MAX21000 Evaluation Board Adapter

Evaluates: MAX21000

General Description

The MAX21000 evaluation board (EV board) adapter provides the hardware necessary to easily connect the MAX21000 ultra-accurate, low-power, 3-axis digital output gyroscope to an existing system.

The EV board includes a MAX21000 installed on a removable PCB, an LDO regulator, and jumpers.

A USB pen is provided with the EV board that contains the schematics and C library file to easily integrate the device into the system.

***Ordering Information* appears at end of data sheet.**

Features

- Easy Evaluation of the MAX21000 in an Existing System
- All Device Pins are Available on a Connector
- On-Board LDO that Can be Used for Voltage Regulation
- C Library Available
- RoHS Compliant
- Proven PCB Layout
- Fully Assembled and Tested

EV Kit Contents

- Assembled Circuit Board Including:
  - MAX21000 gyroscope
  - USB pen with C library

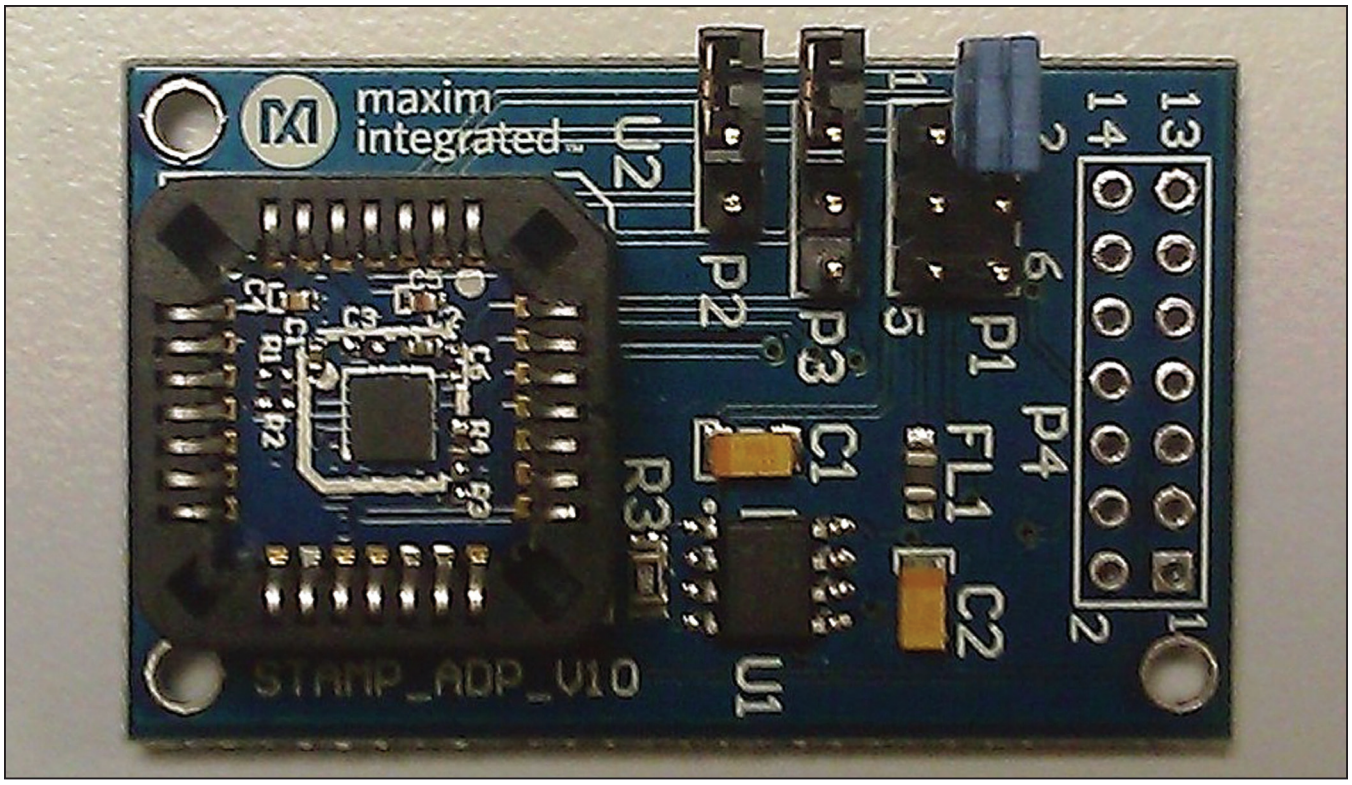

Figure 1. MAX21000 EV Board Photo

maxim integrated™

Component List

DESIGNATION	QTY	DESCRIPTION
C1, C2	2	10µF, 10V polarized tantalum capacitors (1206) AVX (Farnell) TAJA106M010RNJ
FL1	1	10Ω SMD EMI suppression ferrite beads, WE-CBF Würth (Farnell) 742792011
P1	1	6-pin (2 x 3) header
P2	1	2-pin header
P3	1	3-pin header
P4	1	14-pin (2 x 7) header

DESIGNATION	QTY	DESCRIPTION
R1, R2	2	1kΩ resistors
R3	1	100kΩ resistor
RS1	1	0Ω resistor
RS2	0	Not installed, resistor
U1	1	5V/3.3V or adjustable, low-dropout, low-I_Q, 500mA linear regulator Maxim MAX604
U2	1	General-purpose adapter for STAMP board (STAMP_AIC_V10) Maxim MAX21000

Component Suppliers

SUPPLIER	PHONE	WEBSITE
AVX Corporation	843-946-0238	www.avx.com
Würth Electronik GmgH & Co. KG	201-785-8800	www.we-online.com

Note: *Indicate that you are using the MAX21000 when contacting these component suppliers.*

Quick Start

Required Equipment

- MAX21000 EV board adapter
- System able to communicate through the I²C or SPI interface
