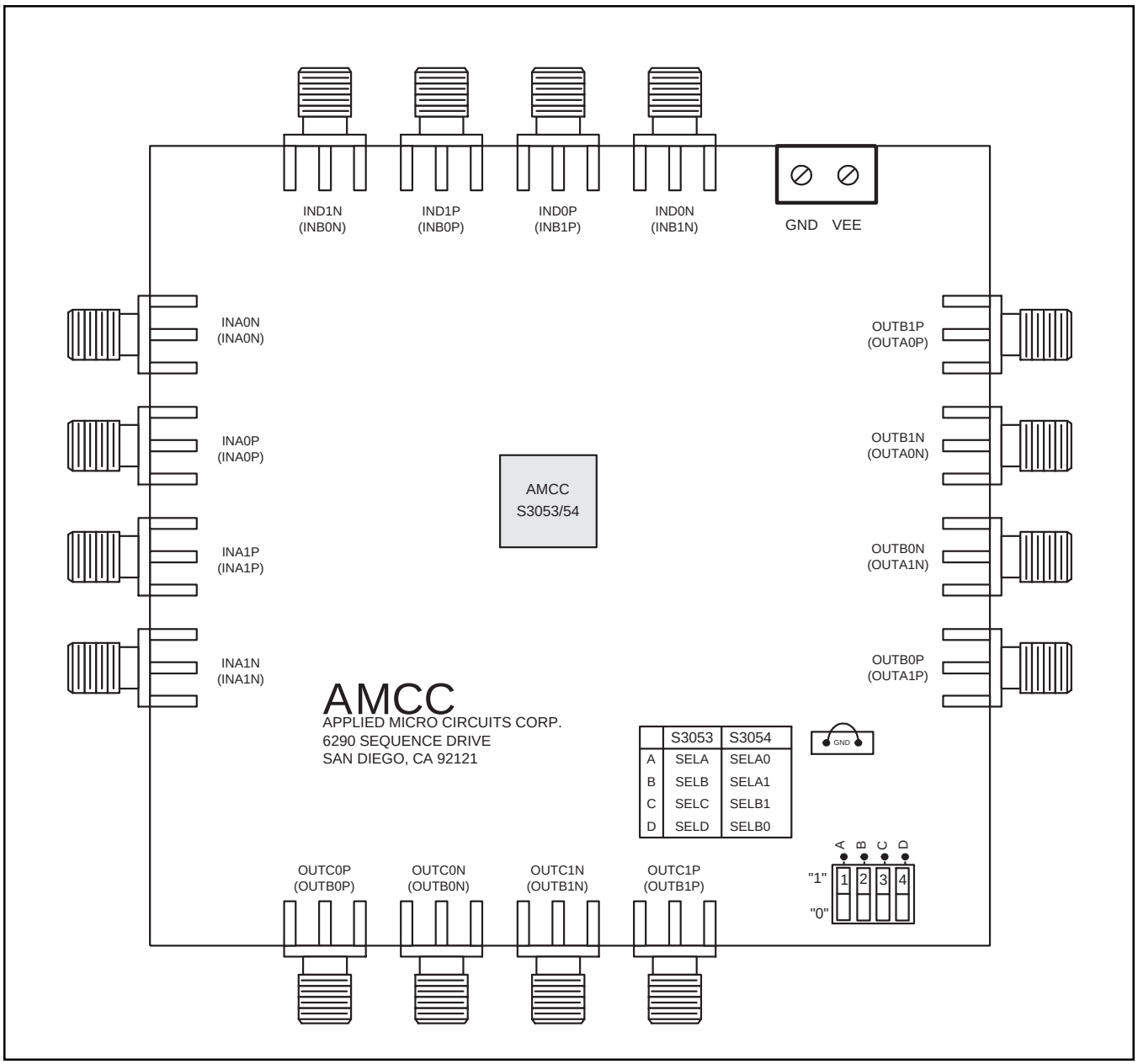
DESCRIPTION

The S3053/54 Evaluation Board provides a flexible platform for verifying the operation of the S3053 QUAD MUX and S3054 2 X 2 DUAL CROSSPOINT SWITCH interface circuit. This document provides information on board contents. It should be used in conjunction with the S3053/54 data sheet, which contains full technical details on chip operation.

Figure 1 shows the outline of the S3053/54 Evaluation Board and Figures 7 and 8 show the block diagram of how the S3053/54 Evaluation Board should be connected to test equipment.

Figure 1. S3053/54 Evaluation Board



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The block diagram in Figures 2 and 3 show basic operation of the S3053 and S3054.

