QUICKEVAL PROCEDURE

Demonstration circuit 458 is configured to be a part of the LTC QuickEval™ system for quick and easy I²C™ control. The QuickEval software is downloaded from the Linear Technology website. After installing the software, it is always best to run the update periodically.

Connect the USB controller board, DC590A, to a computer and open the QuickEval software as shown in Figure 2. Through a 14-pin ribbon cable connect the DC458 to the controller board and the LTC4240 interface software will be brought up. Refer to Figure 3 for the following interface description.

1. An I²C address byte needs to be selected to match that of the LTC4240 so the host can communicate with it. Select a Write Address from the list or simply click on Find Address to cycle through the possible addresses for the LTC4240 and show which addresses responded with an acknowledge. If no address is found, the selected address will be set 00h. Check the connections and setup and try again.

2. The Command Byte field on the QuickEval Interface menu is the write register of the LTC4240. To set a bit to 1, select the appropriate box. For example, selecting C5 will only send data byte 20h. Then checking C4 will send data byte 30h. Unchecking C5 will send data byte 10h.

3. The Status field displays the read register of the LTC4240. Click on Single Refresh to do a single read from the LTC4240, or check Continuous Read to poll the LTC4240 and uncheck to halt the poll. The poll is set to read every 500ms.

4. The Quick Read field shows the status of the Red Fault# LED and Green HEALTHY# LED. The Expansion Configuration is given by PRSNT1,2# bits. The FAULTCODE0,1 bits encode which supply has caused a fault.

Note: If the DC458 is disconnected or a communications error has occurred, the LTC4240 software will close and return to main QuickEval software.

Additional help is in the toolbar, which includes a link to the datasheet and this QuickStart guide.

Design files for this circuit board are available. Call the LTC factory.