- 1.8V to 5V power supply

Procedure

The EV kit is fully assembled and tested. Follow the steps below to verify board operation:

1) Using connector P4, connect to SPI or I²C. If I²C is used, the P2 and P3 jumpers must be inserted.
2) Supply the EV board adapter through the P4 connector, providing directly V_{DD_CONN} and V_{DD_IO}.
3) Set the P1 jumper for the desired supply to V_{DD_CORE}.
4) Set the value of V_{DD_CONN} and V_{DD_IO} accordingly to the P1 jumper.
5) The device is now able to communicate with the system.

Jumper Descriptions

P1 Jumper

The P1 jumper is used to set the supply to V_{DD_CORE} and V_{DD_IO} (see Table 1 for P1 jumper settings).

P2 Jumper

The P2 jumper is used to set the CS pin if the I²C interface is used (see Table 2 for P2 jumper settings).

P3 Jumper

The P3 jumper is used to set the SA0 pin if the I²C interface is used. This changes the last bit of the slave address for I²C protocol (see Table 3 for P3 jumper settings).

Table 1. P1 Jumper Settings

SHUNT POSITION	V_{DD_CORE}	V_{DD_IO}	V_{DD_CONN}	DESCRIPTION
1-2	V_{DD_IO}	V_{DD_IO}	—	Device's V_{DD_CORE} is connected to V_{DD_IO}, which provides the supply. V_{DD_CONN} is not used.
3-4	V_{DD_CONN}	1.71V to V_{DD_CONN}	1.71V to 3.6V	Device's V_{DD_CORE} is directly connected to V_{DD_CONN}, which provides the supply. V_{DD_CONN} must respect device specification.
5-6	V_{DD_REG}	1.71V to V_{DD_REG}	V_{DD_REG} + 1V to 5V	Device's V_{DD_CORE} is connected to V_{DD_REG}, which provides the supply. V_{DD_IO} must be ≤ V_{DD_REG}.
1-2 + 5-6	V_{DD_REG}	—	V_{DD_REG} + 1V to 5V	Device's V_{DD_CORE} and V_{DD_IO} are connected to V_{DD_REG}, which provides the supply.

Table 2. P2 Jumper Settings

SHUNT POSITION	DESCRIPTION
1-2	Device's CS pin is connected to V_{DD_IO} and forced high.

Table 3. P2 Jumper Settings

SHUNT POSITION	DESCRIPTION
1-2	Device's SA0 bit of I^2C address is set to high.
2-3	Device's SA0 bit of I^2C address is set to low.

