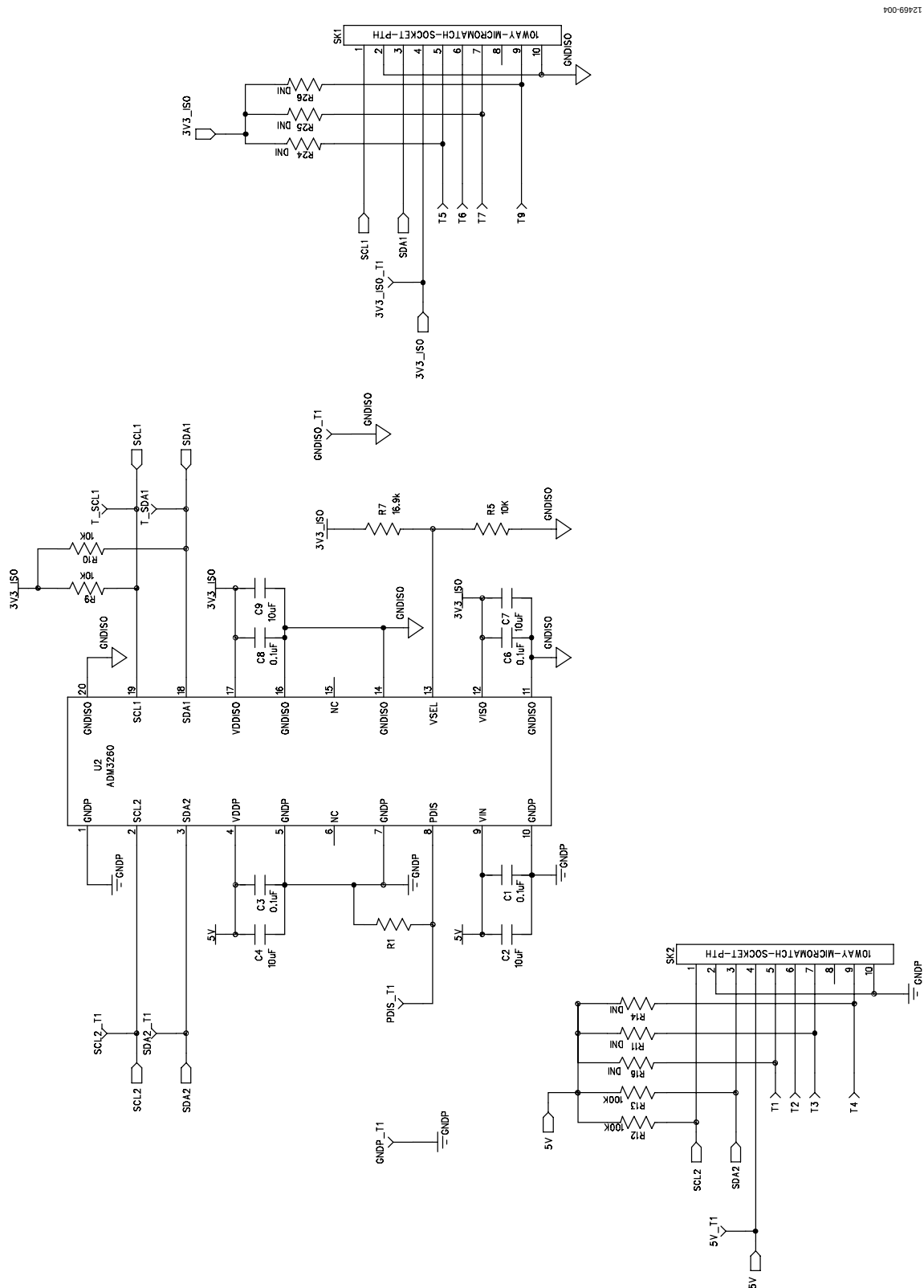


Figure 4. EVAL-ADM3260MEBZ Evaluation Board Schematic

EVALUATION BOARD LAYOUT LAYERS

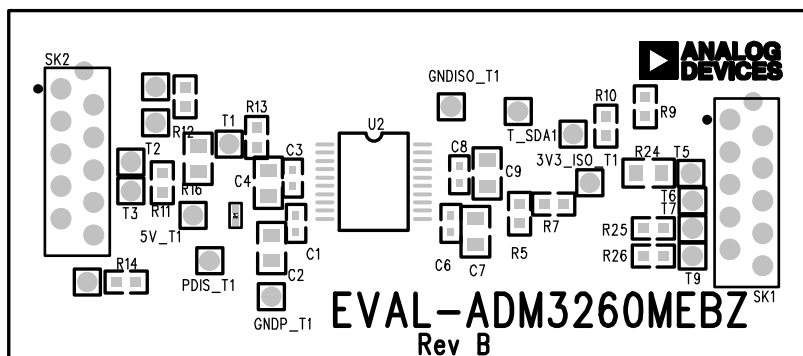


Figure 5. EVAL-ADM3260MEBZ Evaluation Board Layout Layer 1 and Top Silk Screen

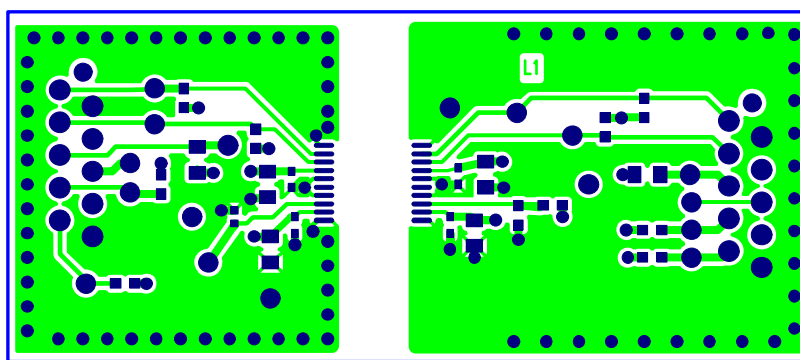


Figure 6. EVAL-ADM3260MEBZ Evaluation Board Layout, Layer 1

