19-2681; Rev 0; 10/02

MAXIM

MAX3785 Evaluation Kit

Evaluates: MAX3785

General Description

The MAX3785 evaluation kit (EV kit) simplifies evaluation of the MAX3785 6.25Gbps equalizer. The EV kit enables testing of all device functions. SMA connectors with 50Ω controlled impedance to the MAX3785 are provided for all input and output ports to facilitate connection to high-speed test equipment.

Features

- **SMA Connectors for All High-Speed Inputs and Outputs**
- **Fully Assembled and Tested**
- **Calibration Test Strip**

Component Suppliers

SUPPLIER	PHONE	FAX
AVX	843-444-2863	843-626-3123
Coilcraft	847-639-6400	847-639-1469
Murata	415-964-6321	415-964-8165

Note: *Please indicate that you are using the MAX3785 when contacting these component suppliers.*

Ordering Information

PART	TEMP RANGE	PIN-PACKAGE
MAX3785EVKIT	0°C to +85°C	6 UCSP

Component List

DESIGNATION	QTY	DESCRIPTION
C1	1	33µF ±10% tantalum capacitor, case B AVX TAJB336M010R
C2, C3	2	0.1µF ±10%, 10V ceramic capacitors (0402)
J1, J2	2	Test points Digi-Key 5000K-ND
J3–J8	6	SMA connectors, edge mount, tab contacts EFJohnson 142-0701-851
L1	1	4.7µH inductor Coilcraft 1008CT-040XJBC
U1	1	MAX3785UBL
None	1	MAX3785 evaluation circuit board, rev A
None	1	MAX3785 data sheet

Quick Start

1) Connect a +1.8V power supply to J1 (V_{CC}). Connect the power supply ground to J2.
2) Connect DC-blocking capacitors or bias T networks to IN+ and IN- inputs. Then connect a differential signal from 400mV_{P-P} to 1600mV_{P-P} to the inputs using 50Ω cables. If not using DC-blocking capacitors, then the high level for each input signal must be V_{CC}.

   Warning: The SMA connectors are directly connected to the chip's inputs and outputs. To avoid damage to laboratory equipment or device, always use DC-blocking capacitors or bias T networks.
3) Connect DC-blocking capacitors or bias T networks to OUT+ and OUT- outputs. Then connect signals from the DC-blocking capacitors to an oscilloscope with 50Ω input terminations.
4) At the signal source, start with a short, simple pattern such as a 2^7 - 1 PRBS. The data rate can be 1Gbps to 6.4Gbps.
5) **Evaluation:** After the EV kit has been initially checked out, evaluation can begin with a FR4 PC board. Start with a board length of 20in and progress to longer lengths. For data rates of 3.2Gbps and slower, the part equalizes board lengths up to 40in. For data rates of 6.4Gbps and slower, the part equalizes board lengths up to 30in. When connecting the equalizer with the board, keep the cables from the board to the equalizer as short as possible.

For pricing, delivery, and ordering information, please contact Maxim/Dallas Direct! at 1-888-629-4642, or visit Maxim's website at www.maxim-ic.com.