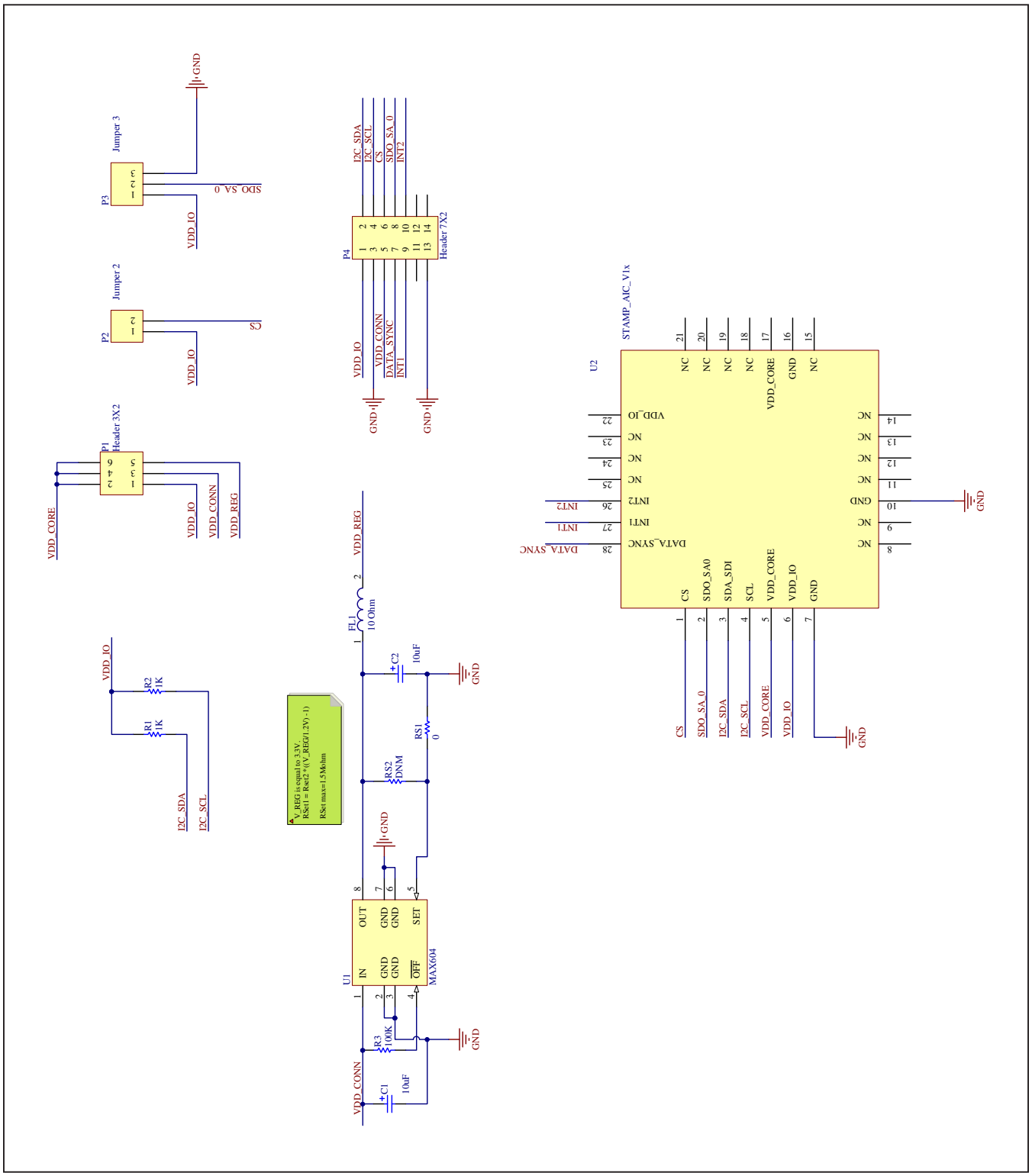

Figure 2. MAX21000 EV Board Adapter Schematic

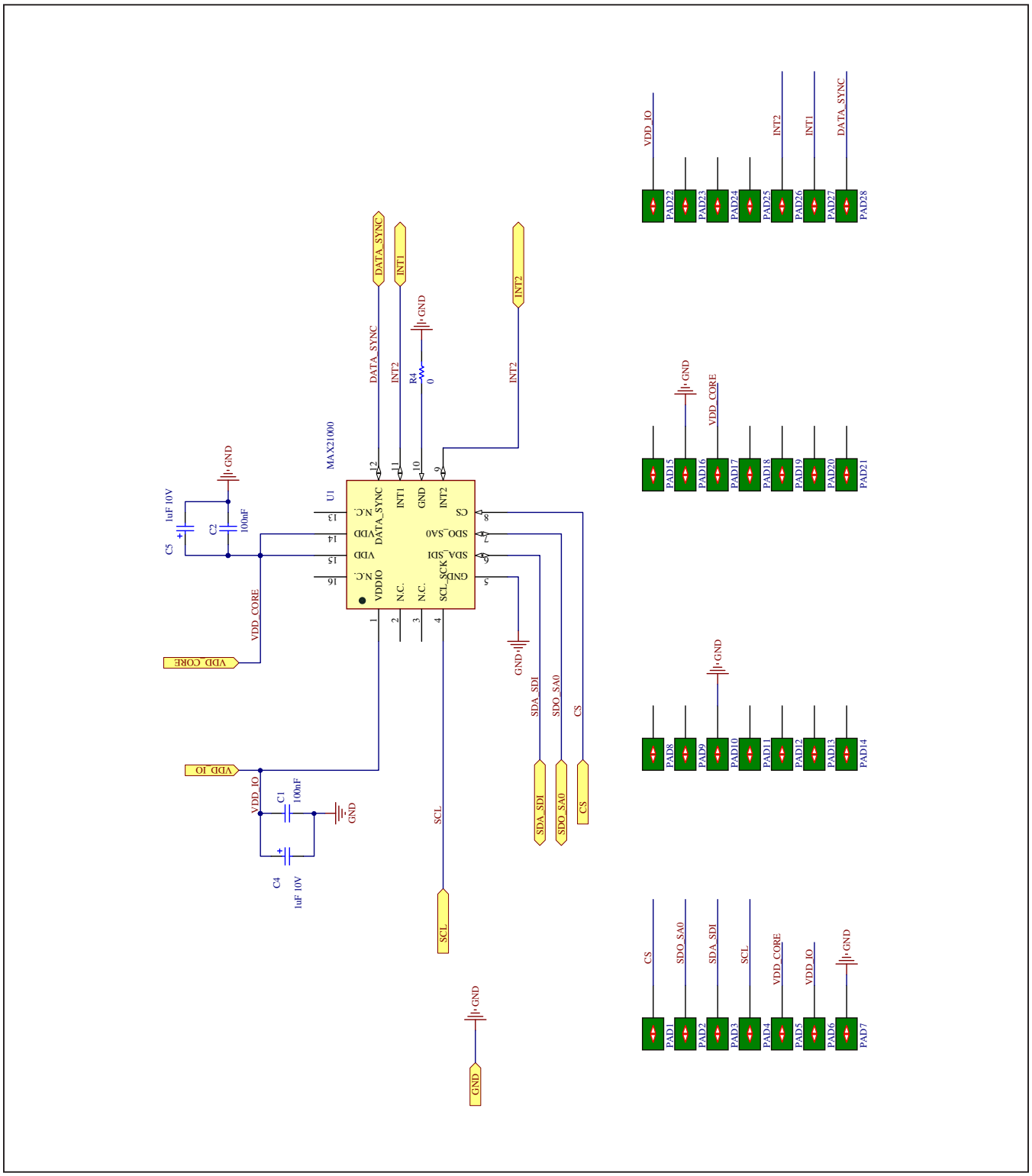

Figure 3. MAX21000 STAMP Board Adapter Schematic

