RIBBON1

| 16 | |
|----|----|
| 15 | |
| 14 | ES2 |
| 13 | ES1 |
| 12 | CS_T4 |
| 11 | CS_T3 |
| 10 | CS_T2 |
| 9 | MOSI |
| 8 | NetLabel14 |
| 7 | NetLabel15 |
| 6 | |
| 5 | A- |
| 4 | B- |
| 3 | B+ |
| 2 | A+ |
| 1 | |

Header 16H

ES2_OUT_RB
ES1_OUT_RB
CS_T4_RB
CS_T3_RB
CS_T2_RB
MOSI_RB
CS_T1_RB
SCLK_RB
A-
B-
B+
A+

+12VCC
FB1 Ferrite
+ C1 VAS B 47uF
+ C2 VAS B 47uF
GND
PGND

FB3 Ferrite
GND

AUX-1
Header 4X2

| 1 | 2 | CS_T2_RB |
| 3 | 4 | MOSI_RB |
| 5 | 6 | CS_T1_RB |
| 7 | 8 | |

FB2 Ferrite
SCLK_RB
GND

AUX-2
Header 5X2

CS_T4_RB — 1 2 — Status_RED — R1 0805 — 1K
CS_T3_RB — 3 4 — Status_BLUE — R2 0805 — 1K
ES2_OUT_RB — 5 6 — Status_GREEN — R3 0805 — 1K
ES1_OUT_RB — 7 8 — BED_THERMISTER
9 10

FB4 Ferrite
GND
GND

Status_LED1

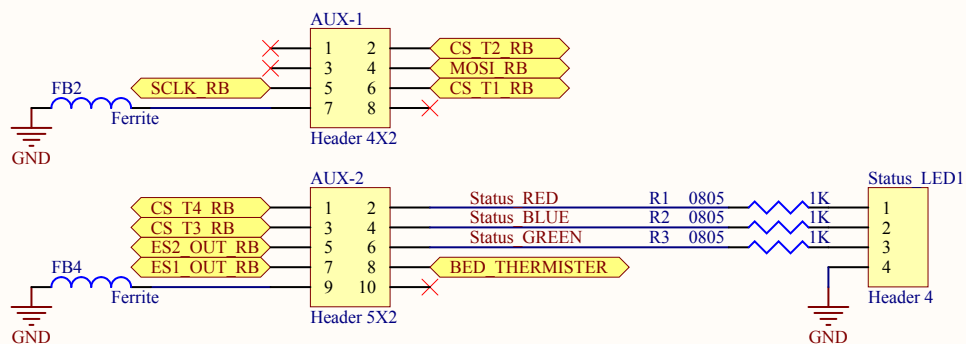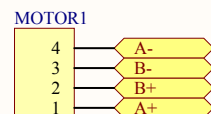| 1 |
| 2 |
| 3 |
| 4 |

Header 4
GND

MOTOR1

| 4 | A- |
| 3 | B- |
| 2 | B+ |
| 1 | A+ |

Header 4

NOTE: This connects to one of the Servo Ports on the RAMPS Shield

| 3 | HEATBED_PWM |
| 2 | FB5 |
| 1 | |
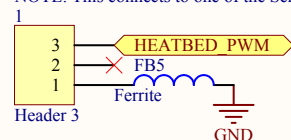
Header 3
Ferrite
GND

NOTE: PCB Traces must accomodate 10A
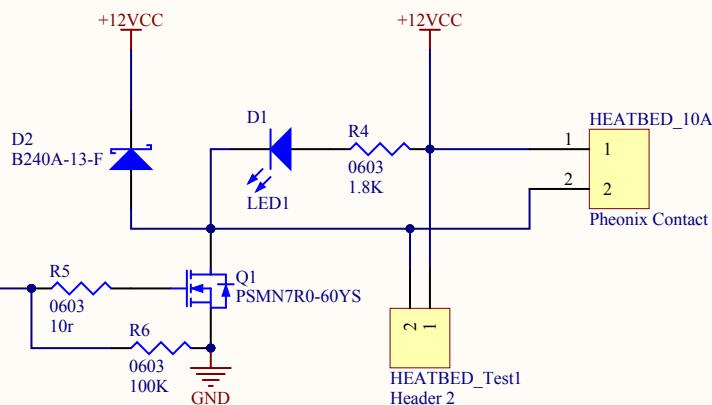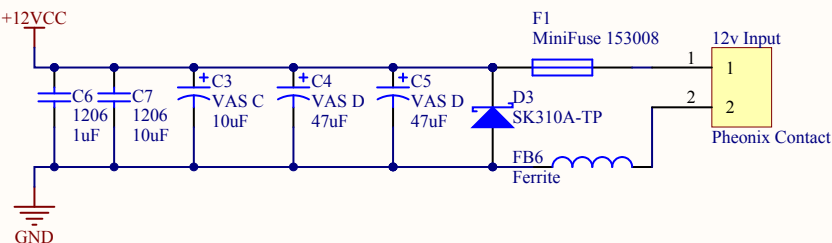
+12VCC
+12VCC

