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Evaluating the ADM3260 Hot Swappable Dual I²C Isolators with Integrated DC-to-DC Converter

FEATURES

Full-featured evaluation kit for ADM3260
Screw terminals for easy connection
Multiple test points for easy node access
Knob adjustable isolated dc-to-dc output voltage
Special layout to minimize electromagnetic interference (EMI)

EVALUATION KIT CONTENTS

EVAL-ADM3260EBZ board

RELATED DOCUMENTS

ADM3260 data sheet

GENERAL DESCRIPTION

This user guide describes information related to the EVAL-ADM3260EBZ evaluation board. The evaluation board provides all of the support circuitry required for users to evaluate the ADM3260 hot swappable dual I²C isolators with integrated dc-to-dc converter.

The ADM3260 data sheet provides additional information and should be consulted when using the EVAL-ADM3260EBZ evaluation board.

Based on the *iso*Power 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.

EVALUATION BOARD CONNECTION DIAGRAM

12096-001

Figure 1. EVAL-ADM3260EBZ Evaluation Board

TABLE OF CONTENTS

REVISION HISTORY

3/14—Revision 0: Initial Version

EVALUATION BOARD HARDWARE

The EVAL-ADM3260EBZ evaluation board is designed to be intuitive and easy to understand. All the connectors and test points are clearly labeled. The functions of the unique components are listed in Table 1.

Table 1. Unique Component Functions

Component	Description
S1	When connected to the PDIS pin of the ADM3260, the S1 switch can control the enable and disable functions of the isolated dc-to-dc converter block of the device.
R4	When placed in the feedback loop of the isolated dc-to-dc converter block, R4 allows the user to adjust the output voltage on the VISO pin of the ADM3260.