Figure 2. S3053 Functional Block Diagram

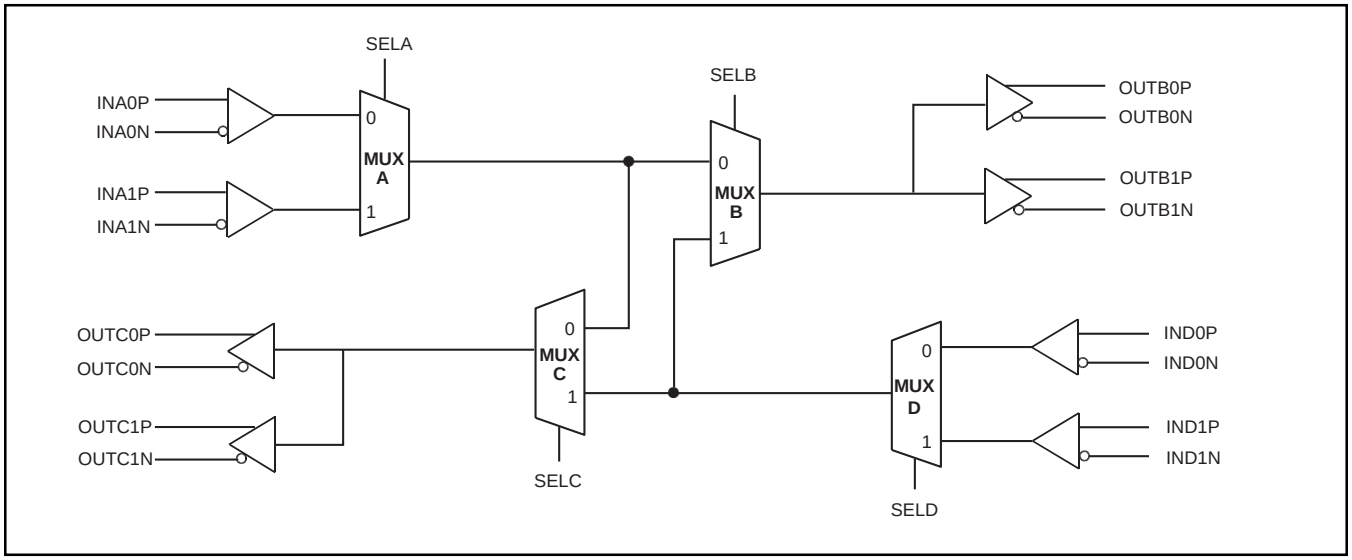

Figure 3. S3054 Functional Block Diagram

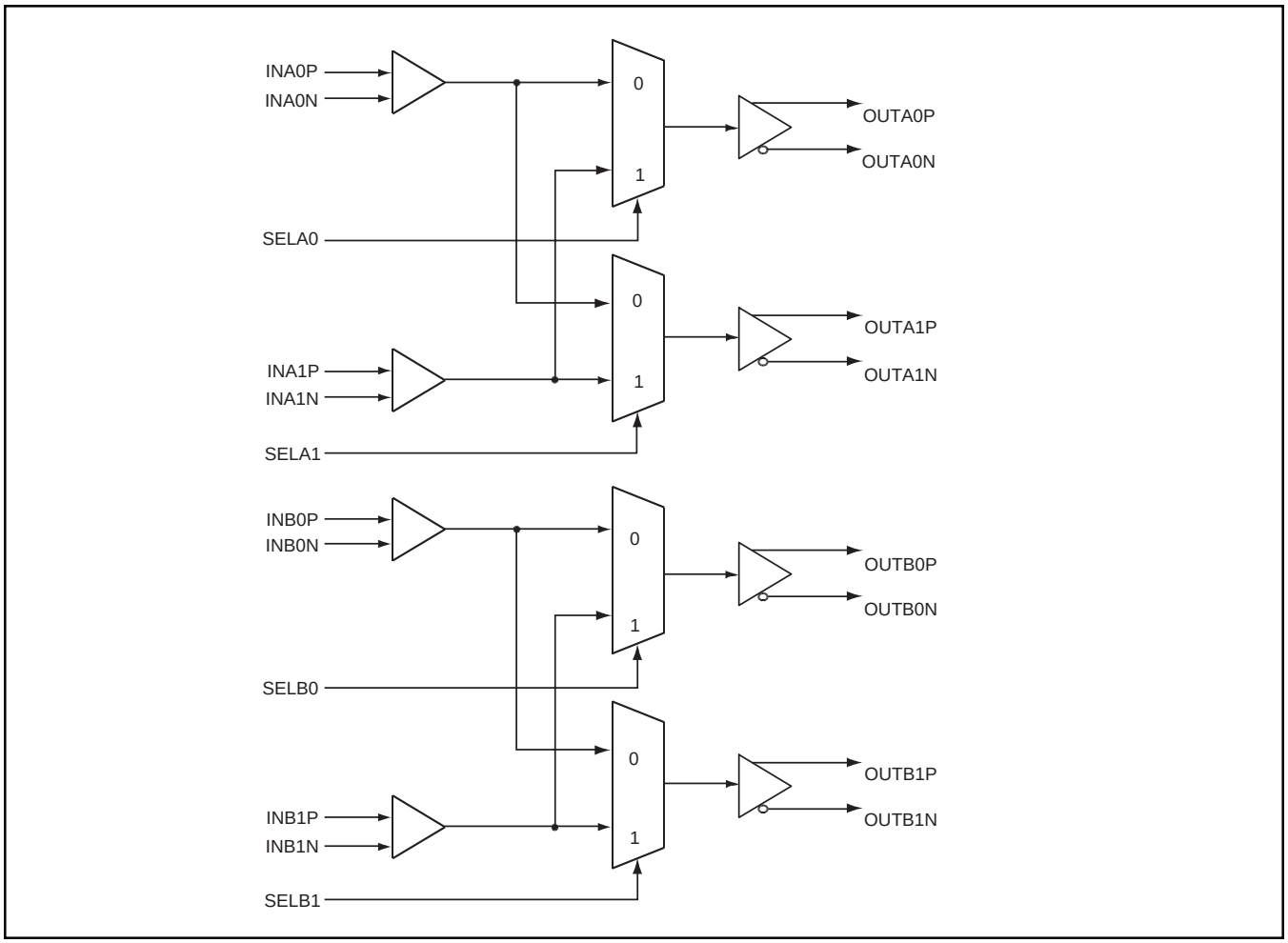

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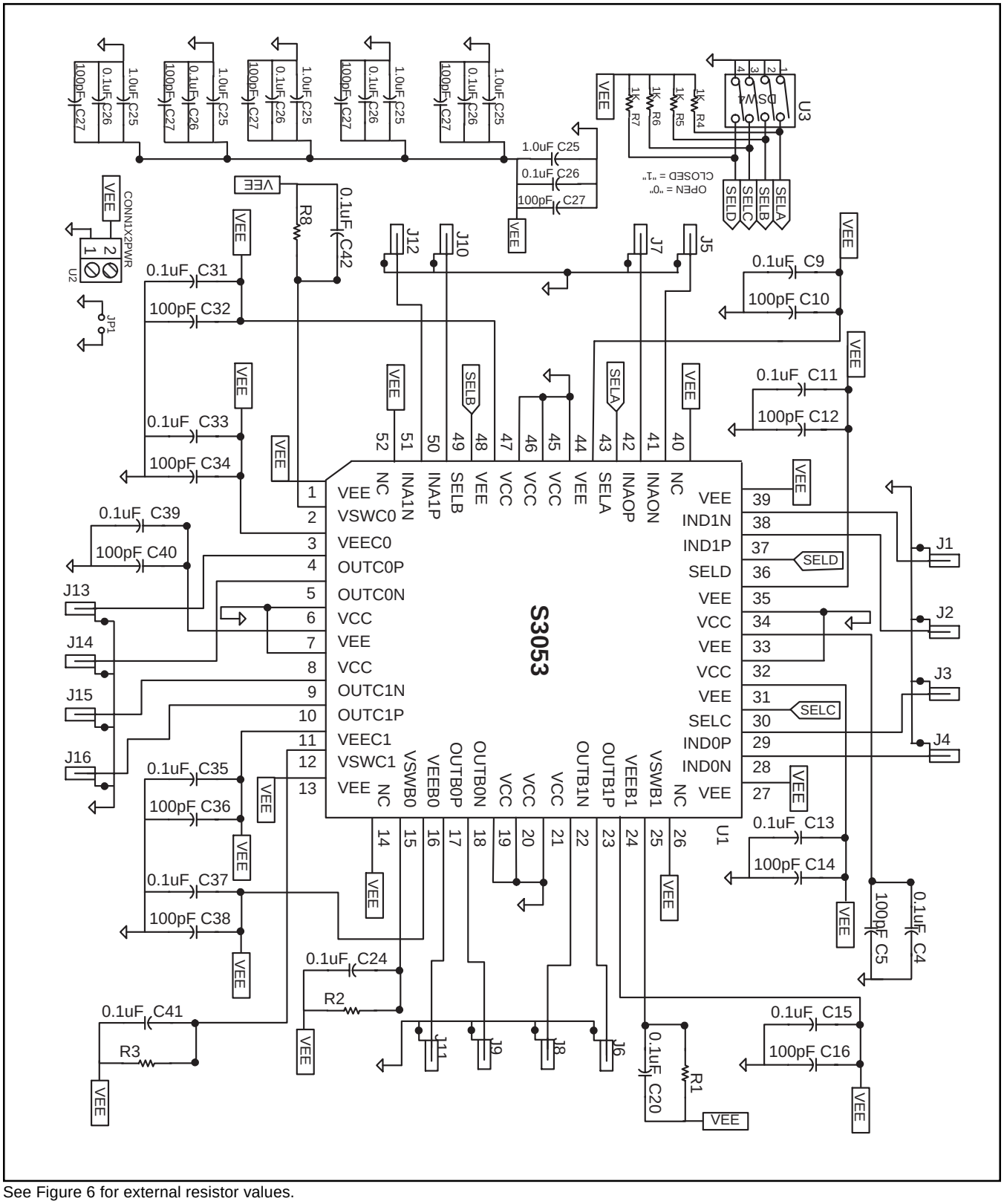