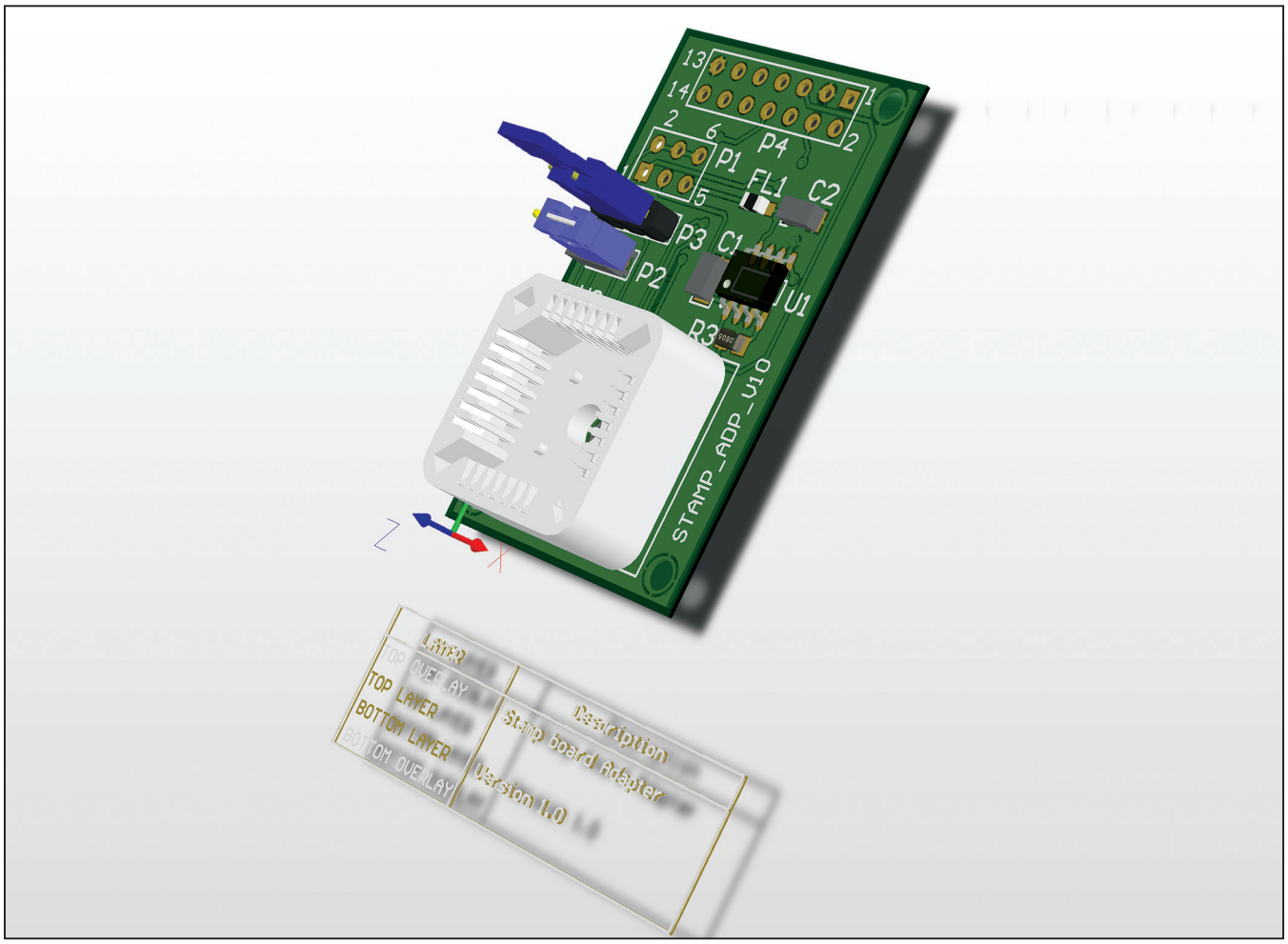

Figure 4. MAX21000 EV Board Adapter Support—3D View

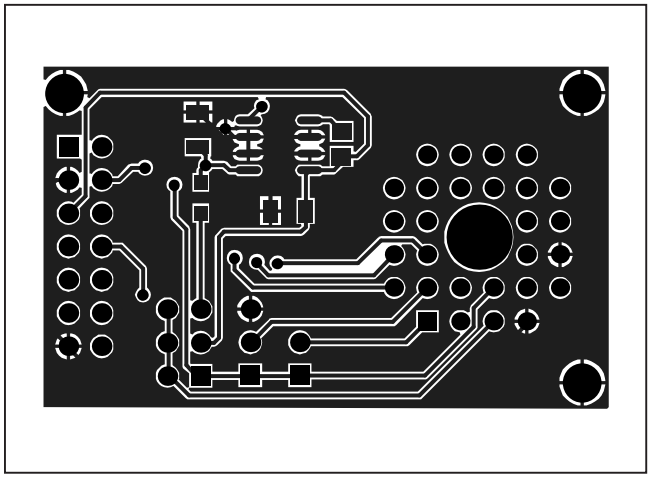

Figure 5. MAX21000 EV Board Adapter—Top View

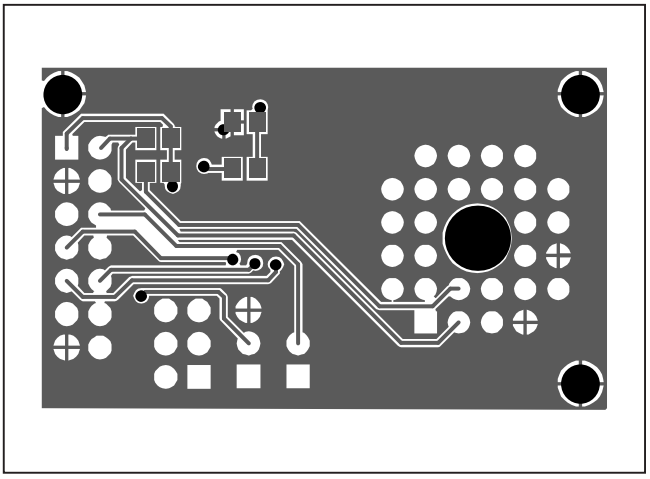

