

LM92 12-bit + Sign Temperature Sensor Evaluation Kit Manual

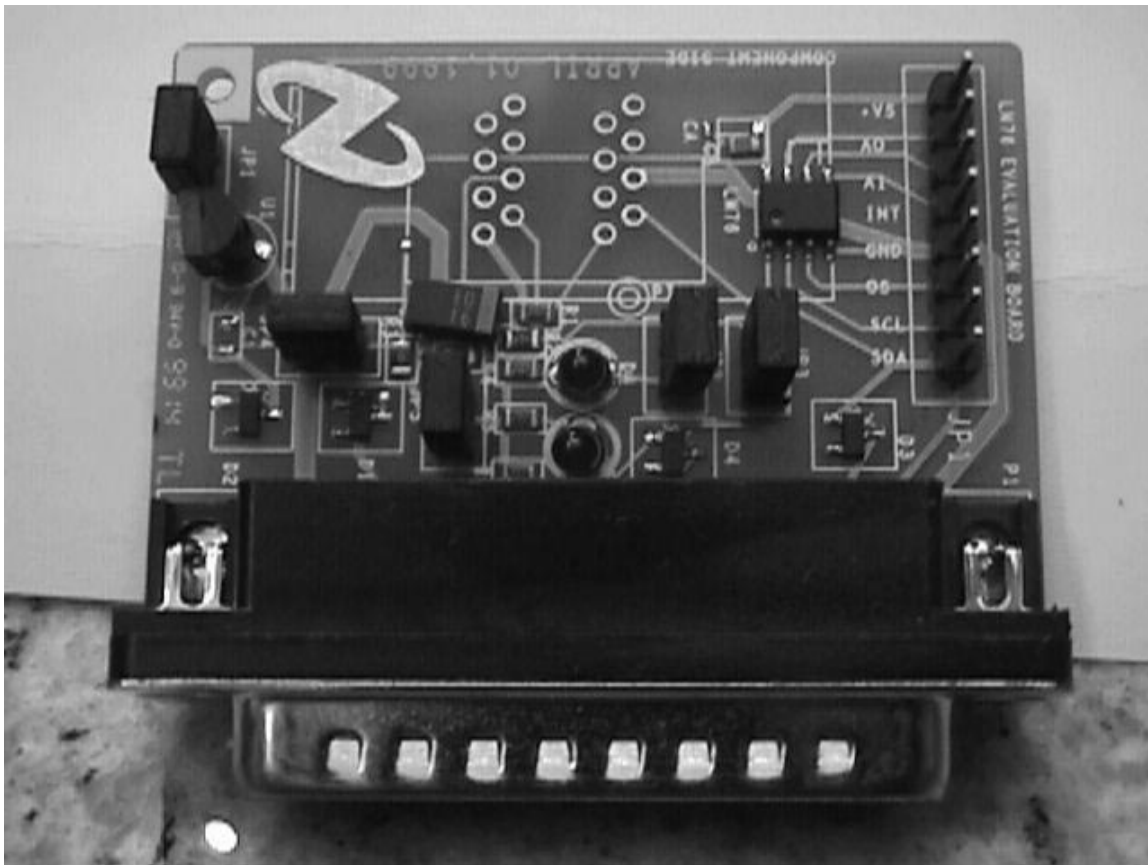
1.0 General Description

The LM92 Evaluation Kit allows quick connection and evaluation of the LM92CIM 12-bit plus Sign Temperature Sensor integrated circuit. The LM92CIM is targeted for an accuracy of $\pm 0.33^{\circ}\text{C}$ at 30°C . The accuracy of the part has a slight power supply dependency, so please check the data sheet electrical characteristics and the supply voltage applied to the part to determine the actual accuracy. The Evaluation Board connects to and derives all of its power from the parallel printer port of a PC. The software was written using Visual Basic 4.0 is compatible with Windows version 3.1 or later.

With the LM92 Evaluation board and software you can:

- Configure the LM92 register contents
- View the LM92 register contents
- Save LM92 temperature measurements in a file
- Quickly gain knowledge of the LM92 register operation

Figure 1 LM92 Evaluation Board



2.0 Installation

The LM92 Evaluation Kit comprises of the LM92 Evaluation Board, a 3.5" diskette, and this instruction manual.

- Insert the floppy into the 3.5" floppy drive of the PC. Install the software in Windows by selecting Run and type in the name of the drive followed by "setup". For example type a:\setup.
- In setup select the drive you would like the software installed on. Disk space required for the software is 1MB.
- Make sure all the jumpers are installed on the Evaluation board as shown in figure 1.



- Run the software. Select the parallel printer port address and the I²C address of the Evaluation board default 00.
- Connect the board to the parallel printer port of the PC directly or through a cable not longer than 3 feet.
- Press the ON button on the screen. The software will then report the state of all the registers in the LM92.

3.0 LM92 Evaluation Board Schematic

The LM92 Evaluation Board schematic is shown in figure 2. The software was pre-configured to run with all of the jumpers installed.

Table 1 Jumper Functions

Jumper	Function
JP1	Mapped to the corresponding pin on the LM92 (see Table 2)
JP2	Monitoring LED connection to pin OS/T_CRIT_A pin when short is installed.
JP3	Connects A0 to logic 0 when short is installed; connects A0 to logic 1 when short is not present.
JP4	Connects A1 to logic 0 when short is installed; connects A1 to logic 1 when short is not present.
JP5	Monitoring LED connection to INT pin when short is installed.

The LM92 comes with shorting bars across 2 pin headers JP2, JP3, JP4, JP5.

Table 2 JP1 Description

Pin Number	Description
1	SDA
2	SCL
3	Label OS on Board but maps to T_CRIT_A pin on LM92
4	GND
5	A1
6	A0
7	INT
8	+Vs

4.0 LM92 Evaluation Board Bill of Materials

<u>Item</u>	<u>Qty</u>	<u>Reference</u>	<u>Description</u>
1	2	C1, CB	0.1 uF, 0805, 25V, +80%-20%
2	1	C2	10 uF, 1206
3	2	D1, D2	BAT54, SOT23
4	2	D3, D6	BAT54, SOT23
5	2	D4, D5	RED LED, HLMP K150, TH
6	1	JP1	HEADER 8X1, TH
7	4	JP2, JP3, JP4, JP5	HEADER 2X1, TH
8	1	P1	DB25, MALE RIGHT ANGLE
9	4	R1, R4, R5, R6	2K, 1/8 W, 0805, 5%
10	2	R2, R3	100K, 1/8 W, 0805, 5%
11	1	U1	LP2950CZ-3.3, TH
12	1	U2	LM92CIM
13	4	JP2, JP3, JP4, JP5	JUMPERS

NOTE: TH = Through hole

