

LM84 8-bit Remote Diode Temperature Sensor Evaluation Kit Manual

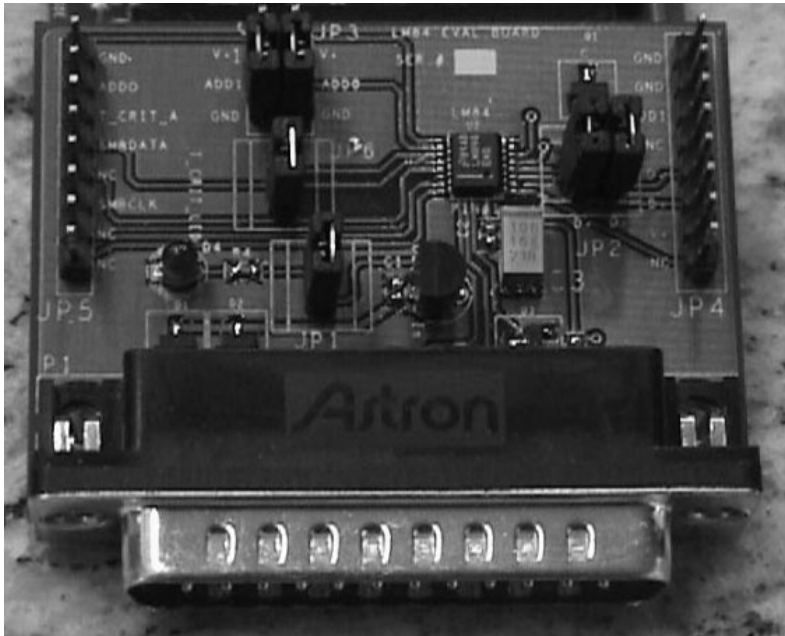
1.0 General Description

The LM84 Evaluation Kit allows quick connection and evaluation of the LM84 8-bit Remote Diode Temperature Sensor integrated circuit. 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 LM84 Evaluation board and software you can:

- Configure the LM84 register contents
- View the LM84 register contents
- Save LM84 temperature measurements in a file
- Quickly gain knowledge of the LM84 register operation

Figure 1 LM84 Demo Board



2.0 Installation

The LM84 Evaluation Kit comprises of the LM84 Demo Board, a 3.5" diskette, and this instruction manual. Included in the package is a blank board ready for an LM84 QSOP package socket that can be assembled and used if evaluation of additional LM84s is necessary.

- 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 demo board as shown in figure 1. Note that JP3 has ADD0 and ADD1 both tied to V+. This position selects SMBus address 1001110.
- Run the software. Select the parallel printer port address and the SMBus address of the demo board default 1001110. Please make sure this is selected properly.

- 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 LM84.

3.0 LM84 Evaluation Board Schematic

The LM84 Evaluation Board schematic is shown at the end of this document. The software was pre-configured to run with all of the jumpers installed as shown in figure 1.

Table 1 Jumper Functions

Jumper	Function
JP1	Vcc connection. Short required for proper operation.
JP2	Remote Diode select (see Table 4).
JP3	SMBus Address select (see Table 5).
JP4 and JP5	Mapped to the corresponding pin on the LM84 (see Table 2 and 3)
JP6	Monitoring LED connection to pin T_CRIT_A pin when short is installed.

Table 2 JP4 LM84 pin 1-8 monitoring

Pin Number	LM84 pin connection
1	NC
2	V+
3	D+
4	D-
5	NC
6	ADD1
7	GND
8	GND

Table 3 JP5 LM84 Pin 16-9 Monitoring

Pin Number	LM84 pin connection
1	NC
2	NC
3	SMBCLK
4	NC
5	SMBData
6	T_CRIT_A
7	ADD0
8	NC

Table 4 JP2 Diode Select Description

Pin Number	Jumper Pin Connection
1	2N3904 Collector/Base connection
2	2N3904 Emitter connecton
3	LM84 D+ connection
4	LM84 D- connection

Table 5 JP3 SMBus Address Selection

Pin Number	Jumper Pin Connection
1 and 2	V+
3	LM84 ADD1 pin
4	LM84 ADD0 pin
5 and 6	GND

