

Evaluating the ADR3650 Precision, Micropower, High Current Output Voltage Reference

FEATURES

- ▶ EVAL-ADR3650EBZ evaluation board
- ▶ Gold pin connectors that allow the addition of passive components
- ▶ Reserved SMB PCB trace for the output of signals
- ▶ Reserved binding post PCB trace for extra pins
- ▶ Binding post for simple connection for supply and meters

EVALUATION KIT CONTENTS

- ▶ EVAL-ADR3650EBZ evaluation board

DOCUMENTS NEEDED

- ▶ The [ADR3650](#) data sheet
- ▶ The EVAL-ADR3650EBZ user guide

EQUIPMENT NEEDED

- ▶ A dc voltage source
- ▶ An analog signal source
- ▶ A multimeter

EVAL-ADR3650EBZ EVALUATION BOARD PHOTOGRAPH

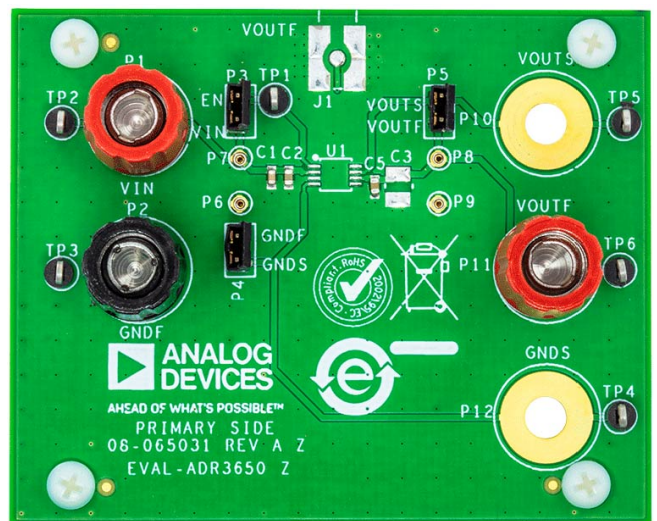


Figure 1. EVAL-ADR3650EBZ Evaluation Board Photograph

GENERAL DESCRIPTION

The EVAL-ADR3650EBZ evaluation board is for evaluating the ADR3650 that is included on the board.

Figure 1 shows the EVAL-ADR3650EBZ evaluation board. VIN, GND, and VOUTF are installed with the binding post for simple connection with the most common bench setup connector. Printed circuit board (PCB) traces are also provided for the GND and VOUTS pins, the passives, and the Subminiature Version B (SMB) for more sophisticated setup and usage.

Full specifications of the device under test (DUT) are available in the ADR3650 data sheet, which should be consulted in conjunction with this user guide when using the EVAL-ADR3650EBZ evaluation board.

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REVISION HISTORY**4/2023—Revision 0: Initial Version**

EVALUATION BOARD HARDWARE

Use the EVAL-ADR3650EBZ to evaluate the [ADR3650](#) device on the board. [Figure 1](#) shows the EVAL-ADR3650EBZ.

VIN, VOUTX, AND GNDX BINDING POST

Binding posts, P1, P2, P10, P11, and P12, provide the ability to simply connect the supply, ground, and load to the required equipment with a banana jack or clamping cable.

LINK HEADERS

Link Header P3 provides users with the ability to simply connect the EN pin to the VIN pin to eliminate the need for an additional external supply. Where line resistances are negligible, P4 and P5 can also be shorted in applications.

Table 1. Link Header Descriptions

Label	Position	Description
P3	Shorted	EN Pin
P4	Shorted	GND _F to GND _S
P5	Shorted	VOUT _F to VOUT _S

SMB CONNECTORS

The SMB connector space provided on the EVAL-ADR3650EBZ provides users with the ability to connect the output signal to a load and/or a measuring device using an SMB connector.

PASSIVE CONNECTOR

P6 to P7 and P8 to P9 are provided to allow connection of the additional external passives for creating the RC filter and/or different capacitor values and materials.