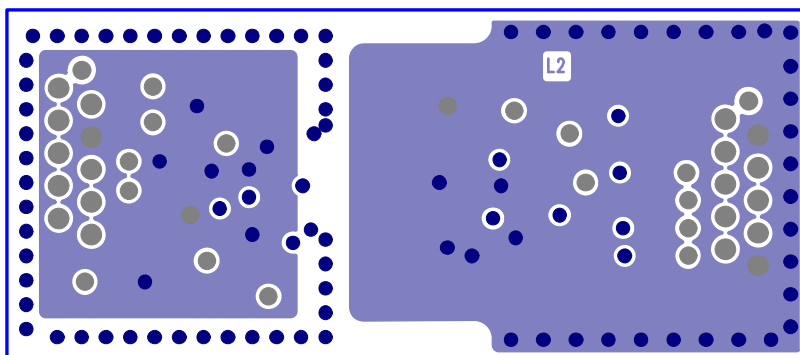


Figure 7. EVAL-ADM3260MEBZ Evaluation Board Layout, Layer 2

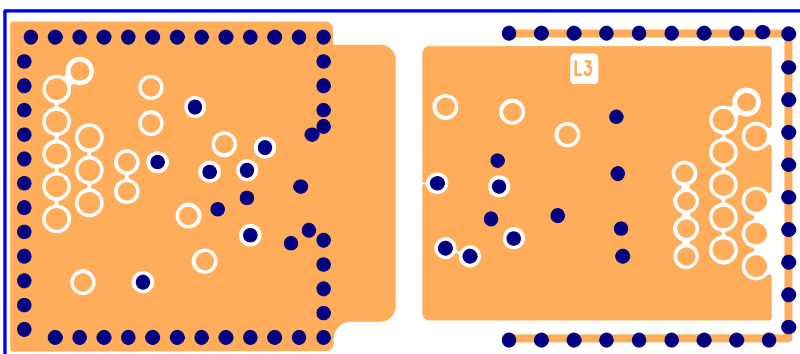


Figure 8. EVAL-ADM3260MEBZ Evaluation Board Layout, Layer 3

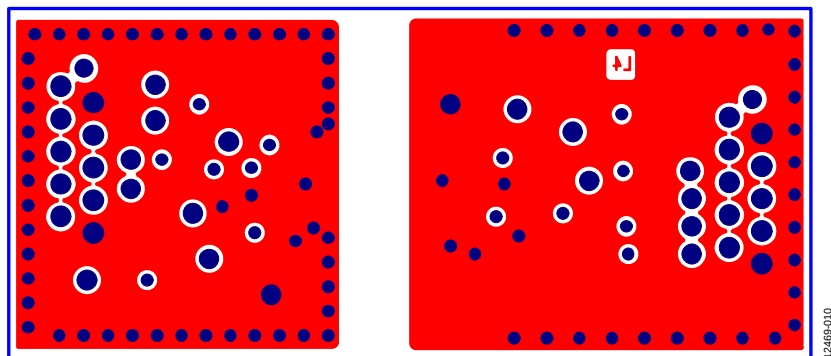


Figure 9. EVAL-ADM3260MEBZ Evaluation Board Layout, Layer 4 (Bottom)

ORDERING INFORMATION

BILL OF MATERIALS

Table 1.

