Quantity	Designator	Type	Comment	Description	Manufacturer	Manufacturer Part Number	LibRef	Supplier 1	Supplier Part Number 1
8	C500, C501, C502, C503, C504, C505, C506, C507	Capacitor	C 2.2uF 0402 6.3V	CAP CER 2.2UF 6.3V X6T 0402	Murata Electronics	GRM155D80J225ME95D	CAP_2.2uF_6V3_0402	Digi-Key	490-10450-1-ND
1	J500	Connector	FPC24	CONN FPC BOT 24 PIN 1mm Pitch	MOLEX	522712479	J_FPC24_DS	LCSC	C293627
1	D506	Diode, LED	LED Y	LED YELLOW DIFFUSED	Stanley Electric Co	FKY1111C-TR	D_LED_Yellow_0603	Digi-Key	404-1273-1-ND
3	D513, D514, D515	Diode, LED	LED W	LED XLAMP WARM WHT 2700K SMD	CreeLED, Inc.	XTEAWT-E0-0000-00000HEE8	D_LED_W_HP_3	Digi-Key	XTEAWT-E0-0000-00000HEE8TR-ND
4	D504, D505, D507, D508	Diode, LED	LED G	LED GREEN DIFFUSED 0603 SMD	OSRAM Opto Semiconductors Inc.	LT Q39G-Q1OO-25-1	D_LED_Green_0603	Digi-Key	475-3442-1-ND
8	D500, D501, D502, D503, D509, D510, D511, D512	Diode, LED	LED W	LED WHITE SIDE SMD	Everlight Elec	99-218UMC/1637CD/TR8-T	D_LED_White_s	LCSC	C710226
1	IC501	IC, Driver	BL55072A-R	IC LCD DRIVER 36SEG TSSOP-48	BL(Shanghai Belling)	BL55072A-R	IC_LCD_cntr_BL55072A-R	LCSC	C524044
2	IC500, IC502	IC, Driver	MIC2841AYMT	IC LED DRIVER 4 CH	Microchip Technology	MIC2841AYMT-TR	IC_LED_cntr_MIC2841	Mouser	998-MIC2841AYMTTR
3	IC503, IC504, IC505	IC, Driver	OC7140	IC LED DRIVER 1 CH 2A ESOP8	OCX	OC7140	IC_LED_cntr_OC7140	LCSC	C842736
1	CABLE500	other	FPC24p80mm	FPC Cable 1mm Pitch 24Pin 80mm Opposite Sides	LX	C50299	CABLE_FPC24_80	LCSC	C50299
3	HS500, HS501, HS502	other	Heatsink	Heatsink 6.5mm x 6.5mm	Alphacool	17425	Heatsink_6.5x6.5	Amazon	B077VQTB6Q
5	SW500, SW501, SW502, SW503, SW504	other	SW	SWITCH TACTILE SW-SMD	BRIGHT	TSA063G50-250	SW_TactileSW_V_2	LCSC	C294565
1	DS500	other, Display	LCD 4x1	LCD MOD 4 DIG 4 X 1 REFLECTIVE	Varitronix	VI-402-DP-RC-S	DISPL_7SEG_4x1	Digi-Key	153-1135-ND
1	R513	Resistor	R 2k 0402	RES 2K OHM 1% 1/16W 0402	Stackpole Electronics Inc	RMCF0402FT2K00	R_2k_0402	Digi-Key	RMCF0402FT2K00CT-ND
3	R506, R509, R510	Resistor	R 0R27 1206	RES 0.27 OHM 1% 1/3W 1206	RALEC	RTT06R270FTP	R_0R27_1206	LCSC	C104939
3	R518, R519, R520	Resistor	R 270k 0402	RES 270K OHM 1% 1/16W 0402	YAGEO	RC0402FR-07270KL	R_270k_0402	Digi-Key	311-270KLRCT-ND
4	R500, R501, R503, R504	Resistor	R 10k 0402	RES 10K OHM 1% 1/16W 0402	YAGEO	RC0402FR-0710KL	R_10k_0402	Digi-Key	311-10.0KLRCT-ND
4	R511, R512, R514, R515	Resistor	R 16k 0402	RES 16K OHM 1% 1/16W 0402	Stackpole Electronics Inc	RMCF0402FT16K0	R_16k_0402	Digi-Key	RMCF0402FT16K0CT-ND
5	R505, R507, R508, R5	Resistor	R 0R0 0402	RES 0 OHM JUMPER 1/16W 0402	Stackpole Electro	RMCF0402ZT0R00	R_0R0_0402	Digi-Key	RMCF0402ZT0R00C

Electrical Rules Check Report

Class	Document	Message
		Successful Compile for Timer_Clock_TOP.PrjPcb

Design Rules Verification Report

Filename : C:\Users\Marius\Documents\GitHub\LCD_Timer_Clock\HW\PCB_TOP\PCB_TOP.CSPcbDoc

Warnings	
Multilayer Pads with 0 size Hole found	2
Total	2

Rule Violations	
Clearance Constraint (Gap=0.1mm) (All),(All)	0
Width Constraint (Min=0.125mm) (Max=2mm) (Preferred=0.2mm) (All)	0
Power Plane Connect Rule(Relief Connect)(Expansion=0.508mm) (Conductor Width=0.254mm) (Air Gap=0.254mm)	0
Short-Circuit Constraint (Allowed=No) (All),(All)	0
Un-Routed Net Constraint ((Disabled)(All))	0
Minimum Annular Ring (Minimum=0.2mm) (All)	0
Hole Size Constraint (Min=0.2mm) (Max=6.3mm) (All)	0
Height Constraint (Min=0mm) (Max=25.4mm) (Prefered=12.7mm) (All)	0
Hole To Hole Clearance (Gap=0.254mm) (All),(All)	0
Minimum Solder Mask Sliver (Gap=0.05mm) (All),(All)	0
Silk To Solder Mask (Clearance=0.15mm) (IsPad),(All)	0
Silk to Silk (Clearance=0.153mm) (All),(All)	0
Silk primitive without silk layer	0
Unpoured Polygon (Allow unpoured: False)	0
Total	0

