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Part Number: MCP6SX2DM-PCTLTH

Documentation &amp; Software

- Overcome the non-linear response of the on-board NTC thermistor
- Provide multiplexing between two inputs; the other input can be any desired source. This opens the possibilities of temperature correcting another sensor, and of increasing the number of PIC® microcontroller I/O pins available for other purposes.

Two on-board variable resistors allow users to experiment with different designs on the bench. DIP switches on the board select certain resistors (in a binary weighted sequence) to add together, thereby emulating the series resistor in the voltage divider and the thermistor's change in resistance over temperature.

A complete solution is achieved by interfacing this board to the PICKit™ 1 Flash Starter Kit (see DS40051) and the Signal Analysis PICtail™ Daughter Board (see DS51476). The solution provides:

- PC software interface
- PICmicro microcontroller
- Firmware programmability
- 10-bit ADC (on the microcontroller)
- Firmware (with re-locatable assembler code) for the microcontroller.

### Companion Tool

### On-Board Thermistor

- Can select a high accuracy NTC thermistor
- Can select an emulator for quick bench work

### Voltage Divider

- Linearizes thermistor's response
- Series resistor has an emulator for quick prototyping of different designs

**PGA**

- Buffers the NTC Thermistor
- Increases linearity and temperature resolution
- Provides an additional input

### SMD Test Points

## Documentation & Software

[Back To Top](#)

AppNotes	Last Updated	Size	
AN897 - Thermistor Temperature Sensing with MCP6SX2 PGAs	5/31/2006 3:42:23 PM	452KB	
Documents	Last Updated	Size	
MCP6S21/2/6/8 Datasheet	2/5/2013 10:07:19 AM	724KB	
MCP6S22 PGA Thermistor Demo Board Video	5/20/2009 3:43:06 PM	18MB	
Thermistor PGA PICtail Daughter Board User's Guide	6/2/2006 9:17:33 AM	804KB	
MCP6SX2 PGA Thermistor PICtail Demo Board Gerbers	1/10/2006 4:09:08 PM	160KB	
MCP6SX2 PGA Thermistor PICtail Demo Board Firmware	1/10/2006 4:05:52 PM	53KB	
Design Spreadsheets	8/1/2005 1:57:56 PM	680KB	
PICKit™ 1 FLASH Starter Kit User's Guide	1/21/2005 2:56:11 PM	1MB	
Single-Ended, Rail-to-Rail I/O, Low-Gain PGA	10/20/2004 5:07:49 PM	690KB	
Signal Analysis PICtail™ Daughter Board User's Guide	7/22/2004 2:17:43 PM	1MB	