

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 **USB-SDP-CABLEZ** dongle through the use of the **ADM3260** hot swappable dual I²C isolators with integrated dc-to-dc converter.

The **EVAL-ADM3260MEBZ** evaluation board is very 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 BOARD PHOTO



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

evaluation kit while I²C signal communication and power delivery is 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.

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REVISION HISTORY

9/14—Revision 0: Initial Version

BOARD CONNECTION



Figure 2. Board Connection Example

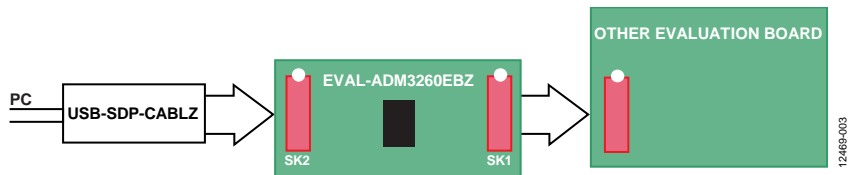


Figure 3. Board Connection Diagram

EVALUATION BOARD SCHEMATIC

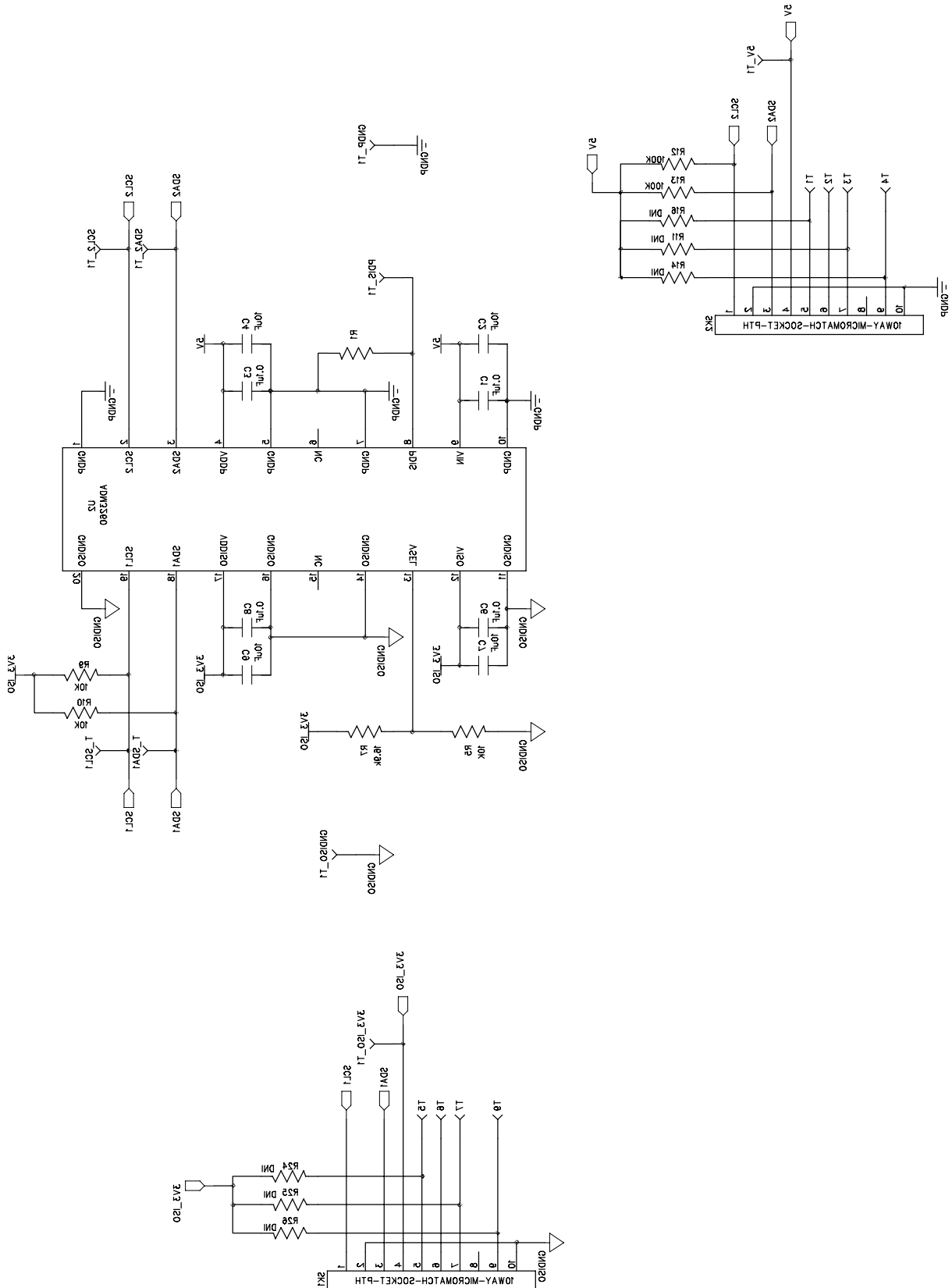


Figure 4. EVAL-ADM3260MEBZ Evaluation Board Schematic

EVALUATION BOARD LAYOUT LAYERS

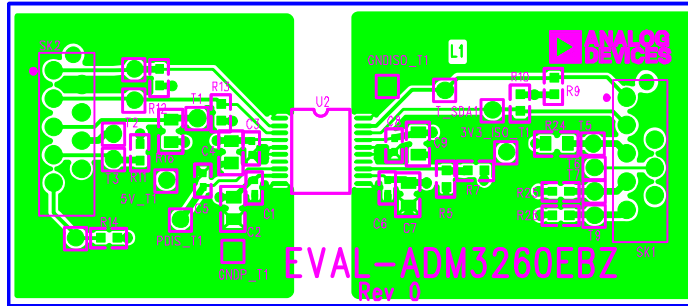


Figure 5. EVAL-ADM3260MEBZ Evaluation Board Layout Layer 1 and Top Silk Screen

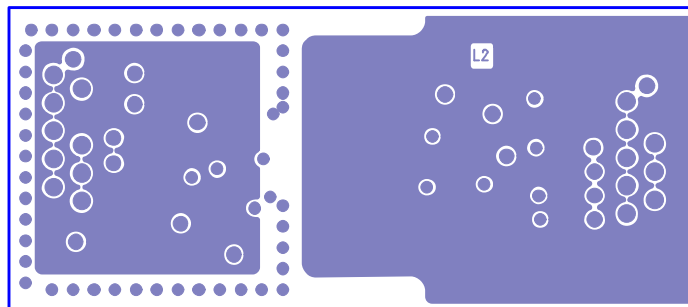


Figure 6. EVAL-ADM3260MEBZ Evaluation Board Layout, Layer 2

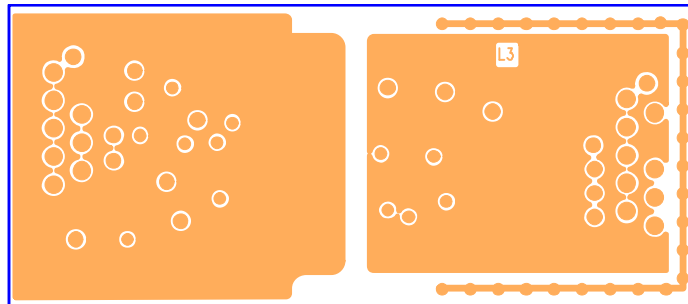


Figure 7. EVAL-ADM3260MEBZ Evaluation Board Layout, Layer 3

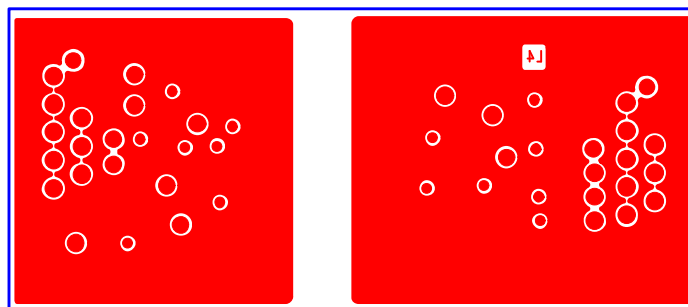


Figure 8. EVAL-ADM3260MEBZ Evaluation Board Layout, Layer 4

ORDERING INFORMATION

BILL OF MATERIALS

Table 1.