4.0 LM84 Evaluation Board Bill of Materials

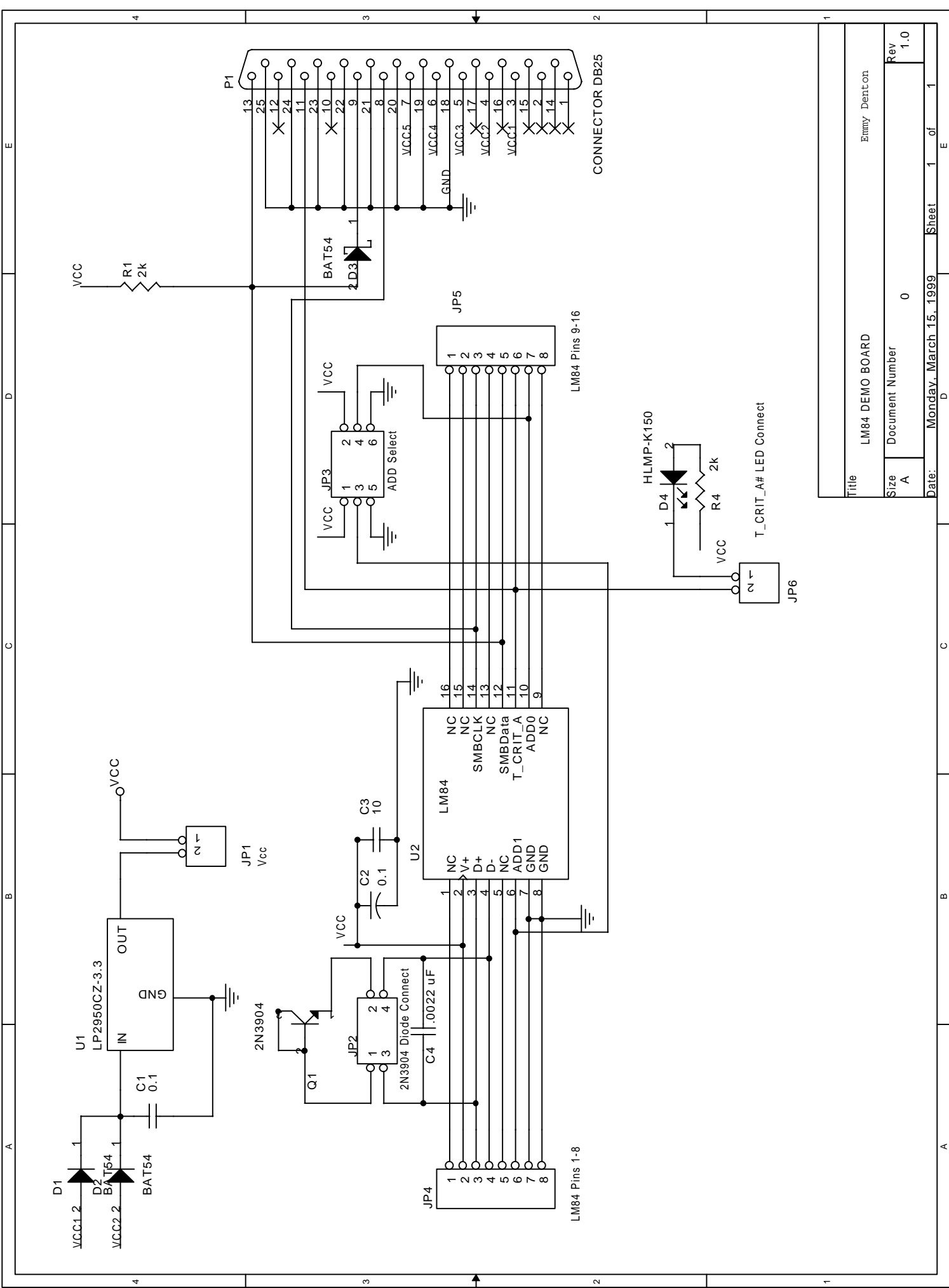
Item	Qty.	Reference	Part
1	2	C1,C2	0.1, 0805
2	1	C3	10, C(7343)
3	1	C4	0.0022, 0805
4	3	D1,D2,D3	BAT54
5	1	D4	HLMP-K150
6	2	JP1,JP6	2x1 header, Vcc and T_CRIT_A# LED Connect , TH
7	1	JP2	2x2 header, 2N3904 Diode Connect, TH
8	1	JP3	2x3 header, ADD Select, TH
9	2	JP4,JP5	1x8, LM84 Pins 1-8, LM84 Pins 9-16, TH
10	1	P1	CONNECTOR DB25, TH
12	1	Q1	MMBT3904LT1, Motorola, SOT-23
13	2	R1,R4	2k,0805
14	1	U1	LP2950CZ-3.3, TH
15	1	U2	LM84, 16pin QSOP
15	6	JP1,JP2,JP3,JP6	6 shorts

NOTE, TH = Through hole

16-Lead QSOP Socket for blank board

Manufacturer: Enplas Tesco, Inc. (408) 749-8124

Part #: OTS-16(28)0.635-02



Title		LM84 DEMO BOARD		Emmy Denton	
Size	A	Document Number	0	Rev	1.0
Date:	Monday, March 15, 1999	Sheet	1	of	1