EVALUATION BOARD SCHEMATIC

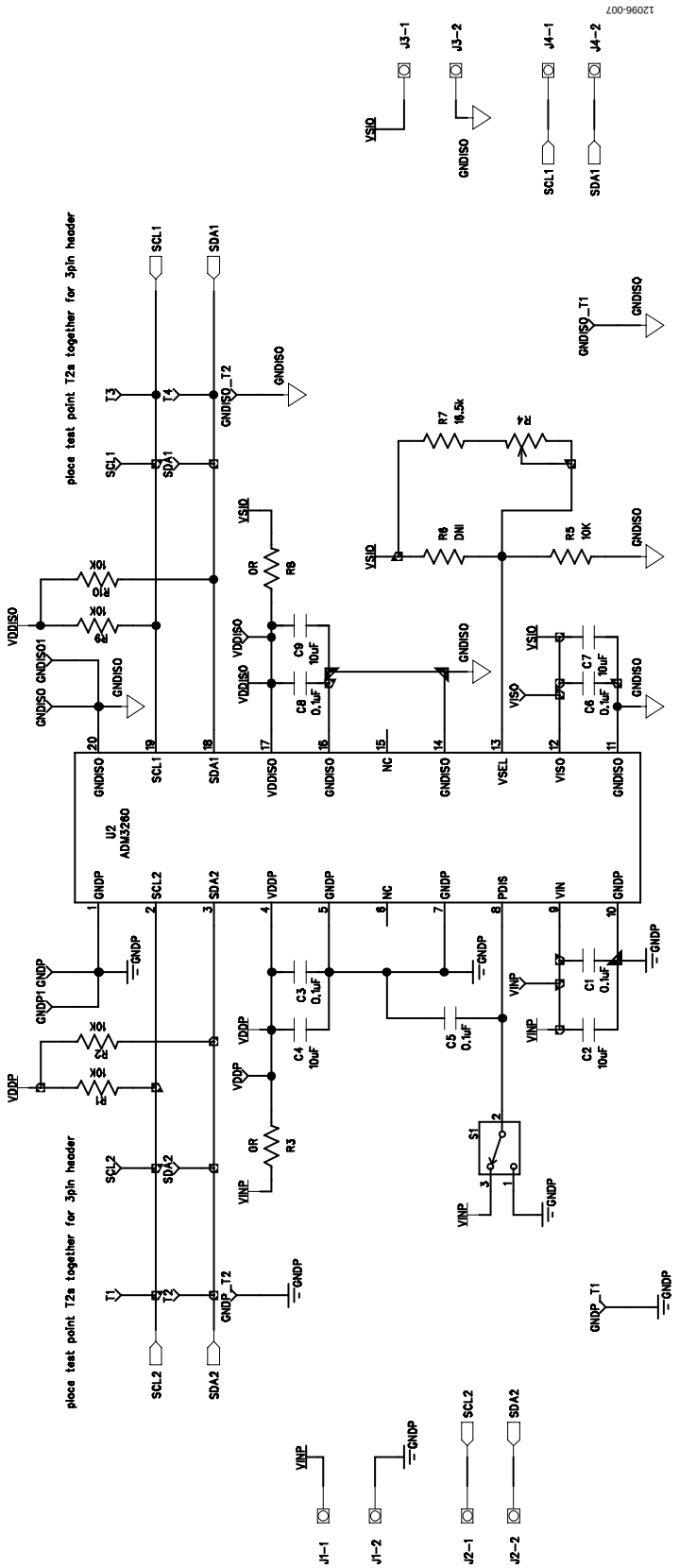

Figure 2. EVAL-ADM3260EBZ Evaluation Board Schematic

EVALUATION BOARD LAYOUT LAYERS

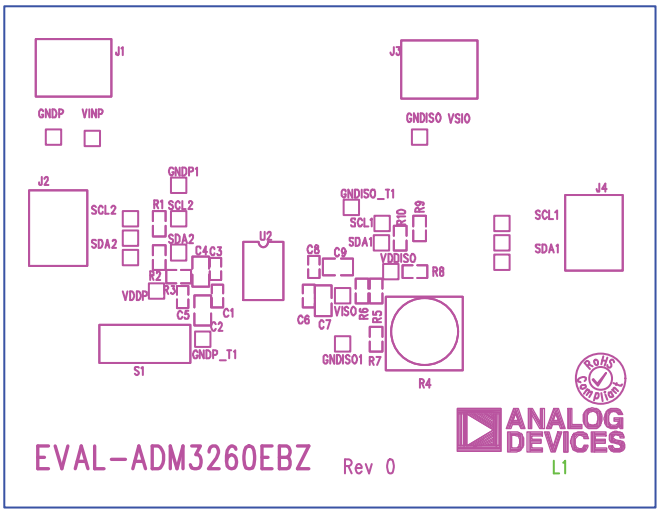

Figure 3. EVAL-ADM3260EBZ Evaluation Board Layout Layer, Top Silk Screen

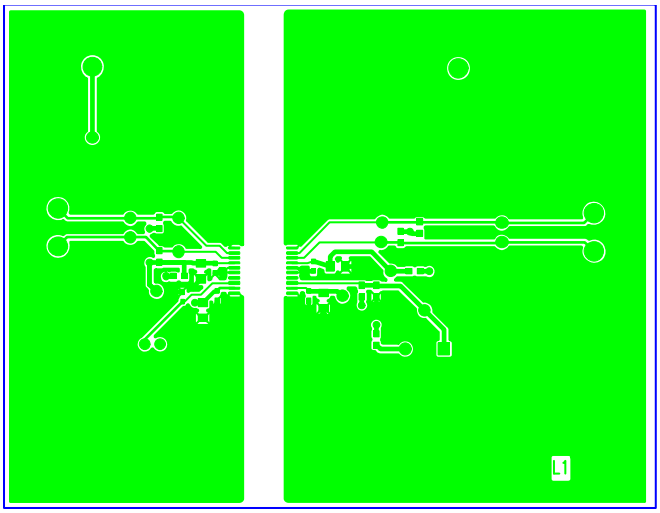

Figure 4. EVAL-ADM3260EBZ Evaluation Board Layout, Layer 1

