
Overview and Instructions

1.1 INTRODUCTION

The following sections provide an overview of the MCP3421 SOT-23-6 Evaluation Board and Instruction how to use it. The following sections cover the following topics:

- What is the MCP3421 SOT-23-6 Evaluation Board?
- How to use the MCP3421 SOT-23-6 Evaluation Board

1.2 WHAT IS THE MCP3421 SOT-23-6 EVALUATION BOARD

The MCP3421 SOT-23-6 Evaluation Board contains the MCP3421 and I²C loading resistors.

The purposes of this board are as follows:

- **Easy handling of the MCP3421 device in a tiny SOT23-6 package:** The MCP3421 is available in a small SOT23-6 package. Handling of this small device package is often not easy. This board makes it easy to handle the small package device for user's device evaluations.
- **Easy check of the MCP3421 functionality by simply connecting the PCB to the system designer's target board:** Each pin of the J1 connector corresponds to the MCP3421 device pin. User can simply connect the J1 pins to their target board for a quick experiment
- **This demo board does not include MCU:** User must connect the V_{DD}, V_{SS}, inputs, SCL, and SDA to the MCP3421 device through the J1 connect pins to see the device responses.

1.3 GETTING STARTED

There are 6 pins in the J1 connector. Each pin is connected to the MCP3421 device.

[Figure 1-1](#) shows the MCP3421 SOT-23-6 Evaluation Board Printed Circuit Board (PCB).

To evaluate the function of the MCP3421 device, the user must connect the J1 pins to the user's target test board, and provide clocks and read the data through the SDA pin.

The R₁ and R₃ are the I²C pull-up load resistors for the SCL and SDA, respectively. User can replace them with their own components or remove them if their own test board has the pull-up resistors. The board also has footprints for I²C loading capacitors for test purposes. User can populate the components of their own interest.

User can evaluate the MCP3421 device when the J1 pins are properly connected the user's test board. [Figure 1-2](#) shows a waveform example of the I²C write/read commands and device responses with the conversion data. The MCP3421 supports standard mode (100 kHz), fast mode (400 kHz), and high speed mode (3.4 MHz). This demo board supports up to 400 kHz. User can replace the R₁ and R₃ with lower values (less than 1 k Ω) for the high speed mode (3.4 MHz).

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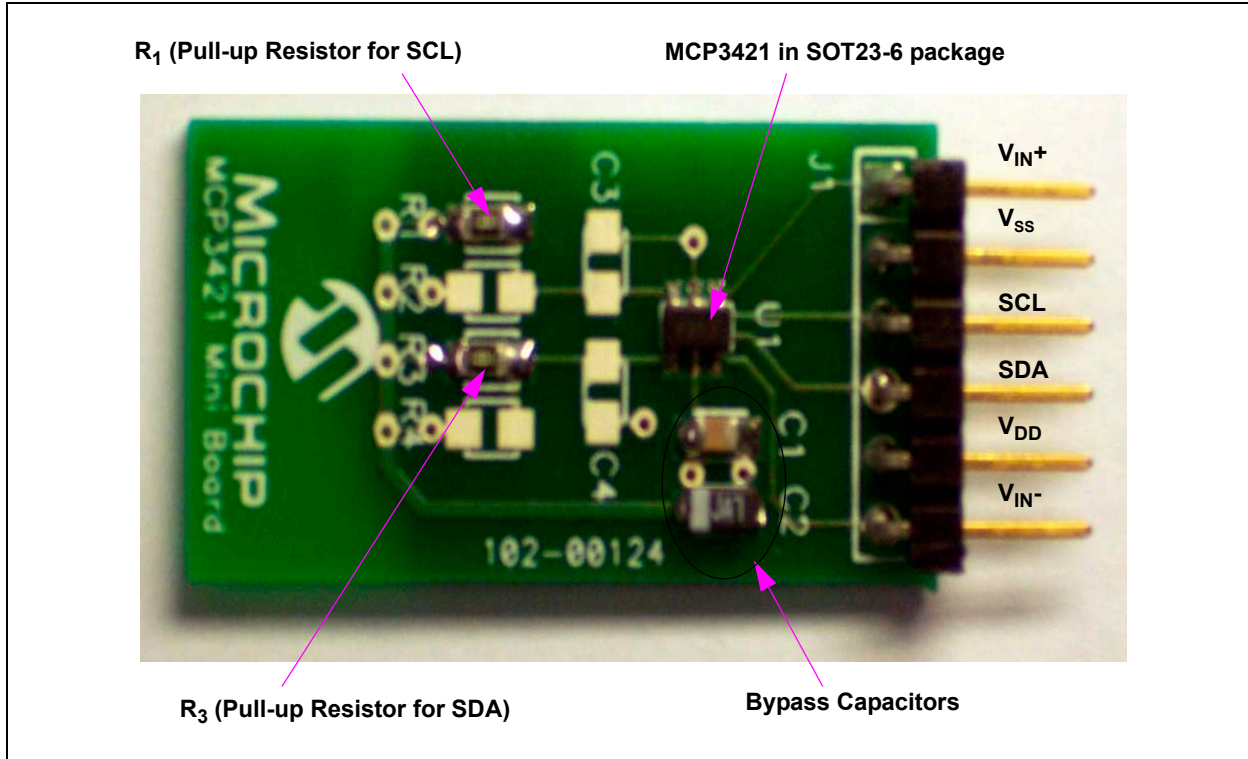