This is a trademark of Linear Technology Corporation

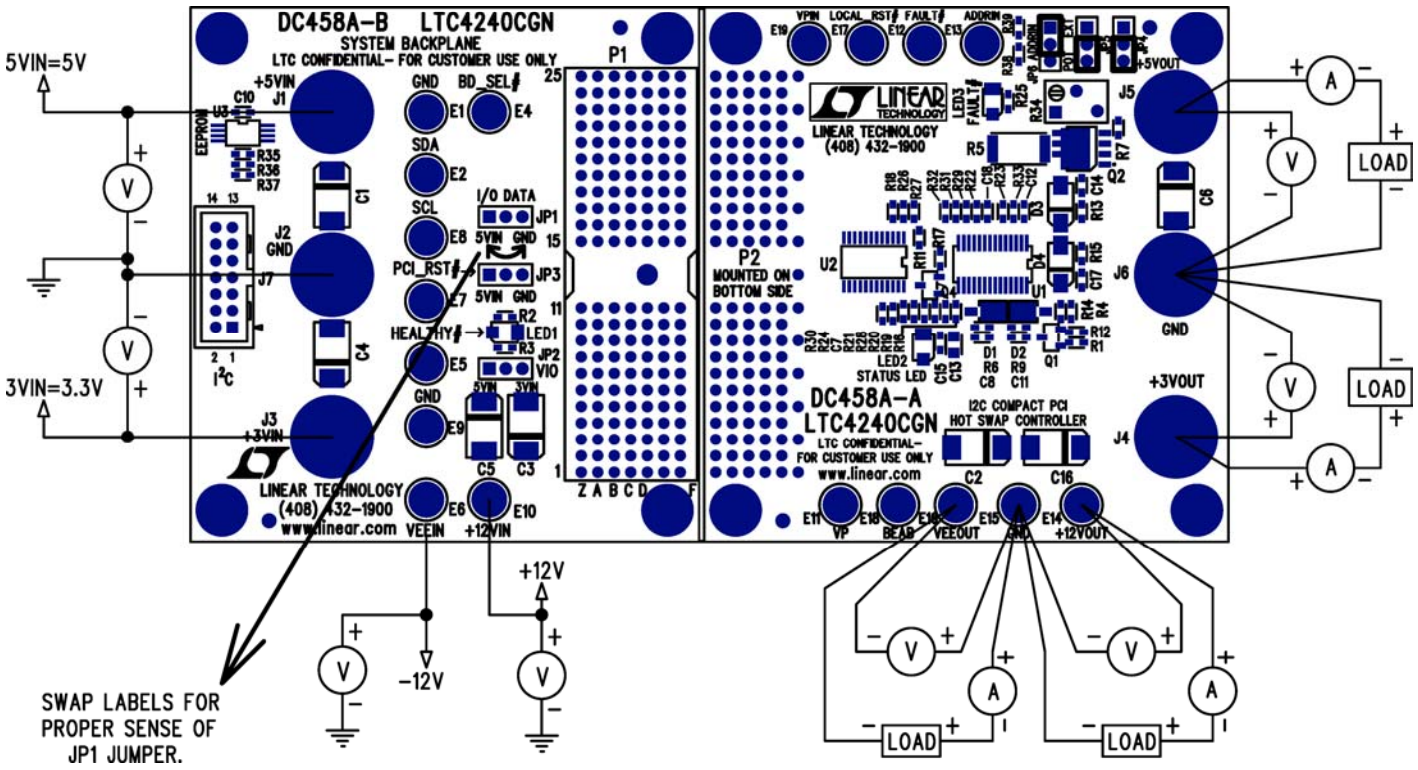