Quantity	Reference Designator	Part Description	Manufacturer/Part Number
4	C1, C3, C6, C8	0.1 μ F, 0402, X7R, capacitors	Kemet/C0402C104K4RAC
4	C2, C4, C7, C9	10 μ F, 0805, X7R, capacitors	Taiyo Yuden/JMK212B7106KG-T
1	R1	0 Ω , 0402, resistor	Panasonic/ERJ2GE0R00X
3	R5, R9, R10	10 k Ω , 0603, resistors	Vishay Draloric/CRCW060310K0FKEAHP
1	R7	16.9 k Ω , 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 ² C isolators with integrated dc-to-dc converter	Analog Devices/ ADM3260ARSZ

I²C 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.

Legal Terms and Conditions

By using the evaluation board discussed herein (together with any tools, components documentation or support materials, the "Evaluation Board"), you are agreeing to be bound by the terms and conditions set forth below ("Agreement") unless you have purchased the Evaluation Board, in which case the Analog Devices Standard Terms and Conditions of Sale shall govern. Do not use the Evaluation Board until you have read and agreed to the Agreement. Your use of the Evaluation Board shall signify your acceptance of the Agreement. This Agreement is made by and between you ("Customer") and Analog Devices, Inc. ("ADI"), with its principal place of business at One Technology Way, Norwood, MA 02062, USA. Subject to the terms and conditions of the Agreement, ADI hereby grants to Customer a free, limited, personal, temporary, non-exclusive, non-sublicensable, non-transferable license to use the Evaluation Board FOR EVALUATION PURPOSES ONLY. Customer understands and agrees that the Evaluation Board is provided for the sole and exclusive purpose referenced above, and agrees not to use the Evaluation Board for any other purpose. Furthermore, the license granted is expressly made subject to the following additional limitations: Customer shall not (i) rent, lease, display, sell, transfer, assign, sublicense, or distribute the Evaluation Board; and (ii) permit any Third Party to access the Evaluation Board. As used herein, the term "Third Party" includes any entity other than ADI, Customer, their employees, affiliates and in-house consultants. The Evaluation Board is NOT sold to Customer; all rights not expressly granted herein, including ownership of the Evaluation Board, are reserved by ADI. CONFIDENTIALITY. This Agreement and the Evaluation Board shall all be considered the confidential and proprietary information of ADI. Customer may not disclose or transfer any portion of the Evaluation Board to any other party for any reason. Upon discontinuation of use of the Evaluation Board or termination of this Agreement, Customer agrees to promptly return the Evaluation Board to ADI. ADDITIONAL RESTRICTIONS. Customer may not disassemble, decompile or reverse engineer chips on the Evaluation Board. Customer shall inform ADI of any occurred damages or any modifications or alterations it makes to the Evaluation Board, including but not limited to soldering or any other activity that affects the material content of the Evaluation Board. Modifications to the Evaluation Board must comply with applicable law, including but not limited to the RoHS Directive. TERMINATION. ADI may terminate this Agreement at any time upon giving written notice to Customer. Customer agrees to return to ADI the Evaluation Board at that time. LIMITATION OF LIABILITY. THE EVALUATION BOARD PROVIDED HEREUNDER IS PROVIDED "AS IS" AND ADI MAKES NO WARRANTIES OR REPRESENTATIONS OF ANY KIND WITH RESPECT TO IT. ADI SPECIFICALLY DISCLAIMS ANY REPRESENTATIONS, ENDORSEMENTS, GUARANTEES, OR WARRANTIES, EXPRESS OR IMPLIED, RELATED TO THE EVALUATION BOARD INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANTABILITY, TITLE, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS. IN NO EVENT WILL ADI AND ITS LICENSORS BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES RESULTING FROM CUSTOMER'S POSSESSION OR USE OF THE EVALUATION BOARD, INCLUDING BUT NOT LIMITED TO LOST PROFITS, DELAY COSTS, LABOR COSTS OR LOSS OF GOODWILL. ADI'S TOTAL LIABILITY FROM ANY AND ALL CAUSES SHALL BE LIMITED TO THE AMOUNT OF ONE HUNDRED US DOLLARS (\$100.00). EXPORT. Customer agrees that it will not directly or indirectly export the Evaluation Board to another country, and that it will comply with all applicable United States federal laws and regulations relating to exports. GOVERNING LAW. This Agreement shall be governed by and construed in accordance with the substantive laws of the Commonwealth of Massachusetts (excluding conflict of law rules). Any legal action regarding this Agreement will be heard in the state or federal courts having jurisdiction in Suffolk County, Massachusetts, and Customer hereby submits to the personal jurisdiction and venue of such courts. The United Nations Convention on Contracts for the International Sale of Goods shall not apply to this Agreement and is expressly disclaimed.