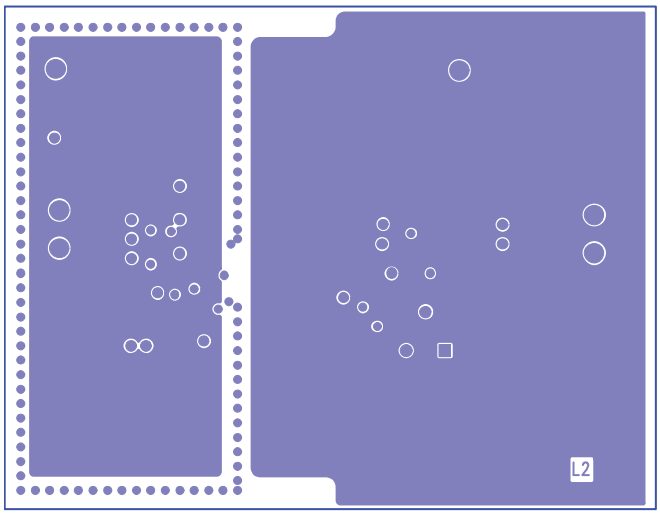

Figure 5. EVAL-ADM3260EBZ Evaluation Board Layout, Layer 2

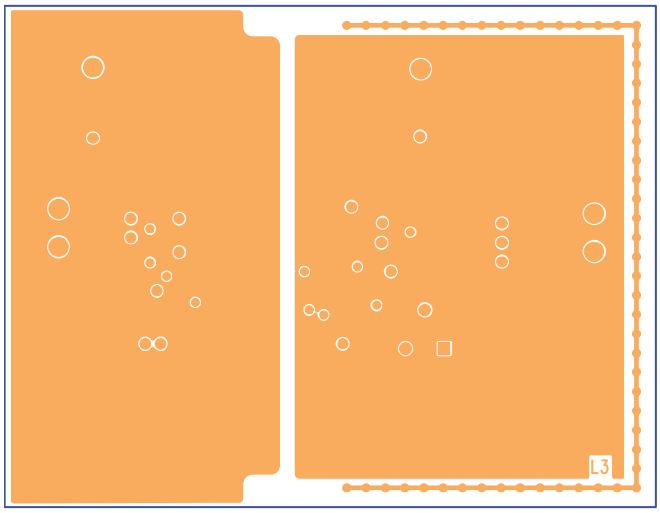

Figure 6. EVAL-ADM3260EBZ Evaluation Board Layout, Layer 4

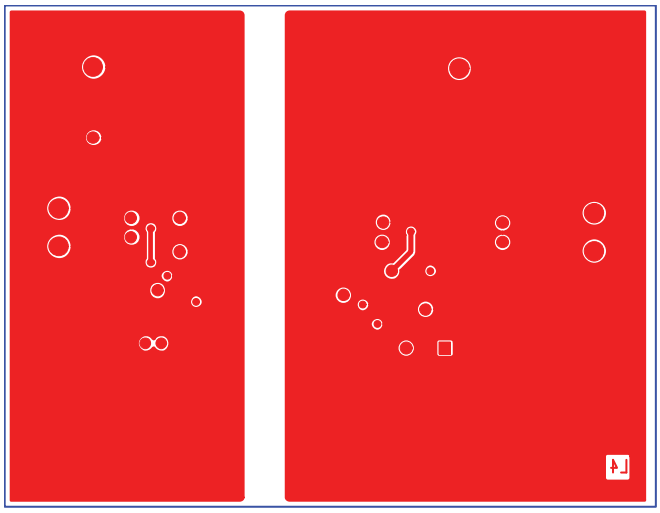

Figure 7. EVAL-ADM3260EBZ Evaluation Board Layout, Layer 4

ORDERING INFORMATION

BILL OF MATERIALS

Table 2.