Figure 1. Proper Measurement Equipment Setup

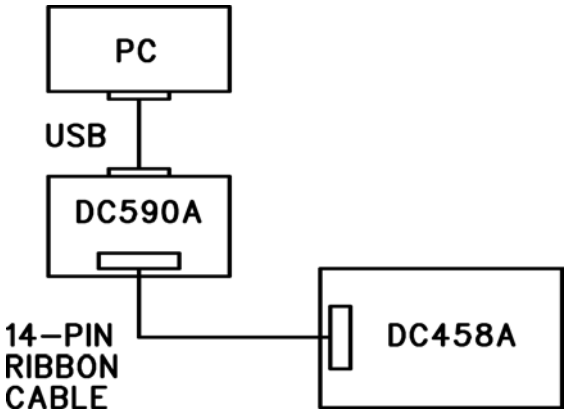


Figure 2. QuickEval Setup

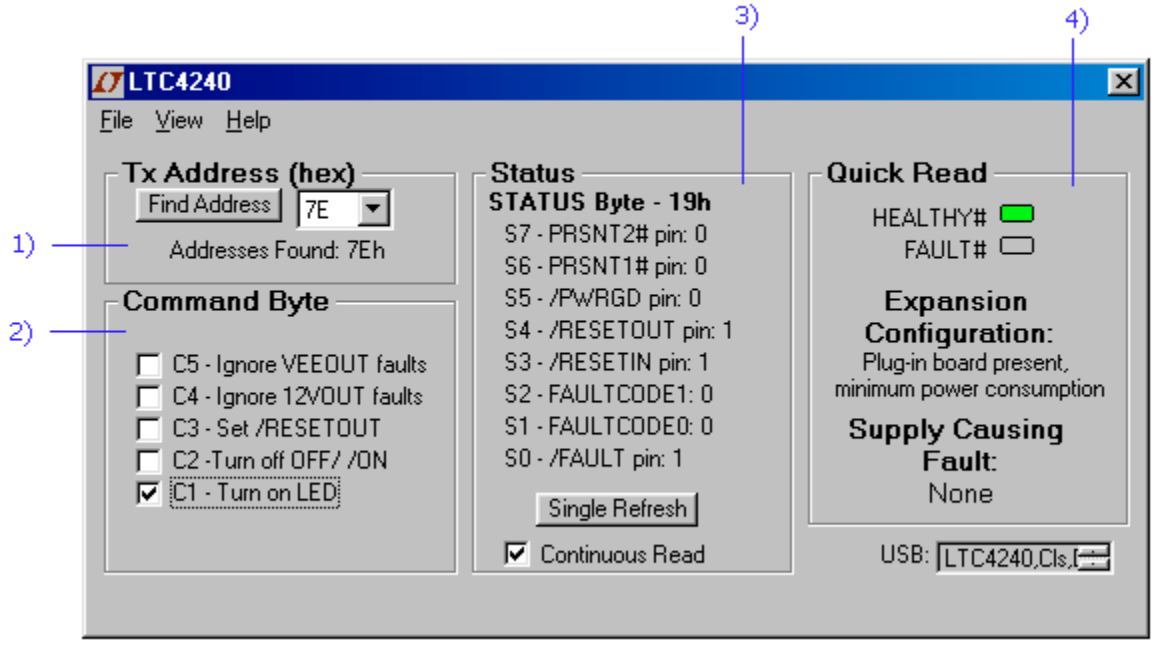
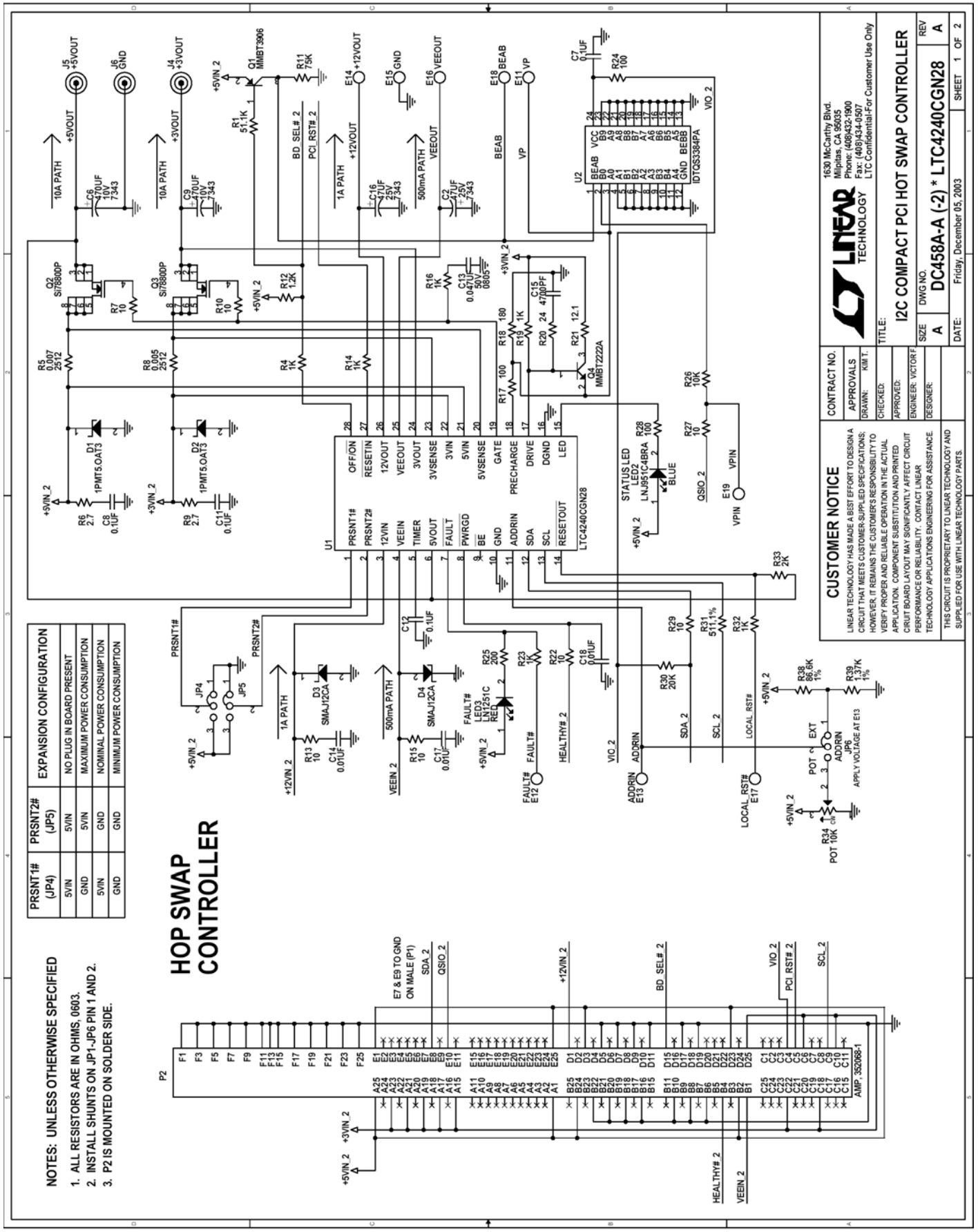
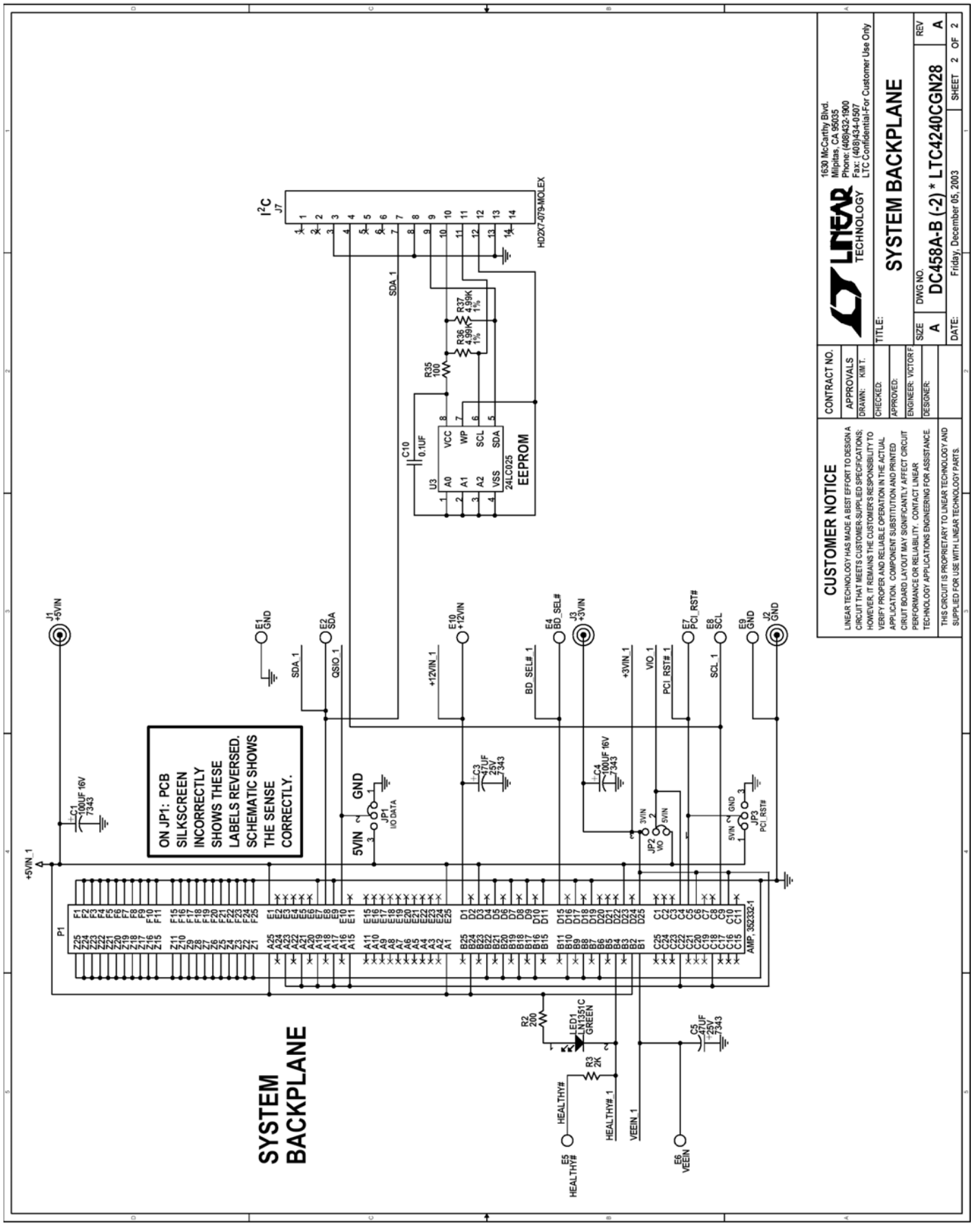