MAX3785 Evaluation Kit

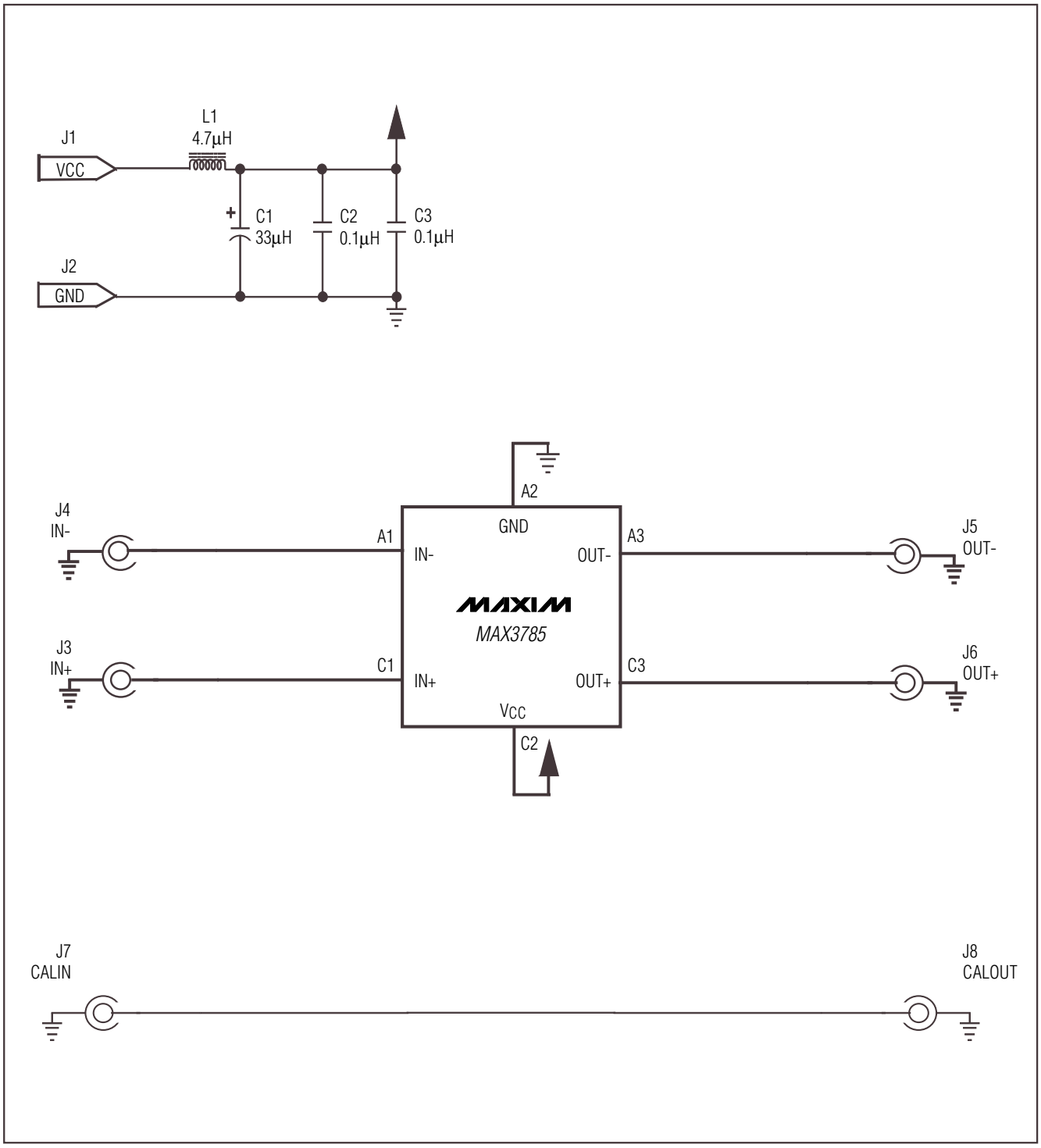


Figure 1. MAX3785 EV Kit Schematic

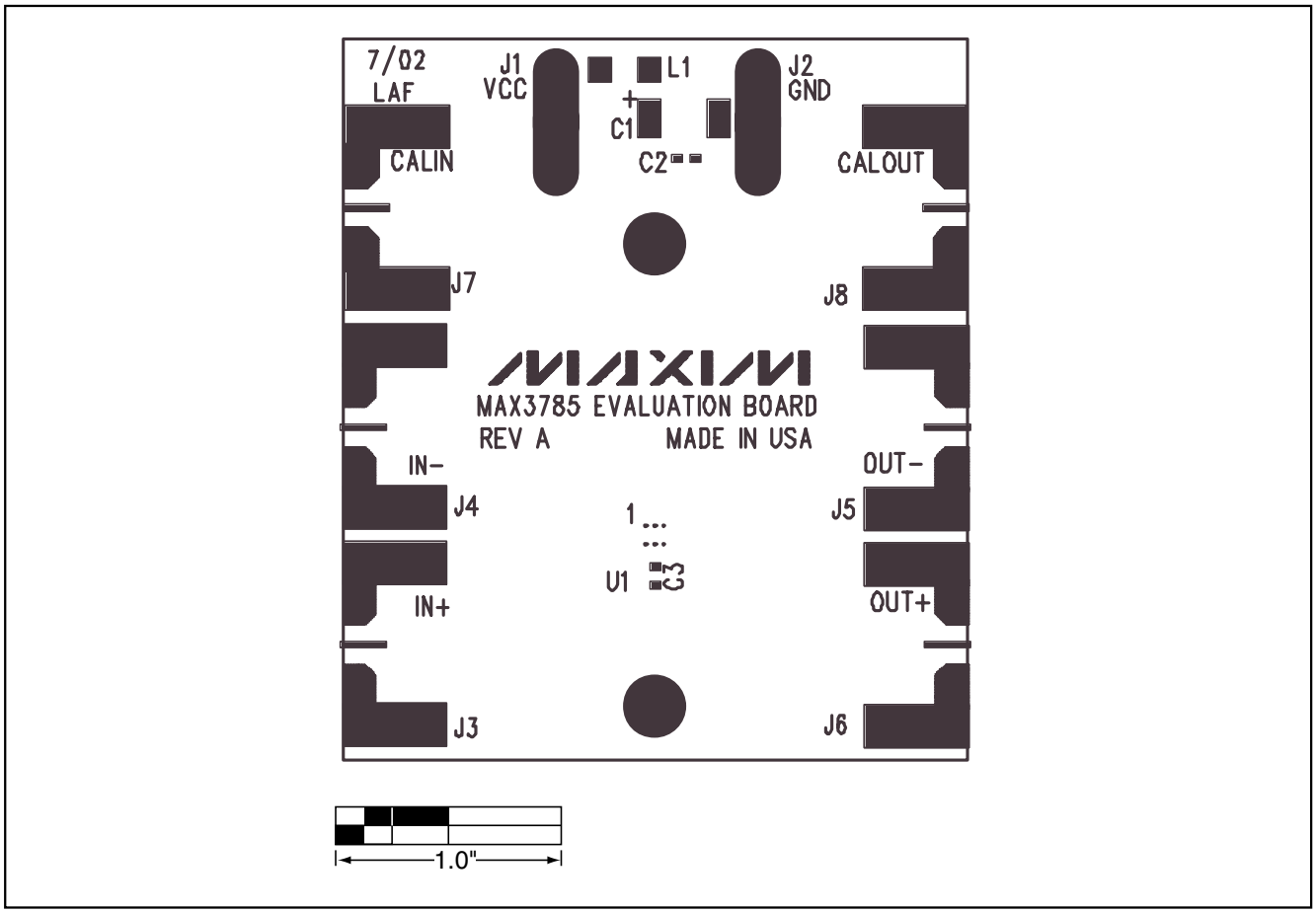