Figure 4. S3053 Schematic



See Figure 6 for external resistor values.

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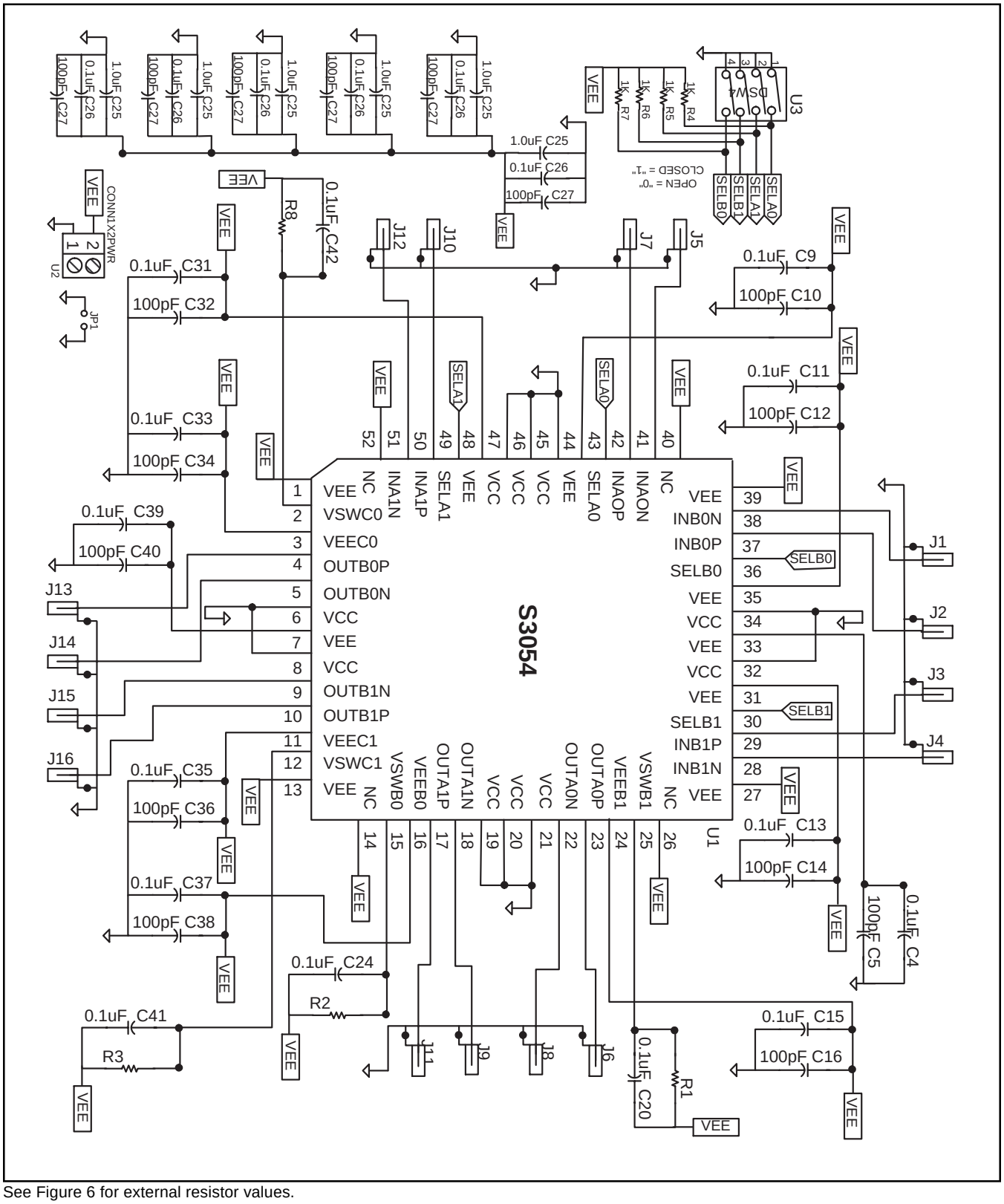
Figure 5. S3054 Schematic