Figure 3. DC458 QuickEval Interface


HOP SWAP CONTROLLER
NOTES: UNLESS OTHERWISE SPECIFIED
1. ALL RESISTORS ARE IN OHMS, 0603.
2. INSTALL SHUNTS ON JP1-JP6 PIN 1 AND 2.
3. P2 IS MOUNTED ON SOLDER SIDE.
PRSNT1# (JP4) | PRSNT2# (JP5) | EXPANSION CONFIGURATION
5VIN | 5VIN | NO PLUG IN BOARD PRESENT
GND | 5VIN | MAXIMUM POWER CONSUMPTION
5VIN | GND | NOMINAL POWER CONSUMPTION
GND | GND | MINIMUM POWER CONSUMPTION
CUSTOMER NOTICE
LINEAR TECHNOLOGY HAS MADE A BEST EFFORT TO DESIGN A CIRCUIT THAT MEETS CUSTOMER-SUPPLIED SPECIFICATIONS; HOWEVER, IT REMAINS THE CUSTOMER'S RESPONSIBILITY TO VERIFY PROPER AND RELIABLE OPERATION IN THE ACTUAL APPLICATION. COMPONENT SUBSTITUTION AND PRINTED CIRUIT BOARD LAYOUT MAY SIGNIFICANTLY AFFECT CIRCUIT PERFORMANCE OR RELIABILITY. CONTACT LINEAR TECHNOLOGY APPLICATIONS ENGINEERING FOR ASSISTANCE.
THIS CIRCUIT IS PROPRIETARY TO LINEAR TECHNOLOGY AND SUPPLIED FOR USE WITH LINEAR TECHNOLOGY PARTS.
CONTRACT NO.
APPROVALS
DRAWN: KIM T.
CHECKED:
APPROVED:
ENGINEER: VICTOR F.
DESIGNER:
LINEAR TECHNOLOGY
1630 McCarthy Blvd.
Milpitas, CA 95035
Phone: (408)432-1900
Fax: (408)434-0507
LTC Confidential-For Customer Use Only
TITLE: I2C COMPACT PCI HOT SWAP CONTROLLER
SIZE A
DWG NO. DC458A-A (-2) * LTC4240CGN28
REV A
DATE: Friday, December 05, 2003
SHEET 1 OF 2
U1 LTC4240CGN28
U2 IDTQS3384PA
P2 AMP, 352068-1
J4 +3VOUT
J5 +5VOUT
J6 GND
E14 +12VOUT
E15 GND
E16 VEEOUT
E18 BEAB
E11 VP
E19 VPIN
Q1 MMBT3906
Q2 Si7880DP
Q3 Si7880DP
Q4 MMBT2222A
D1 1PMT5.0AT3
D2 1PMT5.0AT3
D3 SMAJ12CA
D4 SMAJ12CA
LED1 LN2251C RED
LED2 LNJ951C4BRA BLUE
STATUS LED
JP4
JP5
JP6 APPLY VOLTAGE AT E13
POT 10K
10A PATH
3VOUT PATH
1A PATH
500mA PATH
VEEOUT PATH
BD_SEL# 2
PCI_RST# 2
FAULT# E12
ADDRIN E13
LOCAL_RST# E17
HEALTHY# 2
VEEIN 2
VIO 2
SDA 2
SCL 2
QSIO 2
E7 & E9 TO GND ON MALE (P1)


SYSTEM BACKPLANE
ON JP1: PCB SILKSCREEN INCORRECTLY SHOWS THESE LABELS REVERSED. SCHEMATIC SHOWS THE SENSE CORRECTLY.
I2C
EEPROM
24LC025
HD2X7-079-MOLEX
AMP 352332-1
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DESIGNER:
1630 McCarthy Blvd.
Milpitas, CA 95035
Phone: (408)432-1900
Fax: (408)434-0507
LTC Confidential-For Customer Use Only
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DWG NO.
DC458A-B (-2) * LTC4240CGN28
REV
A
DATE:
Friday, December 05, 2003
SHEET 2 OF 2