Figure 2. MAX3785 EV Kit Component Placement Guide

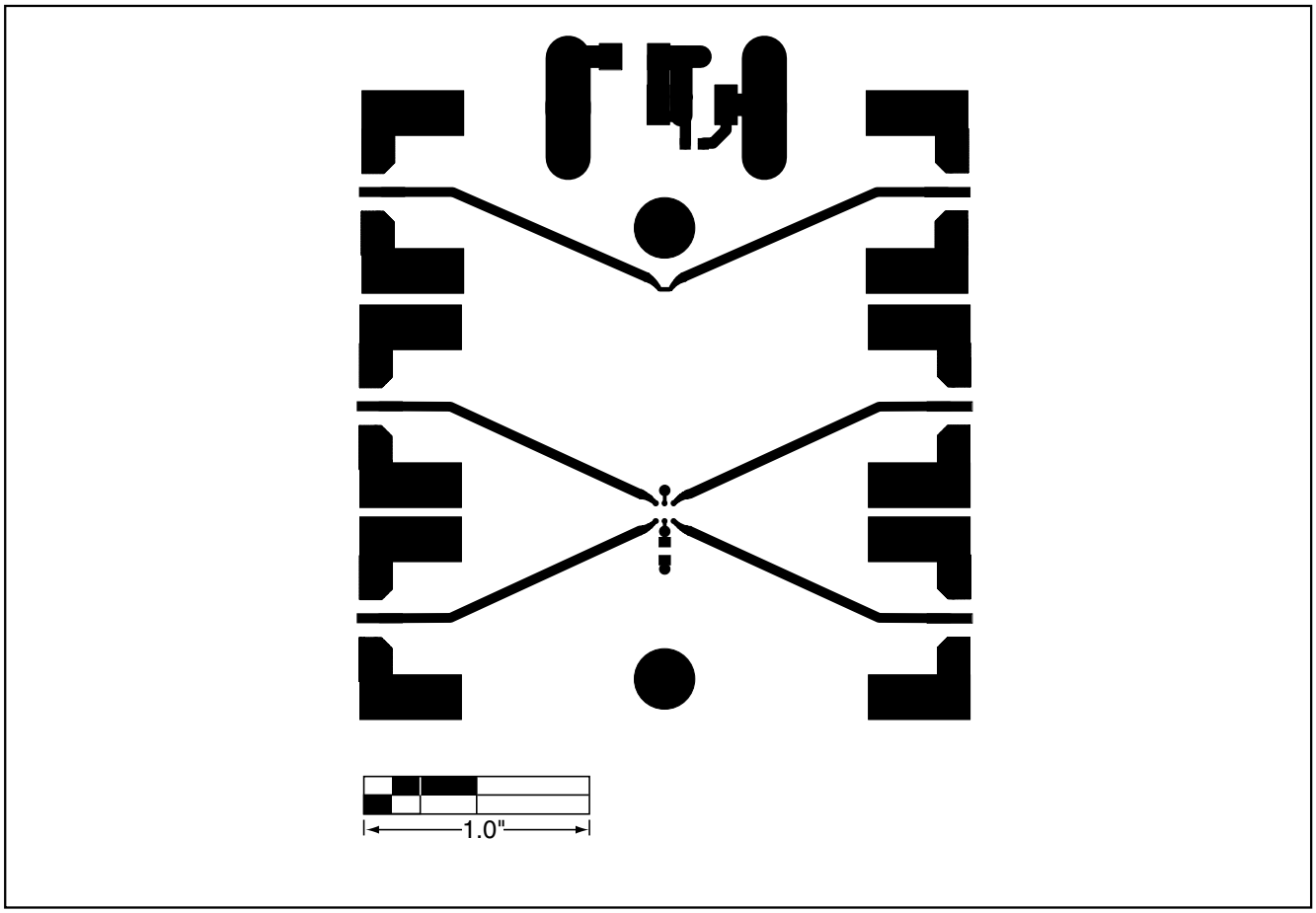


