

Evaluation Kit for **ADM1087** Sequencer

FEATURES

- Full featured evaluation board for the **ADM1087** sequencer
- 3 LEDs indicate output sequence
- Dedicated ENABLE/DISABLE switch
- On-board test points to examine **ADM1087** operation
- On-board expansion feature to add more **ADM1087** devices

EVALUATION KIT CONTENTS

- ADM1087** evaluation board

GENERAL DESCRIPTION

The **ADM1087** evaluation board (EVAL-ADM1087EBZ) is a fully featured board for evaluating **ADM1087** sequencers.

The board is designed to power up with a 9 V input supply that can be turned on and off using a dedicated switch (Switch S1, ON/OFF). The two **ADM1087** devices on the board can be enabled and disabled using another switch (Switch S2, ENABLE/DISABLE). When enabled, the **ADM1087** devices on the board monitor a voltage rail and turn on the corresponding three **ADP3334** LDO devices in a sequence. LEDs on the board provide a direct visual indication of the sequencing of three different voltages: 3.3 V, 2.5 V, and 1.8 V.

Complete specifications for the **ADM1087** can be found in the **ADM1087** data sheet, available at www.analog.com, and should be consulted in conjunction with this user guide when using the evaluation board.

PHOTOGRAPH OF THE EVALUATION BOARD



Figure 1.

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REVISION HISTORY

11/13—Revision 0: Initial Version

EVALUATION BOARD DESCRIPTION

The **EVAL-ADM1087EBZ** is designed to demonstrate the features of the **ADM1087** sequencer. A simplified block diagram of the evaluation board is shown in Figure 2.

Two **ADM1087** devices are used to sequence the outputs of three **ADP3334** LDO regulators. Separate capacitors on the **CEXT** pin of each **ADM1087** device determine the time delays between enabling the 3.3 V, 2.5 V, and 1.8 V supplies. The LDO regulators and **ADM1087** devices are connected in a cascade; therefore, the output of each regulator is dependent on the output of the previous device.

There are two switches included on the board:

- The S1 switch (ON/OFF) is used to power up or power down the board.
- The S2 switch (ENABLE/DISABLE) is used to enable or disable the **ADM1087** devices.

A 9 V battery supplies power to the board. The board functions as follows:

1. Place the S1 switch into the ON position to turn on the first **ADP3334** LDO regulator.
2. The **ADM1087** devices monitor the output of this regulator. When the output reaches 3.3 V, the red LED (D1) illuminates and the second **ADP3334** LDO regulator turns on.
3. The **ADM1087** devices monitor the output of this regulator. When the output reaches 2.5 V, the yellow LED (D2) illuminates and the third **ADP3334** LDO regulator turns on.
4. The **ADM1087** devices monitor the output of this regulator. When the output reaches 1.8 V, the green LED (D3) illuminates.