See Figure 6 for external resistor values.

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Figure 6. Typical Single-Ended Voltage Swing vs. Rext. and Temperature

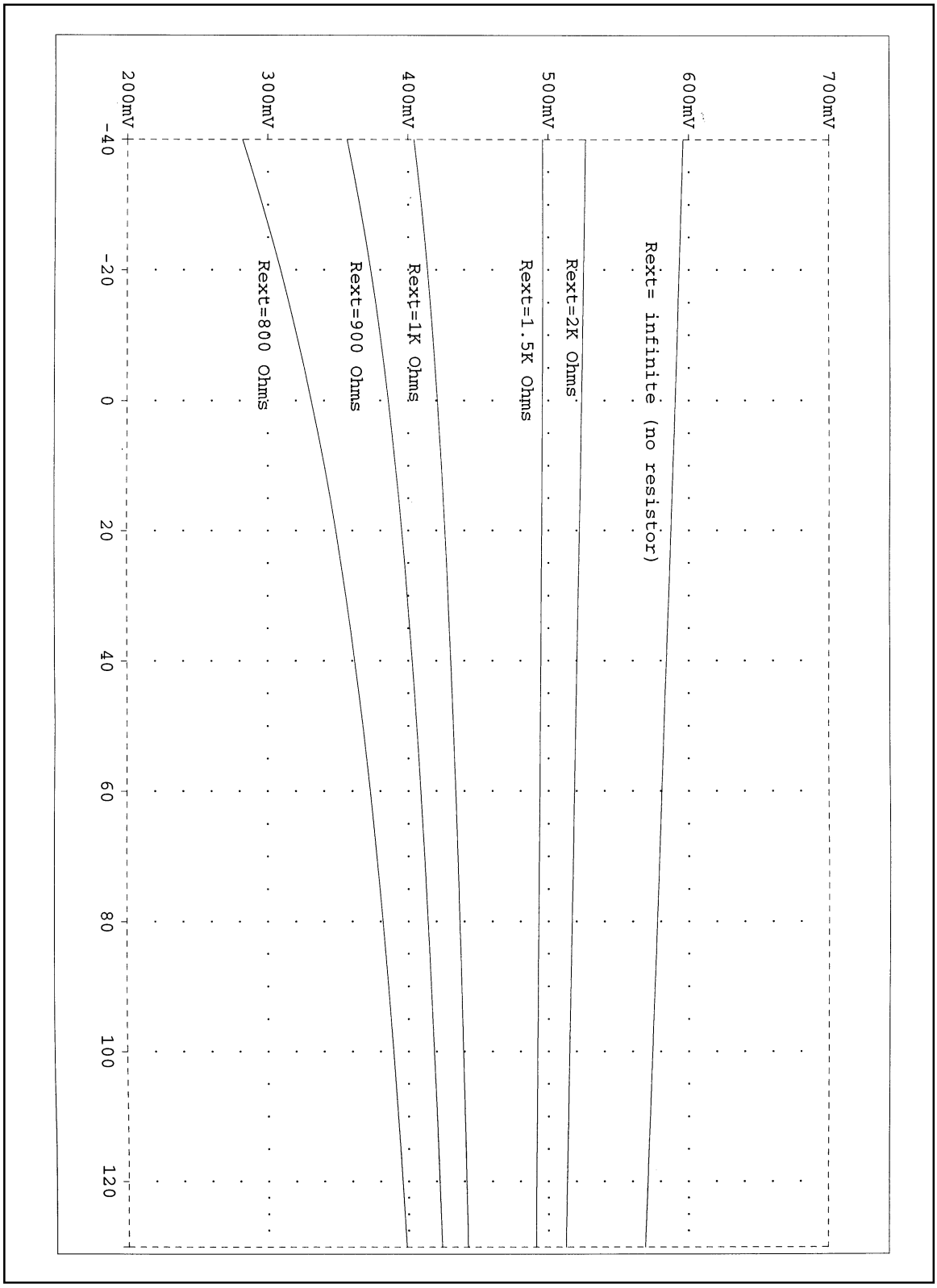

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Figure 7 depicts how the S3053/54 Evaluation Board can be connected for BER measurements and shows the setup for rise/fall time, propagation delay, jitter transfer and eye opening measurements.