Figure 3. MAX3785 EV Kit PC Board Layout—Component Side

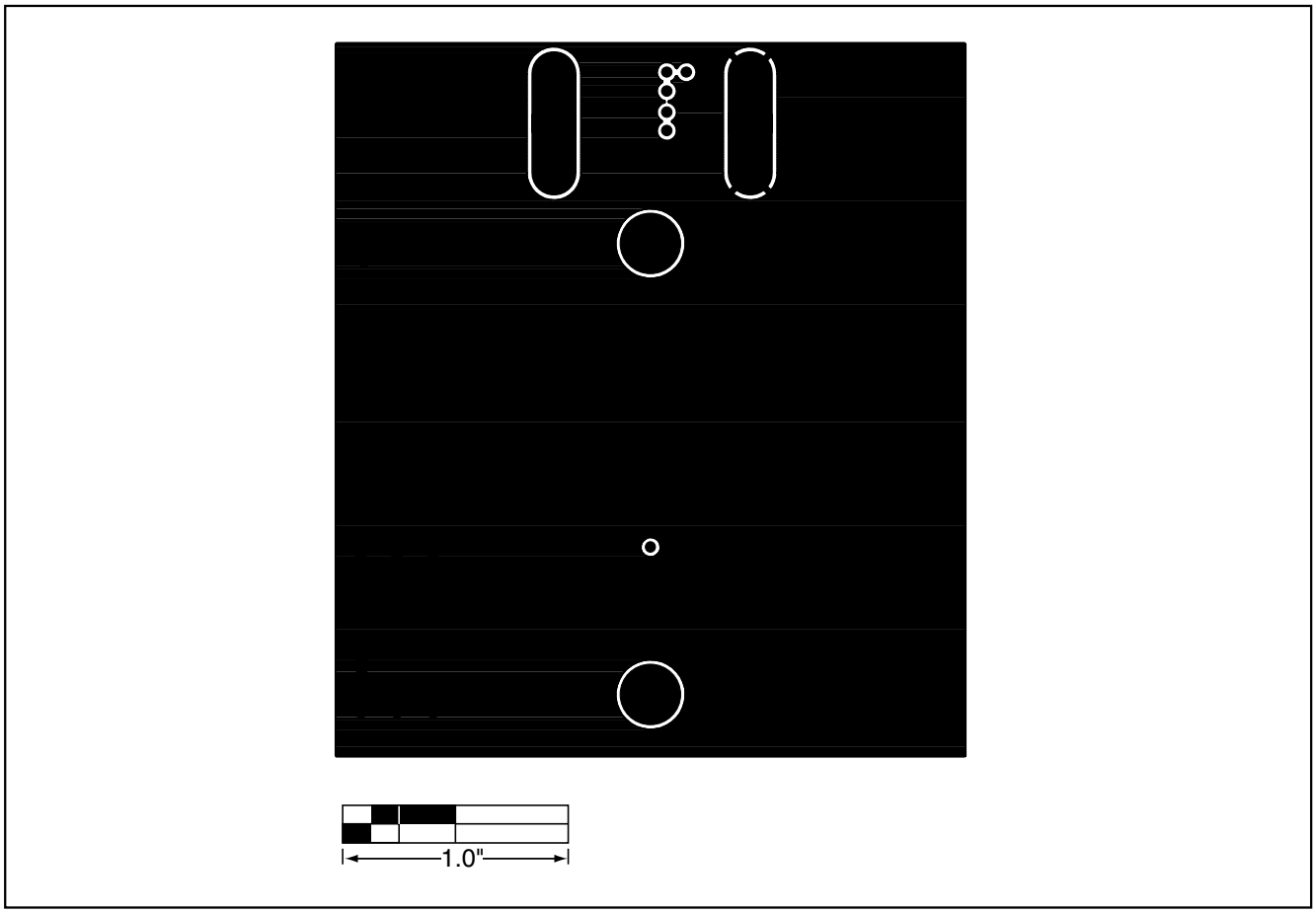


Figure 4. MAX3785 EV Kit PC Board Layout—Ground Plane