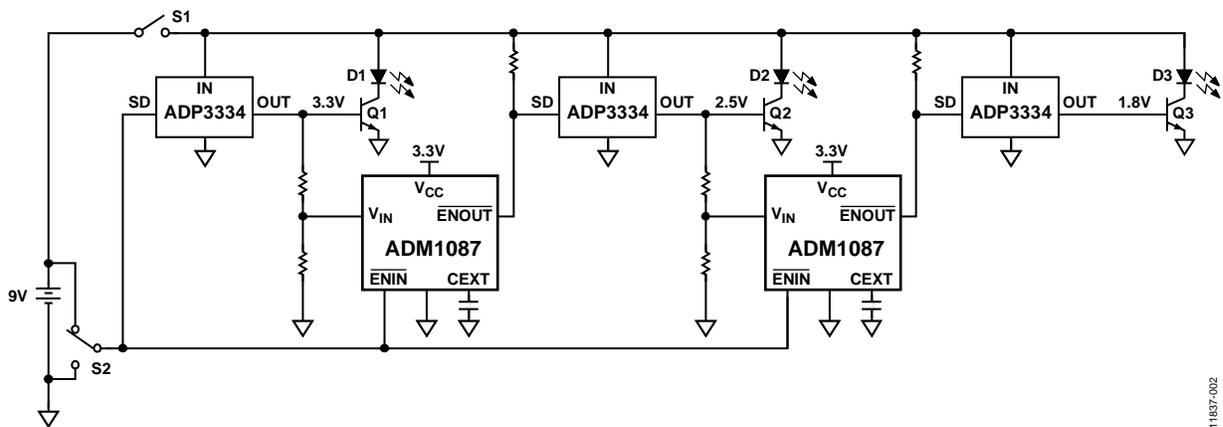


Figure 2. Simplified Block Diagram of **EVAL-ADM1087EBZ**

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EVALUATION BOARD HARDWARE

EVALUATION BOARD CONNECTOR, SWITCH, LED FUNCTIONS

Table 1. Connector Functions

Reference	Function
P1	Connects the positive and negative terminal of a 9 V battery.

Table 2. Switch Functions

Reference	Position	Function
S1	ON	Powers up the board.
	OFF	Powers down the board.
S2	ENABLE	Enables the ADM1087 devices.
	DISABLE	Disables the ADM1087 devices.

Table 3. LED Functions

Reference	LED Color	Function
D1	Red	Illuminates when the first ADP3334 LDO regulator output is 3.3 V.
D2	Yellow	Illuminates when the second ADP3334 LDO regulator output is 2.5 V.
D3	Green	Illuminates when the third ADP3334 LDO regulator output is 1.8 V.

EVALUATION BOARD SCHEMATIC

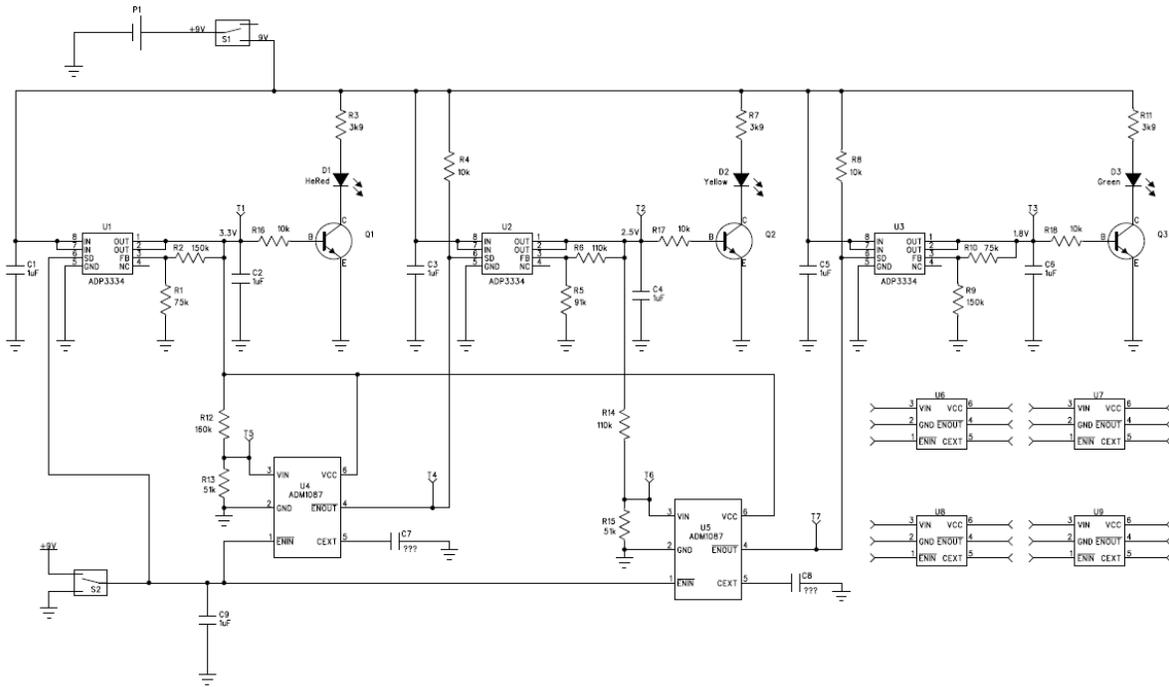


Figure 3. EVAL-ADM1087EBZ Schematic, Page 1

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BILL OF MATERIALS

Table 4. Bill of Materials for the [EVAL-ADM1087EBZ](#)

