4 Mbit SPI Flash

U4
25L4006E

3V3 R44 10k
3V3 R46 10k
3V3 R43 10k
U4_CS
U4_SO

1	CS#	VCC	8
2	SO	HOLD#	7
3	WP#	SCLK	6
4	GND	SI	5

3V3 R45 10k
3V3 R48 10k
3V3 R47 10k
U4_SCLK
U4_SI
GND

LED_Row_Switches

LED_ROW1_EN → LED_ROW1_EN   LED_ROW1D → LED_ROW1
LED_ROW2_EN → LED_ROW2_EN   LED_ROW2D → LED_ROW2
LED_ROW3_EN → LED_ROW3_EN   LED_ROW3D → LED_ROW3
LED_ROW4_EN → LED_ROW4_EN   LED_ROW4D → LED_ROW4
LED_ROW5_EN → LED_ROW5_EN   LED_ROW5D → LED_ROW5
LED_ROW6_EN → LED_ROW6_EN   LED_ROW6D → LED_ROW6
LED_ROW7_EN → LED_ROW7_EN   LED_ROW7D → LED_ROW7
LED_ROW8_EN → LED_ROW8_EN   LED_ROW8D → LED_ROW8

File: led_row_switches.kicad_sch

LED Matrix

LED_COL1 → LED_COL1
LED_COL2 → LED_COL2
LED_COL3 → LED_COL3
LED_COL4 → LED_COL4
LED_COL5 → LED_COL5
LED_COL6 → LED_COL6
LED_COL7 → LED_COL7
LED_COL8 → LED_COL8
LED_COL9 → LED_COL9
LED_COL10 → LED_COL10
LED_COL11 → LED_COL11
LED_COL12 → LED_COL12
LED_COL13 → LED_COL13
LED_COL14 → LED_COL14
LED_COL15 → LED_COL15
LED_COL16 → LED_COL16

File: led_matrix.kicad_sch

White LED Driver

U2
MBI5042GP

PWR_FLAG

| 1 | GND | VDD | 24 | MBI_3V3
| 2 | SDI | R-EXT | 23 | R7 470
| 3 | DCLK | SDO | 22 | SDO
| 4 | LE | GCLK | 21 | GCLK
| 5 | OUT0 | OUT15 | 20 | (R6 10) LED_COL16
| 6 | OUT1 | OUT14 | 19 | (R9 10) LED_COL15
| 7 | OUT2 | OUT13 | 18 | (R11 10) LED_COL14
| 8 | OUT3 | OUT12 | 17 | (R13 10) LED_COL13
| 9 | OUT4 | OUT11 | 16 | (R15 10) LED_COL12
| 10 | OUT5 | OUT10 | 15 | (R17 10) LED_COL11
| 11 | OUT6 | OUT9 | 14 | (R19 10) LED_COL10
| 12 | OUT7 | OUT8 | 13 | (R21 10) LED_COL9

SDI
DCLK
LE
LED_COL1 R5 10
LED_COL2 R8 10
LED_COL3 R10 10
LED_COL4 R12 10
LED_COL5 R14 10
LED_COL6 R16 10
LED_COL7 R18 10
LED_COL8 R20 10
GND

MBI_3V3 C7 C6
MBI_3V3
3V3 R39 10k
MBI_PWR_EN R42 10   Q1
C11
GND

USB/CN3
Conn_01x05

PWR_FLAG
5V
R99 1M
C25
GND
5V
C22 R55 27 R56 27 C24
USB_D+ USB_D−
GND
C2
GND

U1
AAA45

GND
3V3

| 1 | 1 | 4 | 5V
| 2 | 2 | 3 |

PWR_FLAG

3V3 3V3 5V
C4 C5 C3
GND GND GND

U3
HT32F52352

KEY_COL6 1 PA0
KEY_COL7 2 PA1
KEY_COL8 3 PA2
KEY_COL16 4 PA3
KEY_COL10 5 PA4
KEY_ROW2 6 PA5
KEY_ROW3 7 PA6
KEY_ROW4 8 PA7
9 VDD33_1
10 VSS33_1
KEY_ROW1 11 PC4
KEY_COL11 12 PC5
KEY_ROW5 13 PC8
KEY_COL12 14 PC9
USB_D− 15 PC6
USB_D+ 16 PC7

64 VSSA
63 VDDA
62 PB8
61 PB7
60 PB6
59 PC3
58 PC2
57 PC1
56 PC15
55 PC14
54 PB5
53 PB4
52 PB3
51 PB2

KEY_COL4
U4_CS
U4_SO
U4_SI
U4_SCLK
KEY_COL2
LED_ROW1_EN
LED_ROW2_EN
LED_ROW3_EN
LED_ROW4_EN
LED_ROW5_EN
LED_ROW6_EN

48 PD3 LED_ROW7_EN
47 PD2 LED_ROW8_EN
46 PD1 KEY_COL1
45 PB1 KEY_COL15
44 PB0 SDO
43 VSS33_3
42 VDD33_3
41 PA15 LE
40 PA14 DCLK
39 PA13 SWDIO
38 PA12 SWCLK
37 PA11 KEY_COL5
36 PA10 KEY_COL14
35 PA9_BOOT
34 PA8 KEY_COL9
33 PC13 KEY_COL13