FIGURE 1-1: MCP3421 SOT-23-6 Evaluation Board.

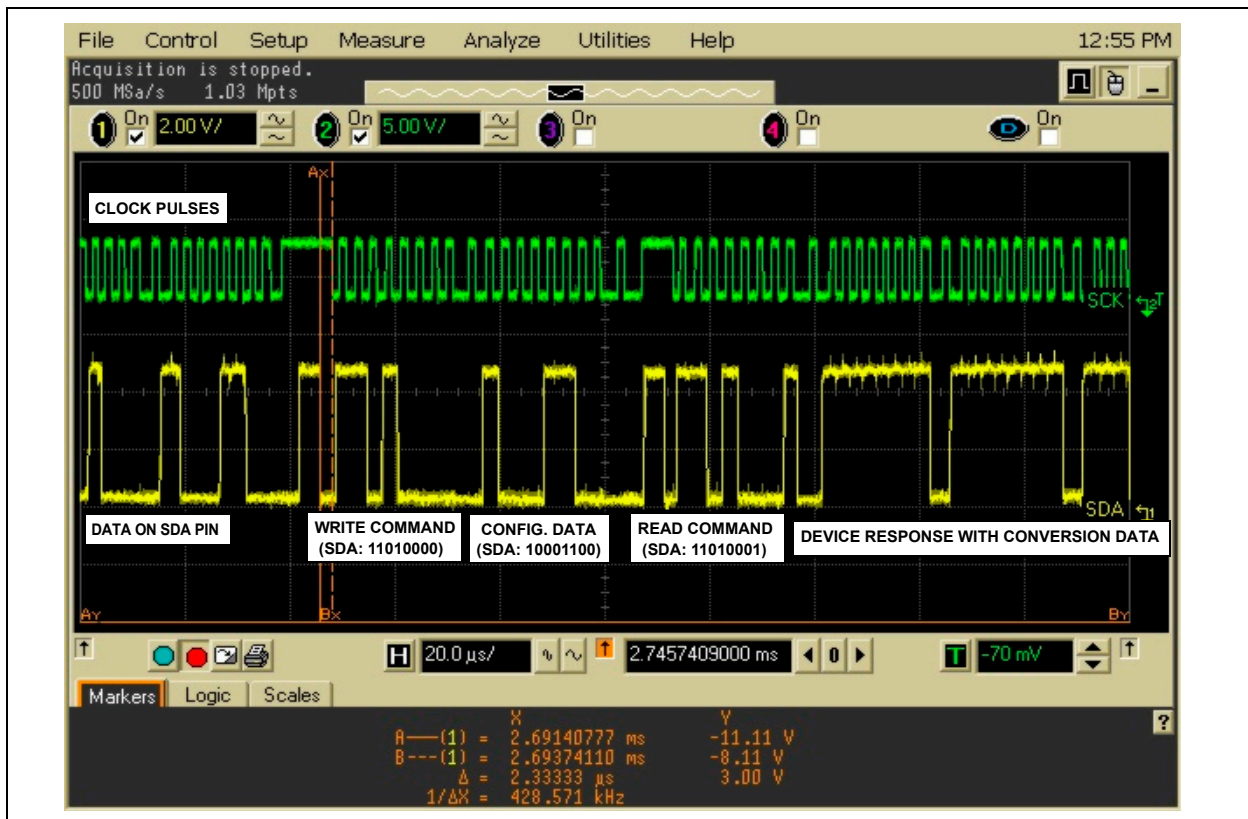


FIGURE 1-2: I²C Write/Read commands and Device response with conversion data