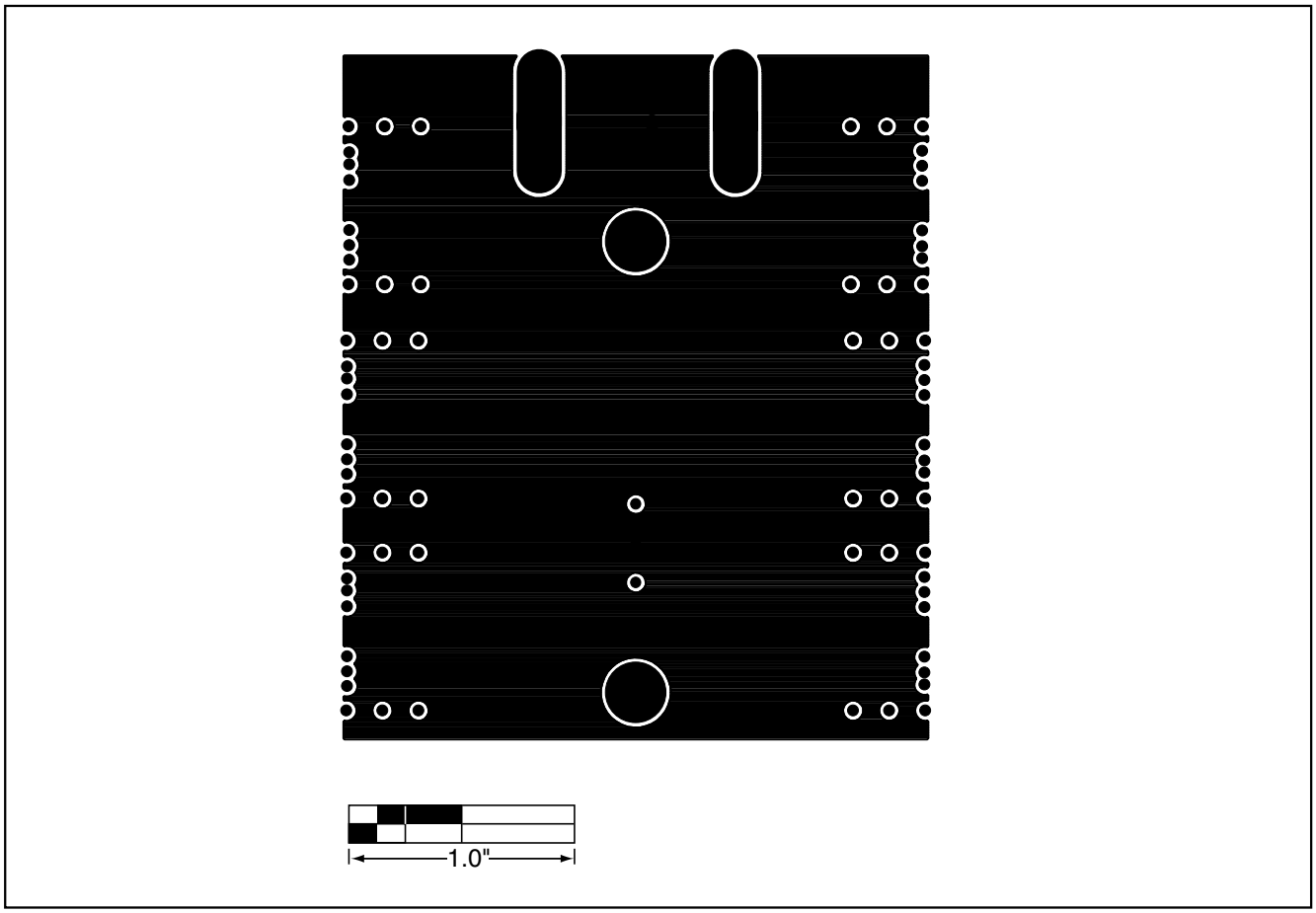


Figure 5. MAX3785 EV Kit PC Board Layout—Power Plane

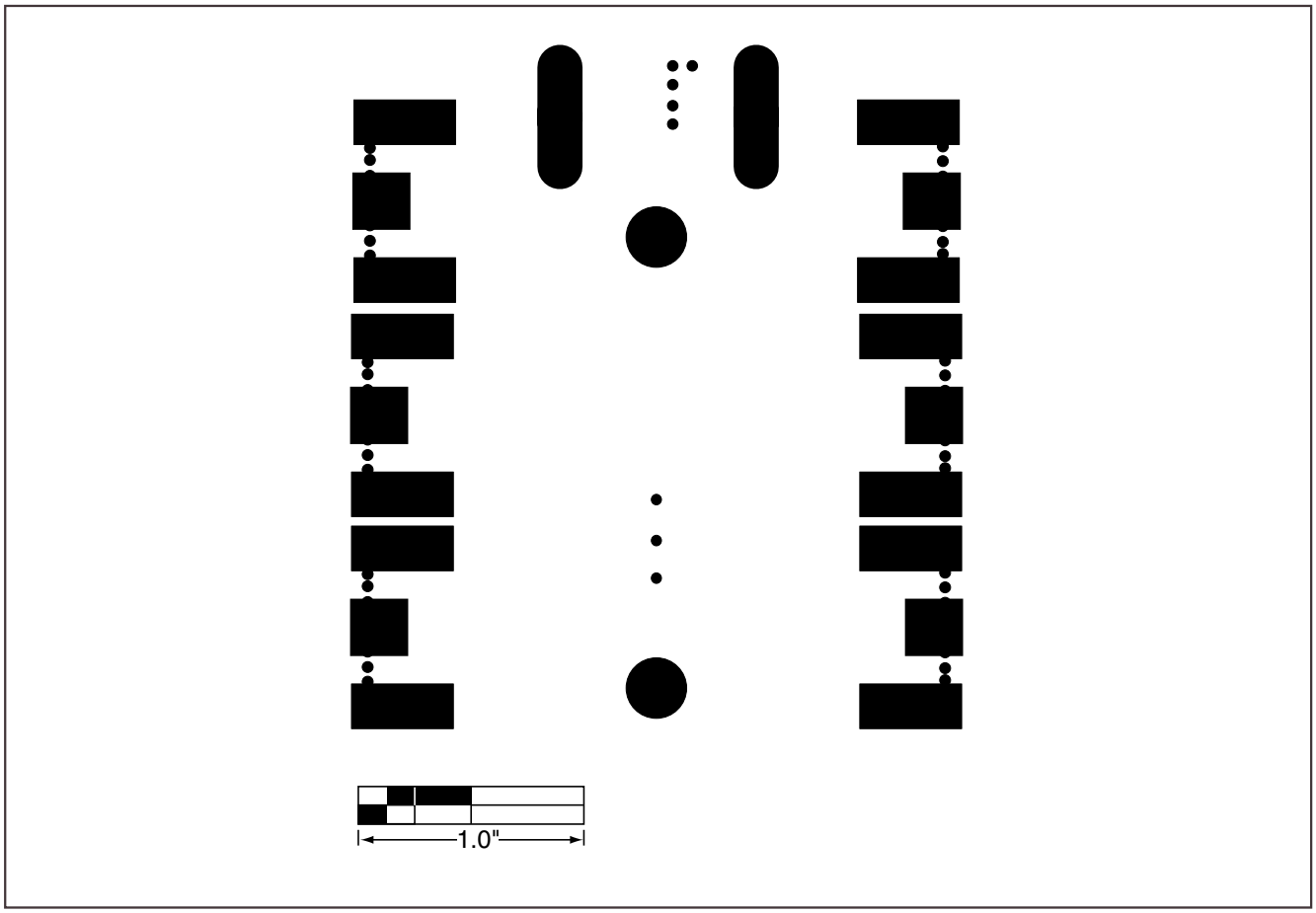


Figure 6. MAX3785 EV Kit PC Board Layout—Bottom Side

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