Name	Part Type	Value	Description	Stock Code
C1	Capacitor	1 μ F	16 V, Y5V, ceramic capacitor	FEC 318-8899
C2	Capacitor	1 μ F	16 V, Y5V, ceramic capacitor	FEC 318-8899
C3	Capacitor	1 μ F	16 V, Y5V, ceramic capacitor	FEC 318-8899
C4	Capacitor	1 μ F	16 V, Y5V, ceramic capacitor	FEC 318-8899
C5	Capacitor	1 μ F	16 V, Y5V, ceramic capacitor	FEC 318-8899
C6	Capacitor	1 μ F	16 V, Y5V, ceramic capacitor	FEC 318-8899
C7	Capacitor	100 nF	35 V through-hole tantalum capacitor	FEC 1100483
C8	Capacitor	100 nF	35 V through-hole tantalum capacitor	FEC 1100483
C9	Capacitor	1 μ F	16 V, Y5V, ceramic capacitor	FEC 318-8899
D1	LED		Red LED	FEC 114-2512
D2	LED		Yellow LED	FEC 114-2515
D3	LED		Green LED	FEC 114-2509
P1	BATT_PP3		Pair battery connectors	FEC 723-988
Q1	BC850B		General-purpose transistor	FEC 108-1239
Q2	BC850B		General-purpose transistor	FEC 108-1239
Q3	BC850B		General-purpose transistor	FEC 108-1239
R1	Resistor	75 k Ω	0.1 W resistor	FEC 933-3541
R2	Resistor	150 k Ω	0.1 W resistor	FEC 933-2626
R3	Resistor	3.9 k Ω	0.1 W resistor	FEC 933-3169
R4	Resistor	10 k Ω	0.1 W resistor	FEC 933-2391
R5	Resistor	91 k Ω	0.1 W resistor	FEC 933-3649
R6	Resistor	110 k Ω	0.1 W resistor	FEC 933-2464
R7	Resistor	3.9 k Ω	0.1 W resistor	FEC 933-3169
R8	Resistor	10 k Ω	0.1 W resistor	FEC 933-2391
R9	Resistor	150 k Ω	0.1 W resistor	FEC 933-2626
R10	Resistor	75 k Ω	0.1 W resistor	FEC 933-3541
R11	Resistor	3.9 k Ω	0.1 W resistor	FEC 933-3169
R12	Resistor	160 k Ω	0.1 W resistor	FEC 933-2685
R13	Resistor	51 k Ω	0.1 W resistor	FEC 933-3339
R14	Resistor	110 k Ω	0.1 W resistor	FEC 933-2464
R15	Resistor	51 k Ω	0.1 W resistor	FEC 933-3339
R16	Resistor	10 k Ω	0.1 W resistor	FEC 933-2391
R17	Resistor	10 k Ω	0.1 W resistor	FEC 933-2391
R18	Resistor	10 k Ω	0.1 W resistor	FEC 933-2391
S1	SW-SPDT-SLIDE		SPDT slide switch	FEC 112-3875
S2	SW-SPDT-SLIDE		SPDT slide switch	FEC 112-3875
T1	Test point		Test point	FEC 873-1144
T2	Test point		Test point	FEC 873-1144
T3	Test point		Test point	FEC 873-1144
T4	Test point		Test point	FEC 873-1144
T5	Test point		Test point	FEC 873-1144
T6	Test point		Test point	FEC 873-1144
T7	Test point		Test point	FEC 873-1144
U1	LDO regulator		High accuracy, low I_o , anyCAP [®] adjustable low dropout regulator in 8-lead MSOP	ADP3334ARMZ-REEL7
U2	LDO regulator		High accuracy, low I_o , anyCAP adjustable low dropout regulator in 8-lead MSOP	ADP3334ARMZ-REEL7
U3	LDO regulator		High accuracy, low I_o , anyCAP adjustable low dropout regulator in 8-lead MSOP	ADP3334ARMZ-REEL7
U4	Sequencer		Voltage Sequencer with Active Low, Open-Drain Enable Output in 6-lead SC70	ADM1087AKSZ-REEL7
U5	Sequencer		Voltage Sequencer with Active Low, Open-Drain Enable Output in 6-lead SC70	ADM1087AKSZ-REEL7

NOTES

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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