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REVISION HISTORY

2/13—Revision 0: Initial Version

EVALUATION BOARD CONFIGURATIONS

SETTING UP THE EVALUATION BOARD

The EVAL-ADM2490EEBZ allows the isolated [ADM2490E](#) RS-485 transceiver to be easily and quickly evaluated. The evaluation board allows all of the input and output functions to be exercised without the need for external components.

A termination resistor (R_T) of 120 Ω is fitted on the receiving side of the transceiver, along with a pull-up resistor of 1.3 k Ω on the noninverting side and a pull-down resistor of 1.3 k Ω on the inverting side for fail-safe operation.

The logic side is suitable for 5 V or 3 V operation on V_{DD1} . There are two 100 nF decoupling capacitors (C1 and C2) fitted between

V_{DD1} and GND₁ and between V_{DD2} and GND₂, respectively. The bus side is suitable for 5 V operation on V_{DD2} . See Figure 2.

Refer to the [AN-960 Application Note](#), *RS-485/RS-422 Circuit Implementation Guide*, for an explanation of bus termination and fail-safe biasing.

To set up the evaluation board for testing, the connections described in Table 1 must be made between two evaluation boards. TxD and RxD serve as the transmitting and receiving lines, respectively.

Table 1. Evaluation Board Connections

Screw Terminal Board	Description
Screw Terminal Board 1	
Y	Noninverting output
Z	Inverting output
A	Noninverting input
B	Inverting input
Screw Terminal Board 2	
A	Noninverting input
B	Inverting input
Y	Noninverting output
Z	Inverting output