Figure 7. S3053/54 Test Setup

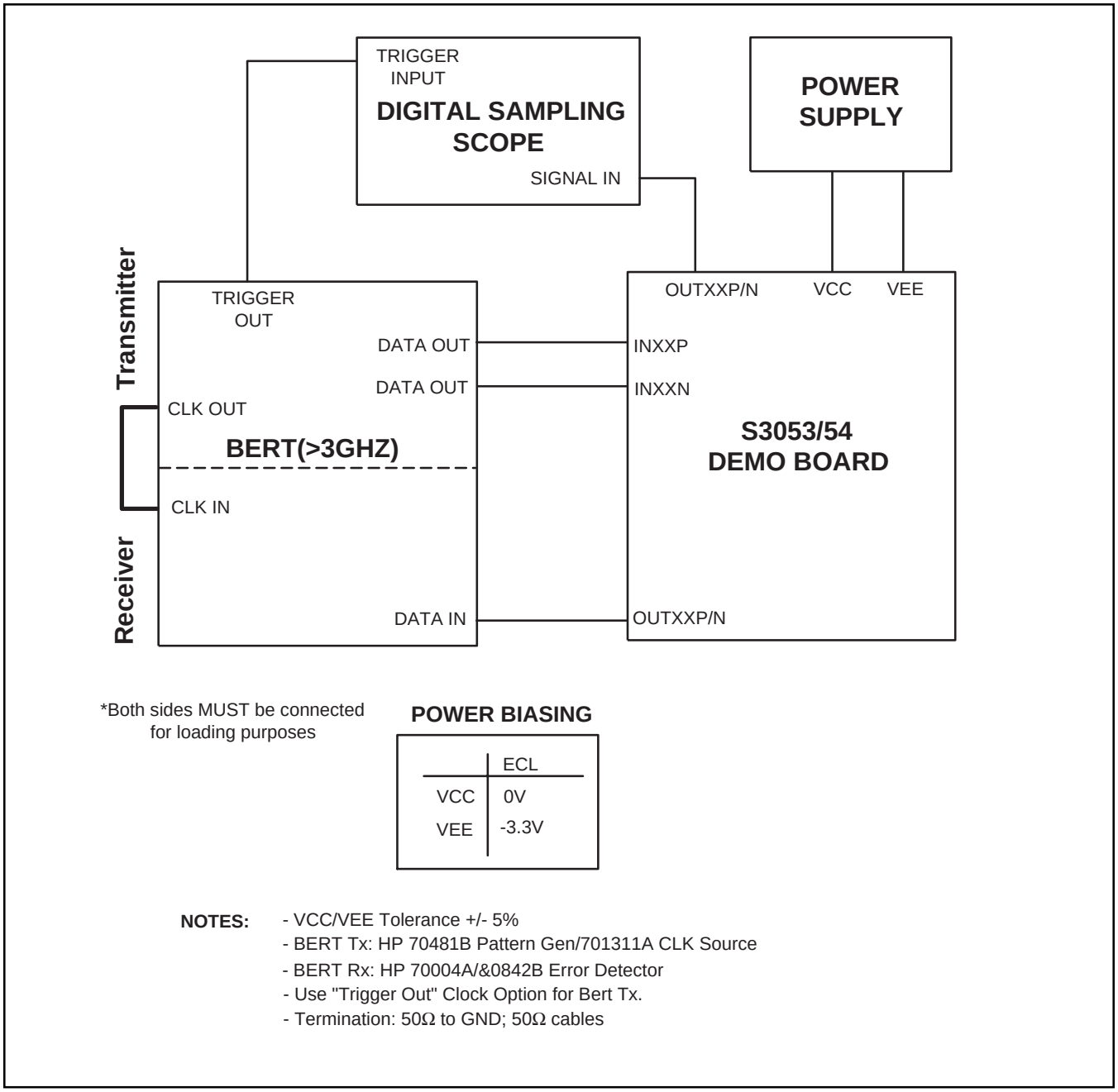

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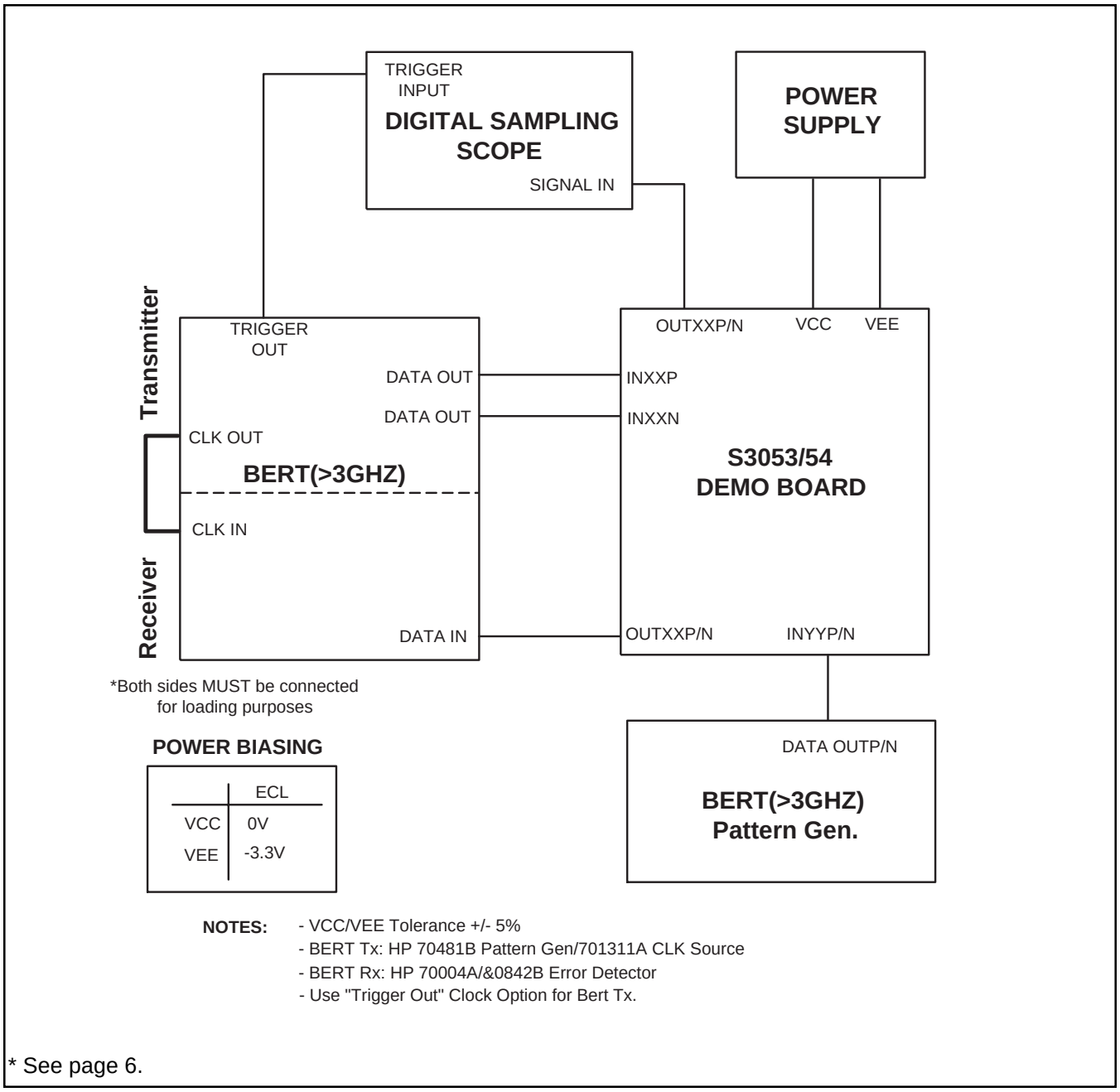
Figure 8 depicts how the S3053/54 Evaluation Board can be connected for CROSSTALK measurement.

Figure 8. S3053/54 Test Setup



* See page 6.

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SMA CONNECTORS

SMA connectors are provided for the input/output signals.

S3053

INA0P/N, INA1P/N — Differential inputs to the multiplexor.
IND0P/N, IND1P/N — Differential inputs to the multiplexor.
All inputs must be driven to high or low state.

SELA — A Low level selects INA0P/N.
SELA — A High level selects INA1P/N
SELD — A Low level selects IND0P/N.
SELD— A High level selects IND1P/N.

SELB — A Low level selects MUX A output. (See Figure 2.)
SELB — A High level selects MUX D output.
SELC — A Low level selects MUX A output.
SELC — A High level selects MUX D output.

OUTB0P/N, OUTB1P/N — Serial output from MUX B. (See Figure 3.)
OUTC0P/N, OUTC1P/N — Serial output from MUX C.

S3054

INA0P/N, INB0P/N — Differential inputs.
INA1P/N, INB1P/N — Differential inputs.
All inputs must be driven to high or low state.

SELA0 — A Low level selects INA0P/N.
SELA0 — A High level selects INA1P/N.
SELA1 — A Low level selects INA0P/N.
SELA1 — A High level selects INA1P/N.
SELB0 — A Low level selects INB0P/N.
SELB0 — A High level selects INB1P/N.
SELB1 — A Low level selects INB0P/N.
SELB1 — A High level selects INB1P/N.

OUTA0P/N — Channel A0 serial output.
OUTA1P/N — Channel A1 serial output.
OUTBOP/N — Channel B0 Serial output.
OUTB1P/N — Channel B1 serial output.

DIP SWITCHES

The Evaluation Board is equipped with a DIP switch, to control the static control functions of the on-board devices. For both arrays the OFF (open = “0”) condition of the DIP switch asserts a logic low on the assigned signal, and the ON (closed = “1”) condition asserts a logic high.

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Figures 9 through 13 show the layout of the S3053/54 Evaluation Board.

Figure 9.