EVALUATION BOARD SCHEMATIC AND ARTWORK

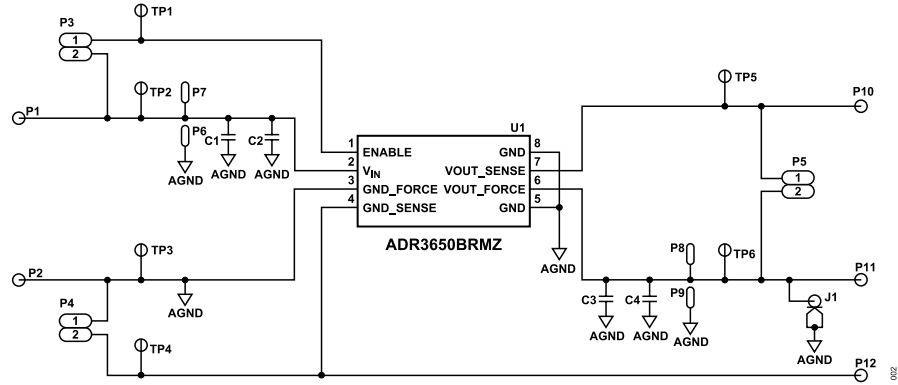


Figure 2. EVAL-ADR3650EBZ Evaluation Board Schematic

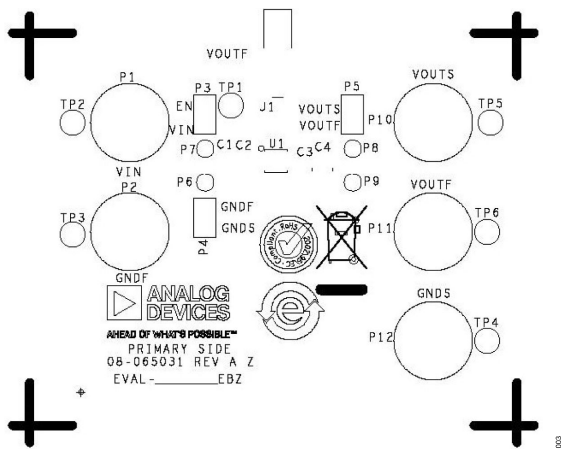


Figure 3. EVAL-ADR3650EBZ Silkscreen

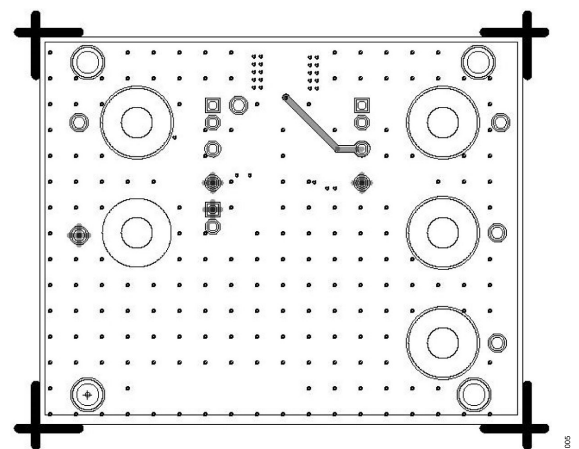


Figure 5. EVAL-ADR3650EBZ Bottom Layer

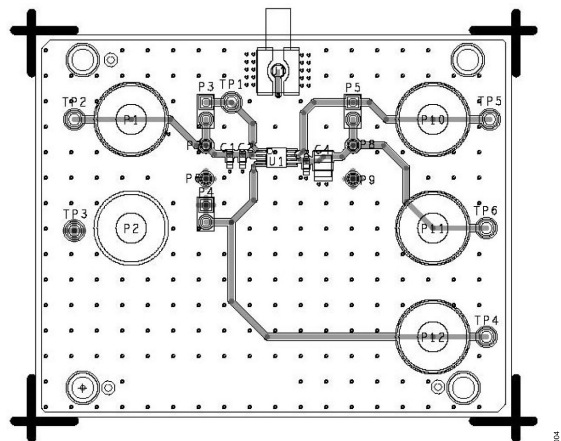


Figure 4. EVAL-ADR3650EBZ Top Layer

ORDERING INFORMATION

BILL OF MATERIALS

Table 2. Bill of Materials

Reference Designator	Description	Manufacturer Part Number
C1	0.1 μ F ceramic capacitor	C0603C104K3RACTU
C2, C3	1 μ F ceramic capacitors	UMK107AB7105KA-T
C4	47 μ F ceramic capacitor	GRM32ER71A476KE15L
P1, P10, P11	Binding posts (red)	3760-2
P2, P12	Binding posts (black)	3760-0
P3 to P5	Pin headers	M20-9990245
P6 to P9	Subminiature sockets	H3153-01
TP1 to TP6	Test points	TP-104-01-00
J1	SMB	PE44121

**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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