Name	Part Description	Value ¹	Manufacturer ²	Part Number	Stock Code
3V3_ISO_T1		DNI	FEC 240-333		
5V_T1		DNI	FEC 240-333		
C1	Capacitor, 100 nF, 16 V, X7R	0.1 μ F	Kemet	C0402C104K4RAC	FEC 1288252
C2	10 μ F capacitor, 0805 X7R 6.3 V	10 μ F	Taiyo Yuden	JMK212B7106KG-T	FEC 2112846
C3	Capacitor, 100 nF, 16 V, X7R	0.1 μ F	Kemet	C0402C104K4RAC	FEC 1288252
C4	10 μ F capacitor, 0805, X7R, 6.3 V	10 μ F	Taiyo Yuden	JMK212B7106KG-T	FEC 2112846
C6	Capacitor, 100 nF, 16 V, X7R	0.1 μ F	Kemet	C0402C104K4RAC	FEC 1288252
C7	10 μ F capacitor, 0805, X7R, 6.3 V	10 μ F	Taiyo Yuden	JMK212B7106KG-T	FEC 2112846
C8	Capacitor, 100 nF, 16 V, X7R	0.1 μ F	Kemet	C0402C104K4RAC	FEC 1288252
C9	10 μ F capacitor, 0805, X7R, 6.3 V	10 μ F	Taiyo Yuden	JMK212B7106KG-T	FEC 2112846
GNDISO_T1		DNI	FEC		FEC 240-333
GNDP_T1		DNI	FEC		
PDIS_T1		DNI	FEC		
R1	Resistor, thick, 0 Ω , 0.1 W	0 Ω	Panasonic	ERJ2GE0R00X	FEC 2059190RL
R5	Resistor 0603 1% 10 k Ω	10 k Ω	Vishay Draloric	CRCW060310K0FKEAHP	FEC 1738918
R7	Resistor 0603 1%	16.9 k Ω	Panasonic	ERJP03F1692V	FEC 2311984
R9	Resistor 0603 1% 10 k Ω	10 k Ω	Vishay Draloric	CRCW060310K0FKEAHP	FEC 1738918
R10	Resistor 0603 1% 10 k Ω	10 k Ω	Vishay Draloric	CRCW060310K0FKEAHP	FEC 1738918
R11	Resistor				DNI
R12	Resistor, 0603, 100 k Ω	100 k Ω	Vishay Draloric	CRCW0603100KFKEA	FEC 2122619
R13	Resistor, 0603, 100 k Ω	100 k Ω	Vishay Draloric	CRCW0603100KFKEA	FEC 2122619
R14	Resistor				DNI
R16	Resistor				DNI
R24	Resistor				DNI
R25	Resistor				DNI
R26	Resistor				DNI
SCL2_T1		DNI	FEC 240-333		
SDA2_T1		DNI	FEC 240-333		
SK1	10-way female PTH Micro-MaTch		TE Connectivity	8-215079-0	FEC 148600
SK2	10-way female PTH Micro-MaTch		TE Connectivity	8-215079-0	FEC 148600
T1		DNI	FEC		
T2		DNI	FEC		FEC 240-333
T3		DNI	FEC		
T4		DNI	FEC		
T5		DNI	FEC		
T6		DNI	FEC		
T7		DNI	FEC		
T9		DNI	FEC		FEC 240-333
T_SCL1		DNI	FEC		
T_SDA1		DNI	FEC 240-333		
U2	I ² C isolators with integrated dc-to-dc converter		Analog Devices, Inc.	ADM3260	ADM3260ARSZ
	10 way Micro-MaTch cable		TT	1483353-1	FEC 1056216

¹ N/A = not applicable and DNI = do not install.² FEC = Farnell Electronics Components.

NOTES



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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Наши контакты:

Телефон: +7 812 627 14 35

Электронная почта: sales@st-electron.ru

Адрес: 198099, Санкт-Петербург,
Промышленная ул, дом № 19, литера Н,
помещение 100-Н Офис 331