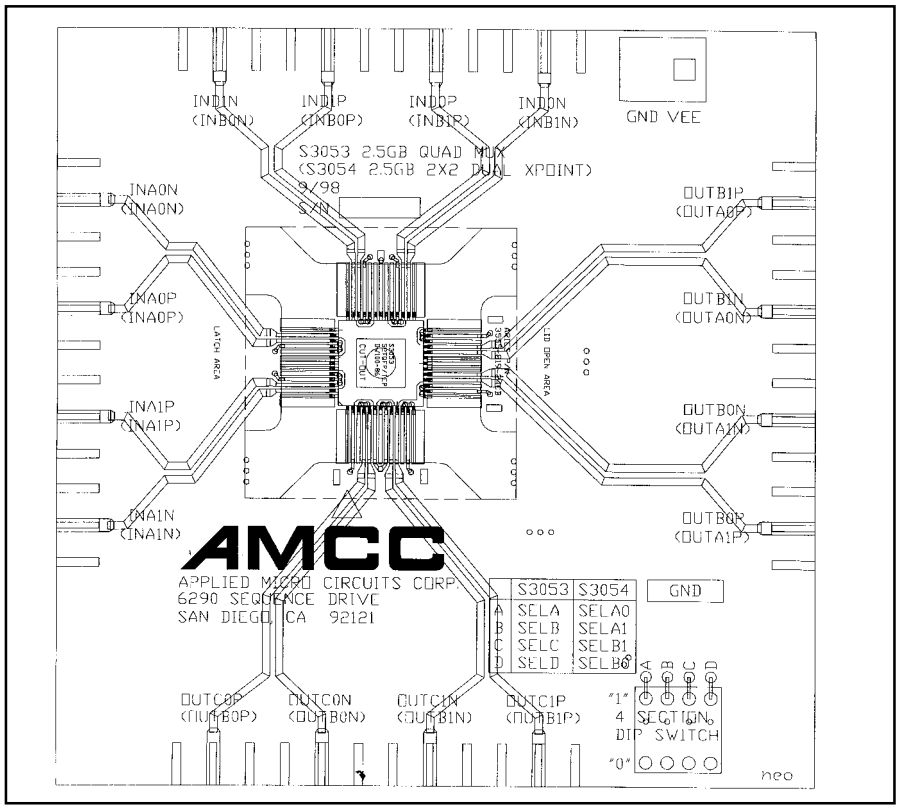

Figure 10.

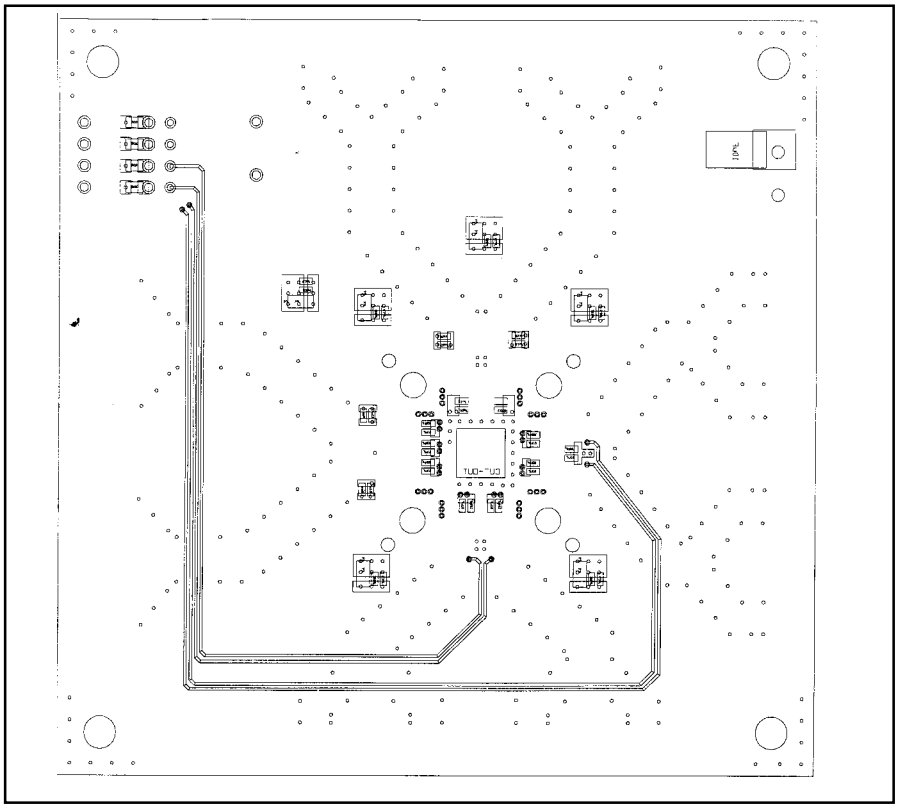

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Figure 11.

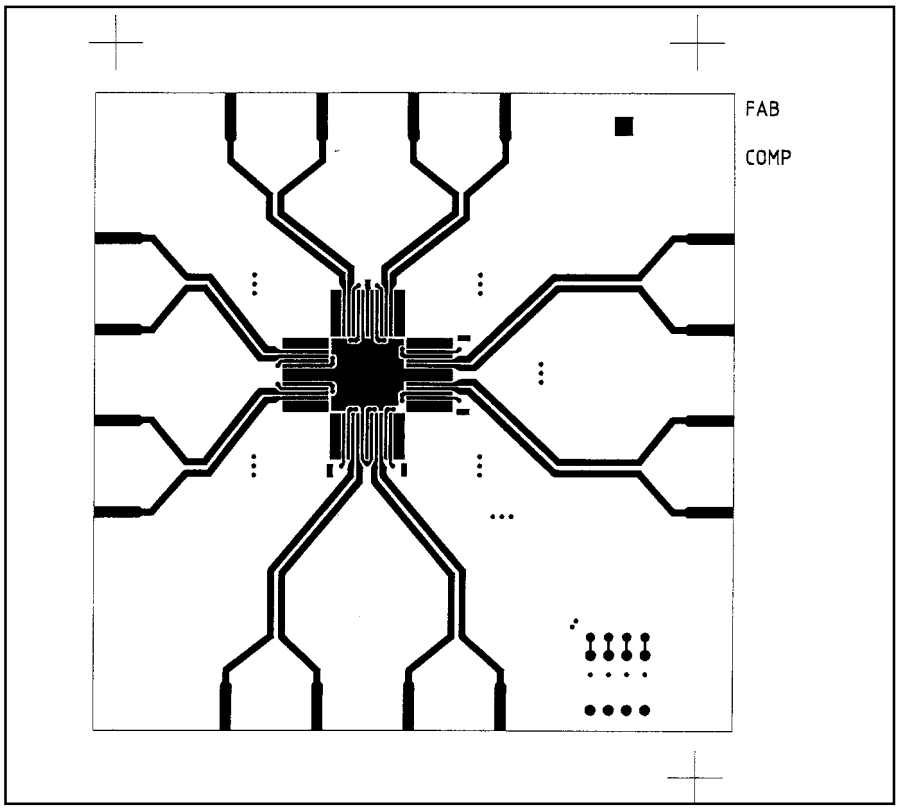

Figure 12.