Figure 6. MAX21000 EV Board Adapter—Bottom View

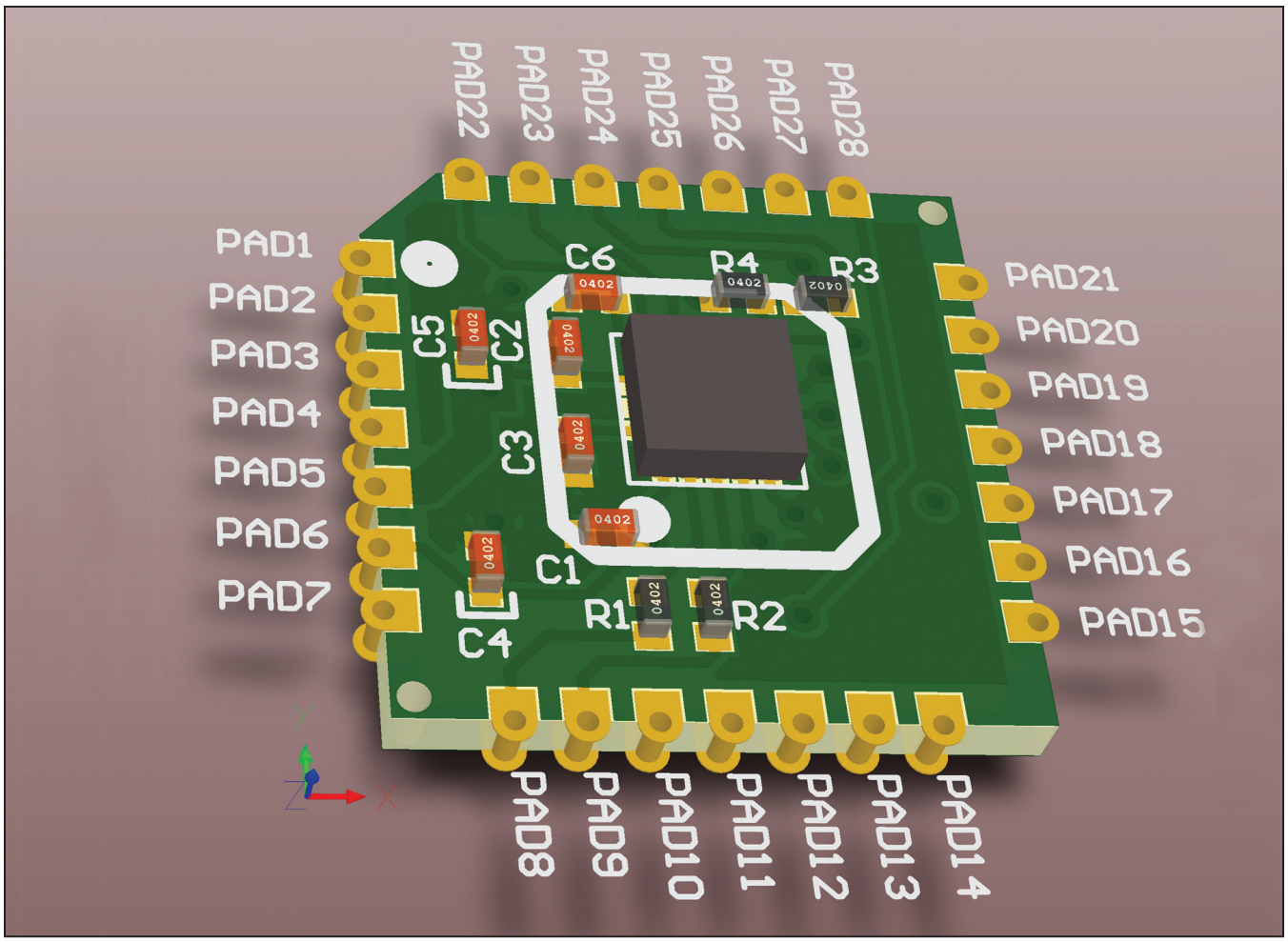

Figure 7. MAX21000 STAMP Board Adapter Support—3D View

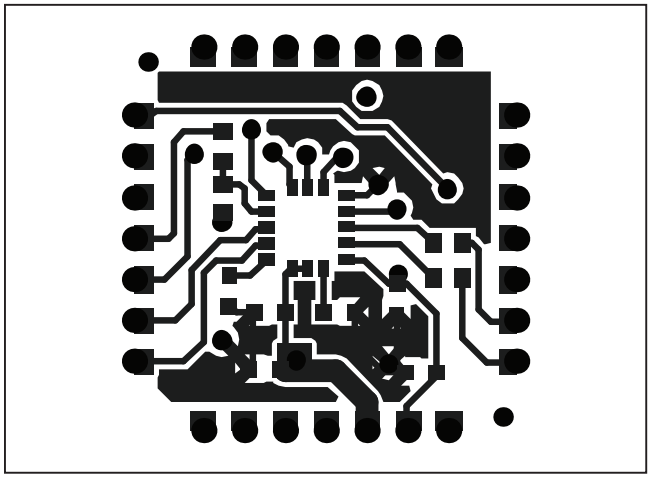