D2 B240A-13-F
D1 LED1
R4 0603 1.8K

HEATBED_10A
1
2
Pheonix Contact

HEATBED_PWM
R5 0603 10r
Q1 PSMN7R0-60YS
R6 0603 100K
GND

HEATBED_Test1
Header 2

+12VCC

C6 1206 1uF
C7 1206 10uF
+ C3 VAS C 10uF
+ C4 VAS D 47uF
+ C5 VAS D 47uF
D3 SK310A-TP

F1 MiniFuse 153008
12v Input
1
2
Pheonix Contact

FB6 Ferrite

GND

| Title | |
|-------|--|
| Size A | Number |
| Date: | 1/31/2014 |
| File: | C:\Users\..\Ribbon Breakout.SchDoc |

Revision
Sheet of
Drawn By:

FB6 D3 C6 C7 C3 C4 C5

F1 HEATBED_Test1 R6 Q1 R5 FB5 D2 R4 HEATBED_10A

D1 1 MOTOR1 FB4 FB3 R3 R2 R1 AUX-2 Status_LED1 FB2 C2 C1 FB1 RIBBON1 AUX-1
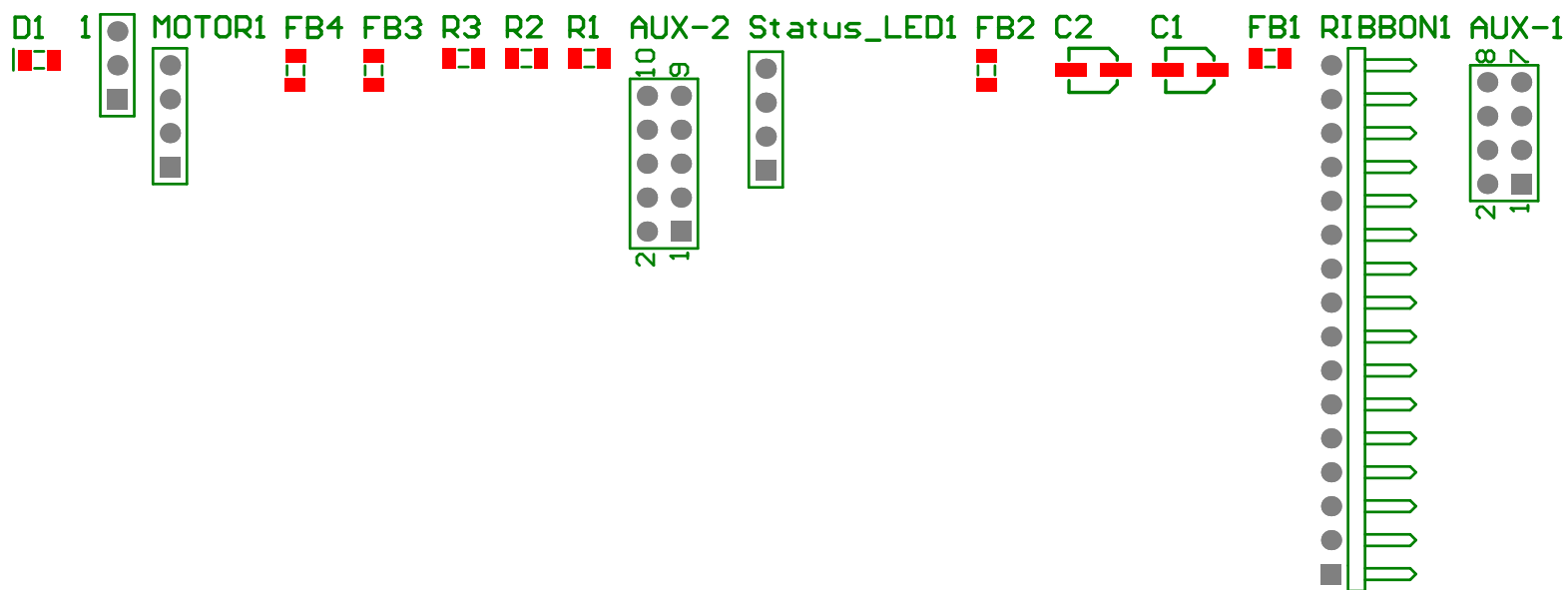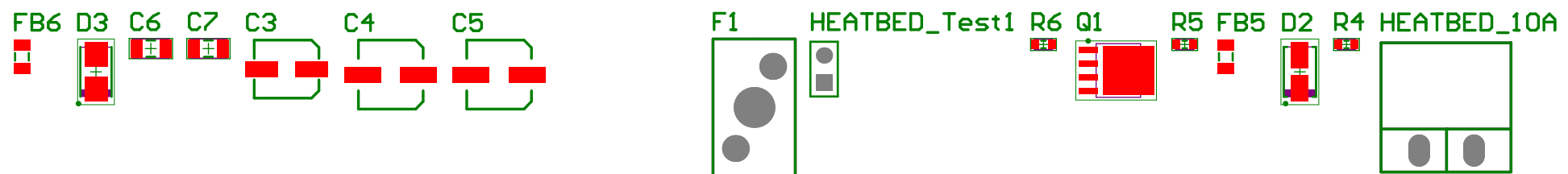
12v Input
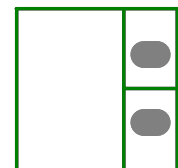
# Bill of Materials