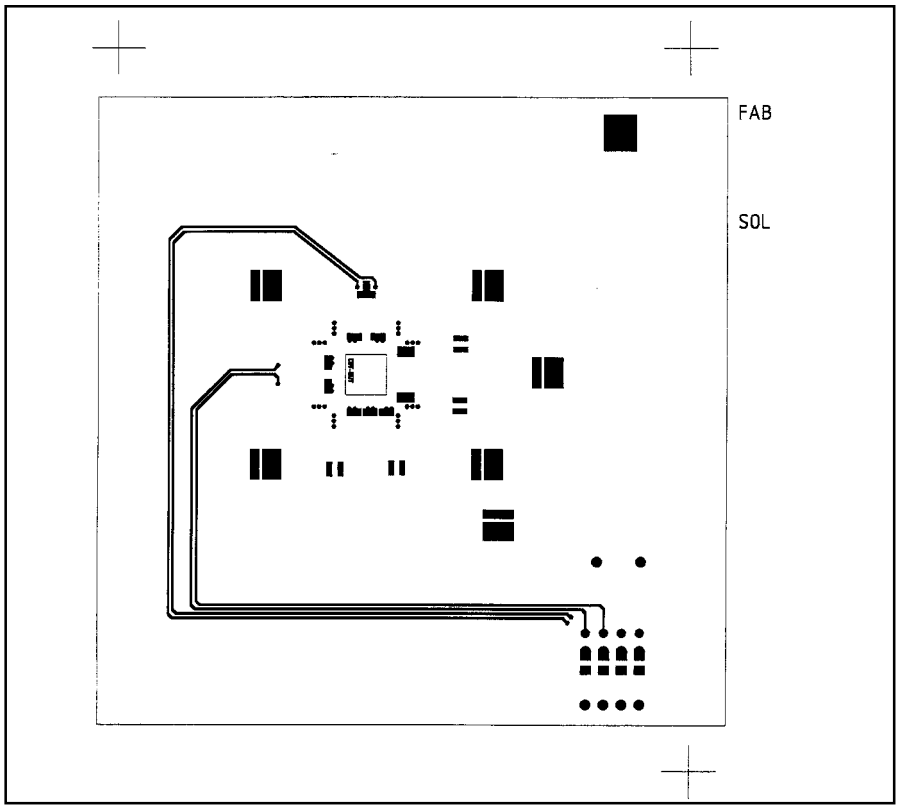

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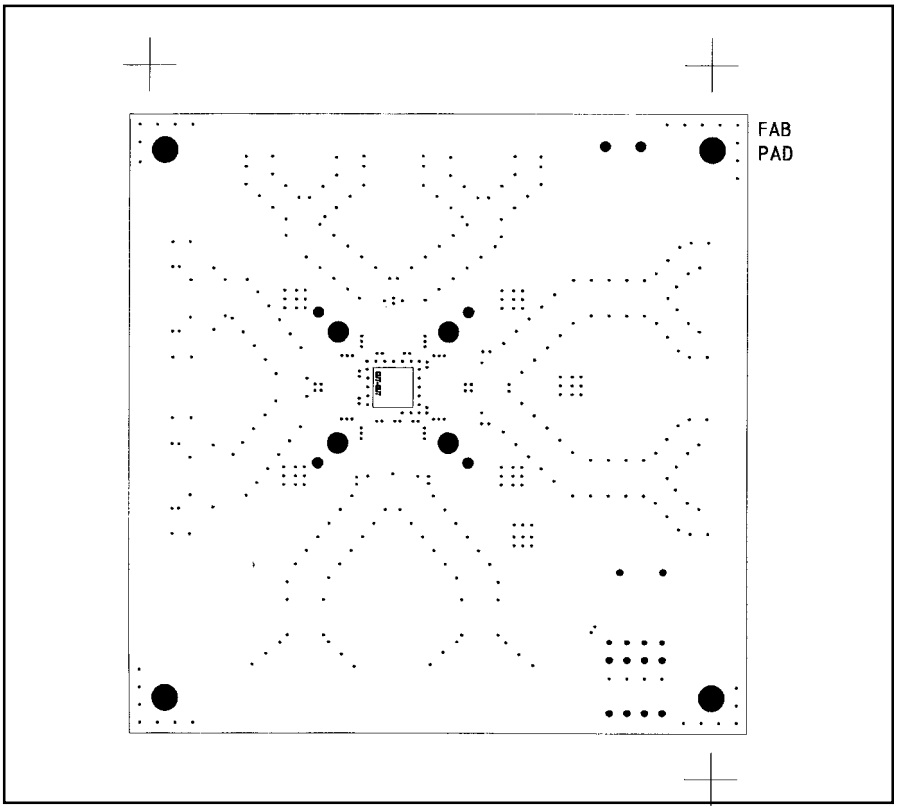
Figure 13.



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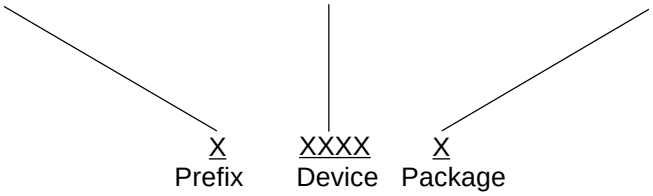
Ordering Information

PREFIX	DEVICE	PACKAGE
EV – Evaluation Board	3053/54	TT – TQFP/TEP



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