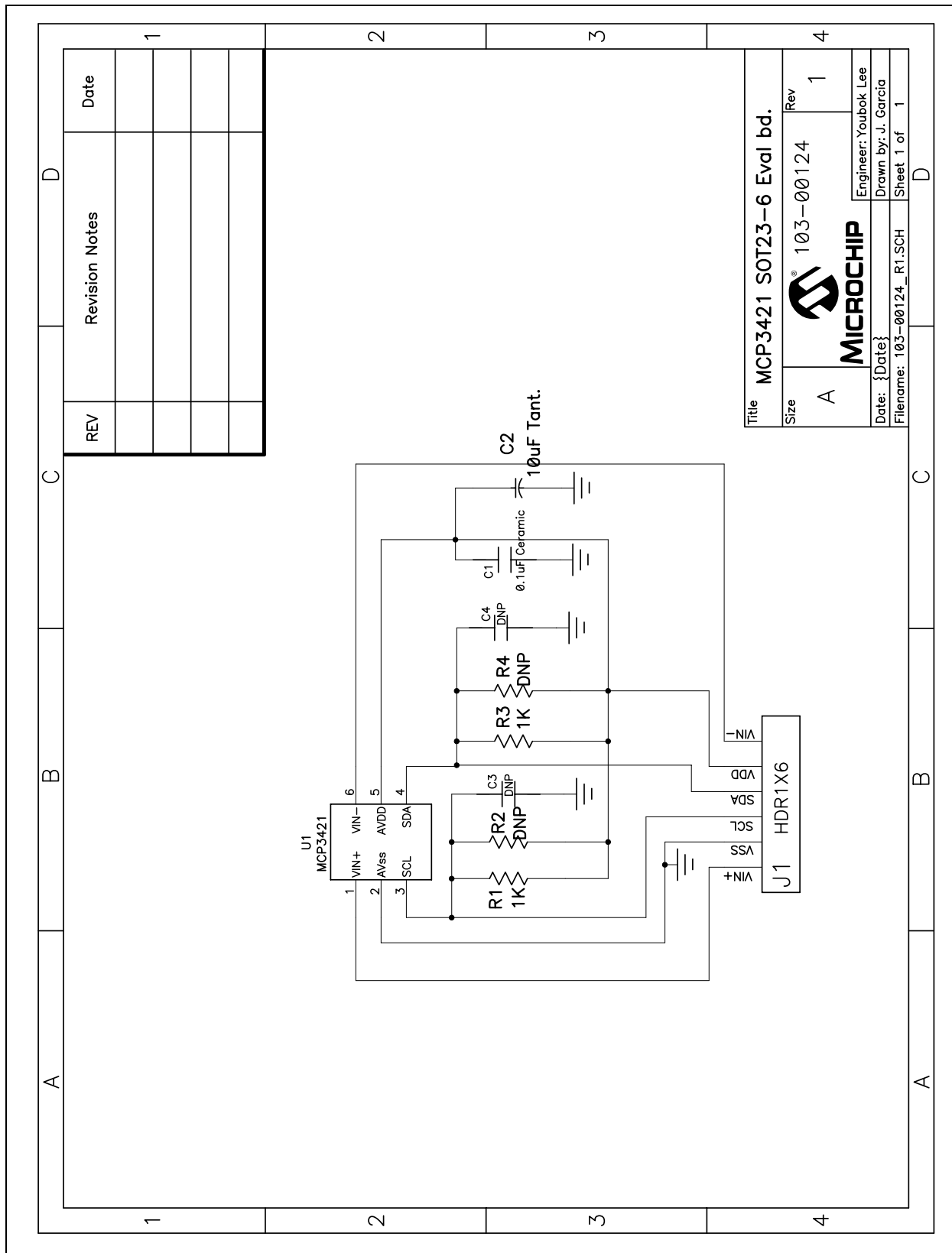


FIGURE 1-3: MCP3421 SOT-23-6 Evaluation Board Schematic

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