Figure 8. MAX21000 STAMP Board Adapter—Top View

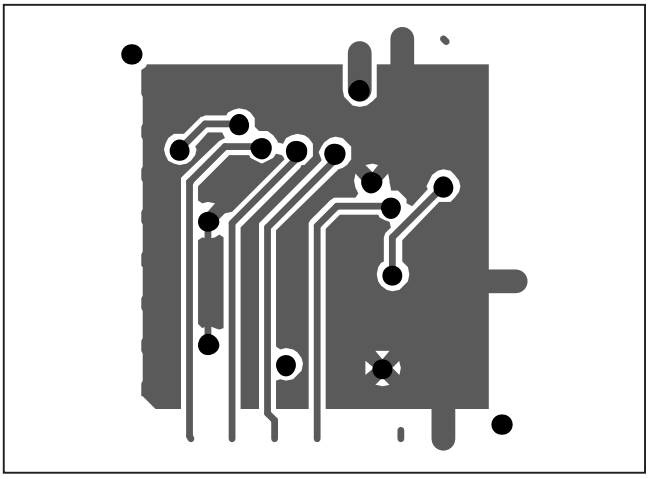

Figure 9. MAX21000 STAMP Board Adapter—Bottom View

Ordering Information

PART	TYPE
MAX21000EVBRD#	EV Board Adapter

#Denotes an RoHS-compliant device that may include lead(Pb), which is exempt under the RoHS requirements.

Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	3/13	Initial release	—