EVALUATION BOARD SCHEMATIC AND ARTWORK

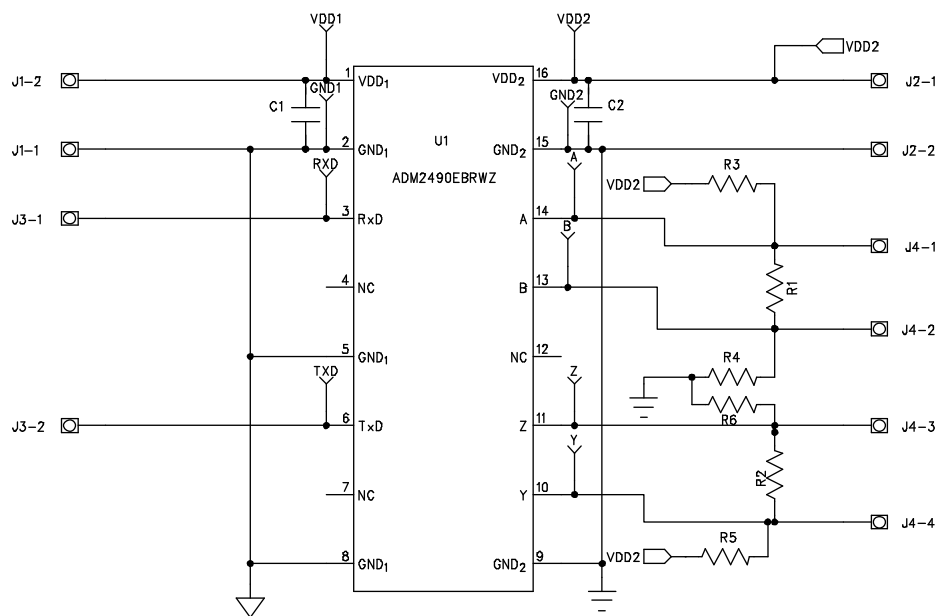


Figure 2. EVAL-ADM2490EEBZ Schematic

11163-002

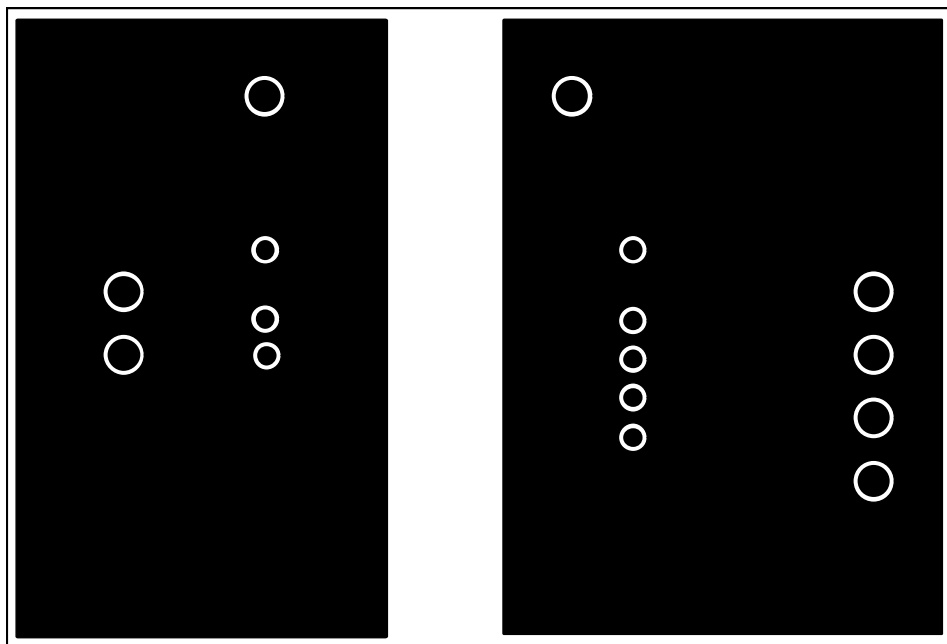


Figure 3. EVAL-ADM2490EEBZ Solder Side

11163-003

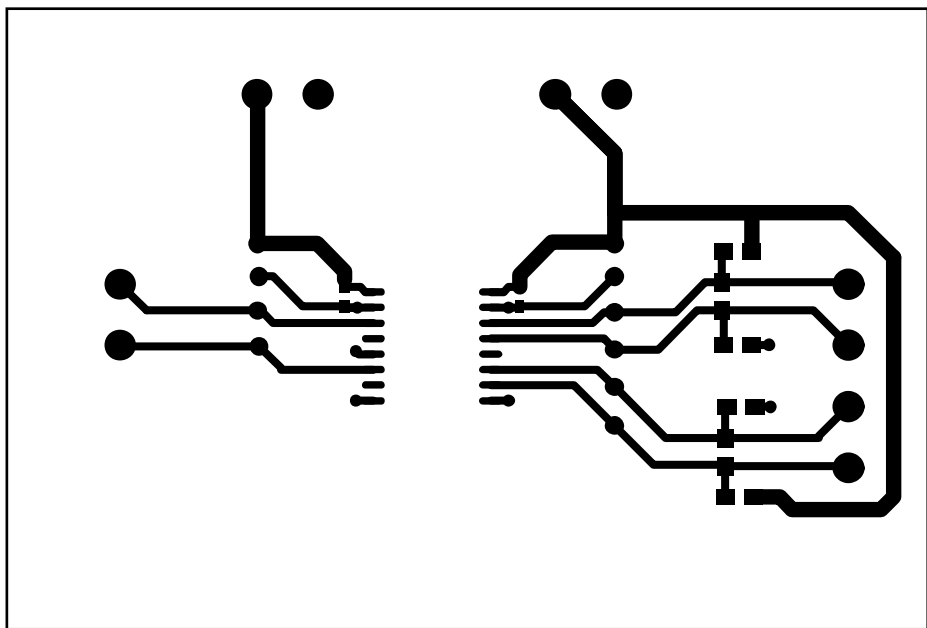


Figure 4. EVAL-ADM2490EEBZ Components

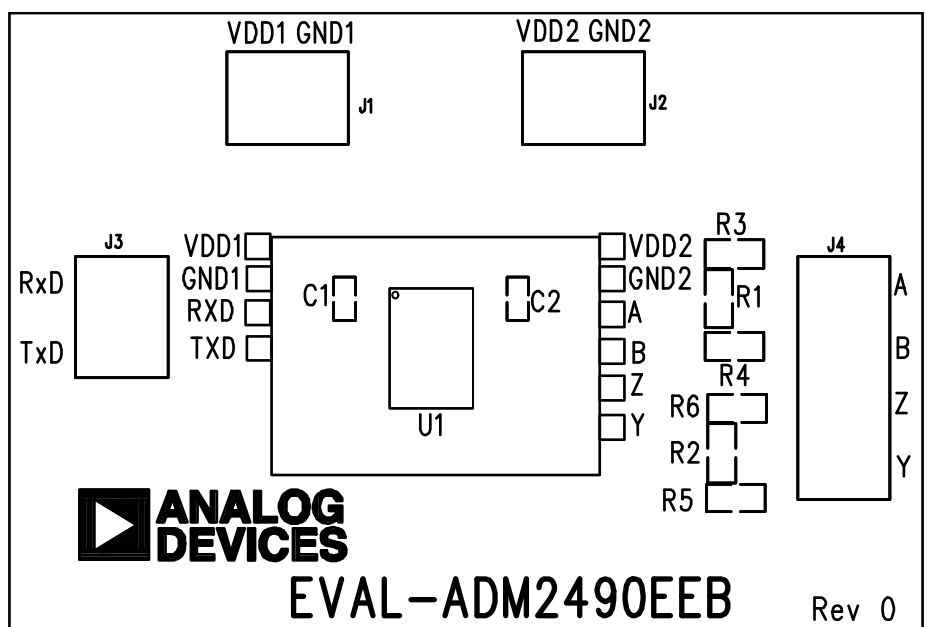


Figure 5. EVAL-ADM2490EEBZ Silkscreen

BILL OF MATERIALS

Table 2.

Quantity	Reference Designator	Description	Supplier/Part Number
1	R1	Resistor, 120 Ω , 0805	Tyco Electronics Connectivity/Neohm/CPF0603B120RE1
2	R3, R4	Resistor, 1.3 k Ω , 0805	Tyco Electronics Connectivity/Neohm/CPF0603B1K3E1
3	R2, R5, R6	Resistor, 0805	Do not insert
2	C1, C2	Capacitor, Size 0603, 100 nF	AVX Corporation/06033G104ZAT2A
3	J1, J2, J3	Connector/power, 2-pin terminal block (5 mm pitch)	Lumberg/KRM 02
1	J4	Connector/Power 4, 4-pin terminal block	Lumberg/KRM 04
1	U1	16-lead wide body SOIC	Analog Devices/ ADM2490EBRWZ
2	GND ₁ , GND ₂	Test point, black	Vero Technologies/20-2137
2	V _{DD1} , V _{DD2}	Test point, red	Vero Technologies/20-313137
2	RxD, TxD	Test point, yellow	Vero Technologies/20-313140
4	A, B, Z, Y	Test point, green	Vero Technologies/20-313138

RELATED LINKS

Resource	Description
ADM2490E	Product Page: 5 kV Signal Isolated, High Speed (16 Mbps), ESD Protected, Full Duplex RS-485 Transceiver
AN-960	Application Note: RS-485/RS-422 Circuit Implementation Guide

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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