**Source Data From:**     Cavro Ribbon Interface Breakout.PrjPCB

**Project:**     Cavro Ribbon Interface Breakout.PrjPCB

**Variant:**     None

Creation Date: 1/31/2014     8:46:23 PM

Print Date:     41670     41670.86563

| Footprint | Comment | LibRef | Designator | Description | Quantity |
|---|---|---|---|---|---|
| HDR1X3 | Header 3 | Header 3 | 1 | Header, 3-Pin | 1 |
| con-phoenix-508 | Pheonix Contact | Pheonix Contact 2X1 | 12v Input, HEATBED_10A | | 2 |
| HDR2X4 | Header 4X2 | Header 4X2 | AUX-1 | Header, 4-Pin, Dual row | 1 |
| HDR2X5 | Header 5X2 | Header 5X2 | AUX-2 | Header, 5-Pin, Dual row | 1 |
| Panasonic VS B | VAS B | Cap Pol1 | C1, C2 | Polarized Capacitor (Radial) | 2 |
| Panasonic VS C | VAS C | Cap Pol1 | C3 | Polarized Capacitor (Radial) | 1 |
| Panasonic VS D | VAS D | Cap Pol1 | C4, C5 | Polarized Capacitor (Radial) | 2 |
| C1206 | 1206 | Cap Semi | C6, C7 | Capacitor (Semiconductor SIM Model) | 2 |
| SM 0805 polarized | LED1 | LED1 | D1 | Typical RED GaAs LED | 1 |
| B240A-13-F | B240A-13-F | D Schottky | D2 | Schottky Diode | 1 |
| SK310A-TP | SK310A-TP | D Schottky | D3 | Schottky Diode | 1 |
| TinyFuseATO _Carrier | MiniFuse 153008 | Fuse 1 | F1 | Fuse | 1 |
| SM 0805 - gap trimmed | Ferrite | Inductor | FB1, FB2, FB3, FB4, FB5, FB6 | Inductor | 6 |
| HDR1X2 | Header 2 | Header 2 | HEATBED_Test1 | Header, 2-Pin | 1 |
| HDR1X4 | Header 4 | Header 4 | MOTOR1, Status_LED1 | Header, 4-Pin | 2 |
| PSMN7R0-60YS | PSMN7R0-60YS | PSMN7R0-60YS | Q1 | N-Channel MOSFET | 1 |
| SM 0805 - gap trimmed | 0805 | Res3 | R1, R2, R3 | Resistor | 3 |
| J1-0603 | 0603 | Res3 | R4, R5, R6 | Resistor | 3 |
| HDR1X16H | Header 16H | Header 16H | RIBBON1 | Header, 16-Pin, Right Angle | 1 |
| | | | | | 33 |

| Approved | | Notes | | | |
|---|---|---|---|---|---|
| | | | | | |