Designator	Value[1]	Description	Manufacturer[2]	Part Number	Stock Code
C1	0.1 µF	Capacitor, 0.1 µF, 16 V, X7R	KEMET	C0402C104K4RAC	FEC 1288252
C2	10 µF	10 µF capacitor, 0805, X7R, 6.3 V	Taiyo Yuden	JMK212B7106KG-T	FEC 2112846
C3	0.1 µF	Capacitor, 0.1 µF, 16 V, X7R	KEMET	C0402C104K4RAC	FEC 1288252
C4	10 µF	10 µF capacitor, 0805, X7R, 6.3 V	Taiyo Yuden	JMK212B7106KG-T	FEC 2112846
C5	0.1 µF	Capacitor, 0.1 µF, 16 V, X7R	KEMET	C0402C104K4RAC	FEC 1288252
C6	0.1 µF	Capacitor, 0.1 µF, 16 V, X7R	KEMET	C0402C104K4RAC	FEC 1288252
C7	10 µF	10 µF capacitor, 0805, X7R, 6.3 V	Taiyo Yuden	JMK212B7106KG-T	FEC 2112846
C8	0.1 µF	Capacitor, 0.1 µF, 16 V, X7R	KEMET	C0402C104K4RAC	FEC 1288252
C9	10 µF	10 µF capacitor, 0805, X7R, 6.3 V	Taiyo Yuden	JMK212B7106KG-T	FEC 2112846
GNDISO	N/A	Test point	FEC	FEC 240-333	FEC 240-333
GNDISO1	N/A	Test point	FEC	FEC 240-333	FEC 240-333
GNDISO_T1	DNI	Do not install	FEC	FEC 240-333	DNI
GNDISO_T2	DNI	Do not install	FEC	FEC 240-333	DNI
GNDP	N/A	Test point	FEC	FEC 240-333	FEC 240-333
GNDP1	N/A	Test point	FEC	FEC 240-333	FEC 240-333
GNDP_T1	DNI	Do not install	FEC	FEC 240-333	DNI
GNDP_T2	DNI	Do not install	FEC	FEC 240-333	DNI
J1	N/A	2-pin terminal block (5 mm pitch)	Campden	CTB5000/2	FEC 151789
J2	N/A	2-pin terminal block (5 mm pitch)	Campden	CTB5000/2	FEC 151789
J3	N/A	2-pin terminal block (5 mm pitch)	Campden	CTB5000/2	FEC 151789
J4	N/A	2-pin terminal block (5 mm pitch)	Campden	CTB5000/2	FEC 151789
R1	10 kΩ	Resistor, 0603, 1%, 10 kΩ	Vishay Draloric	CRCW060310K0FKEAHP	FEC 1738918
R2	10 kΩ	Resistor, 0603, 1%, 10 kΩ	Vishay Draloric	CRCW060310K0FKEAHP	FEC 1738918
R3	0 Ω	Resistor, 0 Ω, 0603	Vishay Draloric	CRCW06030000Z0EA	FEC 1469739
R4	20 kΩ	3/8" square (10 mm) single-turn potentiometer	Vishay	M63M203KB40	FEC 9607854
R5	10 kΩ	Resistor, 0603, 1%, 10 kΩ	Vishay Draloric	CRCW060310K0FKEAHP	FEC 1738918
R6	DNI	Do not install	Vishay Draloric	CRCW060310K0FKEAHP	DNI
R7	16.5 kΩ	Resistor, 0603, 1%	Neohm	CPF0603F16K5C1	FEC 1527606RL
R8	0 Ω	Resistor, 0 Ω, 0603	Vishay Draloric	CRCW06030000Z0EA	FEC 1469739
R9	10 kΩ	Resistor, 0603, 1%, 10 kΩ	Vishay Draloric	CRCW060310K0FKEAHP	FEC 1738918
R10	10 kΩ	Resistor, 0603, 1%, 10 kΩ	Vishay Draloric	CRCW060310K0FKEAHP	FEC 1738918
S1	N/A	SPDT slide switch	Alps	STSSS9121	FEC 1123875
SCL1	DNI	Do not install	FEC	FEC 240-333	FEC 240-333
SCL2	DNI	Do not install	FEC	FEC 240-333	FEC 240-333
SDA1	DNI	Do not install	FEC	FEC 240-333	FEC 240-333
SDA2	DNI	Do not install	FEC	FEC 240-333	FEC 240-333
T1	DNI	Do not install	FEC	FEC 240-333	FEC 240-333
T2	DNI	Do not install	FEC	FEC 240-333	FEC 240-333
T3	DNI	Do not install	FEC	FEC 240-333	FEC 240-333
T4	DNI	Do not install	FEC	FEC 240-333	FEC 240-333
U2	N/A	Hot swappable dual I²C isolators with integrated dc-to-dc converter	Analog Devices, Inc.	ADM3260	ADM3260ARSZ
VDDISO	DNI	Do not install	FEC	FEC 240-333	FEC 240-333
VDDP	DNI	Do not install	FEC	FEC 240-333	FEC 240-333
VINP	N/A	Test point	FEC	FEC 240-333	FEC 240-333
VISO	N/A	Test point	FEC	FEC 240-333	FEC 240-333

[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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