17 CLDO
18 VDD33_2
19 VSS33_2
20 nRST
21 VBAT
22 PB10
23 PB11
24 PB12
25 PD0
26 PB13
27 PB14
28 PB15
29 PC0
30 PC10
31 PC11
32 PC12

NRST
KEY_ROW6
KEY_ROW7
KEY_ROW8
KEY_COL3
MBL_PWR_EN
GCLK
SDI

3V3 GND 3V3

C12 C10
GND GND

3V3 GND
R50 0
C14
R49 100
NRST
C13
GND

led_key_map
File: led_key_map.kicad_sch

SWD/CN1
Conn_01x05

Debug Header

GND 1
SWDIO 2
SWCLK 3
NRST 4
3V3 5

Key Matrix

KEY_ROW1 → KEY_ROW1   KEY_COL1D → KEY_COL1
KEY_ROW2 → KEY_ROW2   KEY_COL2D → KEY_COL2
KEY_ROW3 → KEY_ROW3   KEY_COL3D → KEY_COL3
KEY_ROW4 → KEY_ROW4   KEY_COL4D → KEY_COL4
KEY_ROW5 → KEY_ROW5   KEY_COL5D → KEY_COL5
KEY_ROW6 → KEY_ROW6   KEY_COL6D → KEY_COL6
KEY_ROW7 → KEY_ROW7   KEY_COL7D → KEY_COL7
KEY_ROW8 → KEY_ROW8   KEY_COL8D → KEY_COL8
                      KEY_COL9D → KEY_COL9
                      KEY_COL10D → KEY_COL10
                      KEY_COL11D → KEY_COL11
                      KEY_COL12D → KEY_COL12
                      KEY_COL13D → KEY_COL13
                      KEY_COL14D → KEY_COL14
                      KEY_COL15D → KEY_COL15
                      KEY_COL16D → KEY_COL16

File: key_matrix.kicad_sch

Drawn from PCB by Hansem Ro

COOLERMASTER XTI −WHITE
27−050−0382−101S
2016/03/28 VER1.1

Sheet: /
File: prol_white.kicad_sch
Title: Cooler Master MasterKeys Pro L White (US Layout)
Size: A4   Date: Rev: A
KiCad E.D.A. kicad (6.0.8)   Id: 1/5

Row A: P4 P3 P2 P1 Pause ScrLk PrtSc F12 F11 F10 F9 F8 F7 F6 F5 F4 F3 F2 F1 Esc

Row (second): _ * / NumLk PgUp Home Ins Bcksp =+ _- 0) 9(8* 7& 6^ 5% 4$ 3# 2@ 1! `~

Row B: 9 8 7 PgDwn End Del \|]} [{ P O I U Y T R E W Q Tab

NC

+ 6 5 4 Enter NC ;: : L K J H G F D S A CapsLk

Row C: 3 2 1 UpArw NC RgtShift NC /? >. <, M N B V C X Z NC LftShft NC

Enter LftCtl 0 RgtArw DwnArw LftArw RgtCtrl Fn RgtWin RgtAlt Space LftAlt LftWin LftCtl

Drawn from PCB by Hansem Ro

Sheet: /led_key_map/
File: led_key_map.kicad_sch

Title:

Size: A4   Date: **Rev:**
KiCad E.D.A. kicad (6.0.8)   Id: 2/5

5V R57 Q3 ? R65 R89 LED_ROW1 GND
LED_ROW1_END R80 1k Q2 1AM R81 GND

5V R58 Q15 ? R66 R90 LED_ROW2 GND
LED_ROW2_END R73 1k Q5 1AM R82 GND

5V R59 Q4 ? R67 R91 LED_ROW3 GND
LED_ROW3_END R75 1k Q6 1AM R83 GND

5V R60 Q11 ? R68 R92 LED_ROW4 GND
LED_ROW4_END R76 1k Q16 1AM R84 GND

5V R51 Q8 ? R69 R93 LED_ROW5 GND
LED_ROW5_END R74 1k Q7 1AM R85 GND

5V R62 Q10 ? R70 R94 LED_ROW6 GND
LED_ROW6_END R77 1k Q9 1AM R86 GND

5V R63 Q17 ? R71 R95 LED_ROW7 GND
LED_ROW7_END R78 1k Q12 1AM R87 GND

5V R64 Q14 ? R72 R96 LED_ROW8 GND
LED_ROW8_END R79 1k Q13 1AM R88 GND

Drawn from PCB by Hansem Ro

Sheet: /LED Matrix/
File: led_matrix.kicad_sch

Title: LED Matrix

Size: A4   Date:

Rev: A

KiCad E.D.A. kicad (6.0.8)   Id: 4/5

Drawn from PCB by Hansem Ro

Sheet: /Key Matrix/
File: key_matrix.kicad_sch

Title: Key Matrix

Size: A4   Date:

Rev: A

KiCad E.D.A. kicad (6.0.8)   Id: 5/5