Multilayer Pads with 0 size Hole found
Pad FIDJ101-1(-18.7mm,31.2mm) Multi-Layer
Pad FIDJ100-1(12.8mm,-33.1mm) Multi-Layer

D515   K   D514   K   D513   K

FIDJ101

D511   IC503   C502
                  C503

R506

C505
C504

D509

R505 R502
      R508 R507

IC501

D512   IC504

R509

D510

R517 R516   M100

M101   R520
        C506
        C507

DS500

R510   IC505

D500 K   D501 K   D502 K   D503 K

IC502

C501
R519   R504
        R503

IC500

R515 D504   R514 D505   R513 D506   R512 D507   R511 D508

C500   R501

R518   R500

SW500   SW501   SW502   SW503   SW504

M102

FIDJ100

LCD_Keypad_PWM

nSW_TIMER2
nSW_TIMER1
nSW_TIME_DATE
nSW_OTA
nSW_WDA

TP500
TP501
TP502
TP503
TP504

VBAT
3V0

R518 270k 0402

C500 2.2uF 0402 6.3 V

R500 0402 10k

R501 0402 10k

IC500
VIN D1
END D2
RSET D3
     D4
GND EP EP

MIC2841AYMT

D500 LED W
D501 LED W
D502 LED W
D503 LED W

TP505

LED_TIMER2
LED_TIMER1
LED_TIME_DATE
LED_OTA
LED_WDA

TP506
TP507
TP508
TP509
TP510

R511 16k 0402
R512 16k 0402
R513 2k 0402
R514 16k 0402
R515 16k 0402

D504 LED G
D505 LED G
D506 LED Y
D507 LED B
D508 LED G

SW500 Alarm: WD
SW501 Alarm: OT
SW502 Time/Date
SW503 T1 / Q1
SW504 T2 / Q2

GND_LCD

VLED

J500

1
2
3
4
5
6
7   I2C_SCL
8   I2C_SDA
9   LCD_BG_PWM
10 LED_Light_PWM
11 nSW_TIMER2
12 nSW_TIMER1
13 nSW_TIME_DATE
14 nSW_OTA
15 nSW_WDA
16 LED_TIMER2
17 LED_TIMER1
18 LED_TIME_DATE
19 LED_OTA
20 LED_WDA
21
22
23
24
EP

FPC24

max 0.5A per pin

VBAT
3V0

GND_LCD

LCD_BG_PWM

TP511
TP513

3V0

R519 270k 0402

C501 2.2uF 0402 6.3 V

R503 0402 10k

R504 0402 10k

IC502
VIN D1
END D2
RSET D3
     D4
GND EP EP

MIC2841AYMT

TP512

VBAT

D509 LED
D510 LED W
D511 LED W
D512 LED W

GND_LCD

FPC Cable
1.0mm 80mm
24Pin
Opposite Side
CABLE500

HS500 Heatsink 14mm x 14mm EP
HS501 Heatsink 14mm x 14mm EP
HS502 Heatsink 14mm x 14mm EP

LCD_EP

FIDJ100 FIDJ101

M100 M101 M102

LED_Light_PWM

TP515

3V0

R520 270k 0402

C502 2.2uF 0402 6.3 V
C503 2.2uF 0402 6.3 V

IC503
VDD LED
DIM EP
NC   CS
     CS
GND NC

OC7140 P: 700mW

TP516
P: 1.1W

D513 LED W 1.5W
VLED
EP

R506 1206 0R27 Iset: 370mA

TP519

GND_LCD

C504 2.2uF 0402 6.3 V
C505 2.2uF 0402 6.3 V

IC504
VDD LED
DIM EP
NC   CS
     CS
GND NC

OC7140

TP520
D514 LED W 1.5W
VLED
EP

R509 1206 0R27

GND_LCD

C506 2.2uF 0402 6.3 V
C507 2.2uF 0402 6.3 V

IC505
VDD LED
DIM EP
NC   CS
     CS
GND NC

OC7140

TP521
D515 LED W 1.5W
VLED
EP

R510 1206 0R27

TP522

GND_LCD

VBAT VBAT

R502 16k 0402

TP514

R505 0R0 0402

GND_LCD

I2C_SCL
I2C_SDA

R516 0R0 0402
R517 0R0 0402

TP517
TP518

R507 0R0 0402
R508 0R0 0402

IC501

11 VDD
10 VLCD_int
12 VSS
15 SCL
16 SDA
13 TEST1
17 TEST2
14 OSCIO

SEG0 18
SEG1 19
SEG2 20
SEG3 21
SEG4 22
SEG5 23
SEG6 24
SEG7 25
SEG8 26
SEG9 27
SEG10 28
SEG11 29
SEG12 30
SEG13 31
SEG14 32
SEG15 33
SEG16 34
SEG17 35
SEG18 36
SEG19 37
SEG20 38
SEG21 39
SEG22 40
SEG23 41
SEG24 42
SEG25 43
SEG26 44
SEG27 45
SEG28 46
SEG29 47
SEG30 48
SEG31 1

COM0 6
COM1 7
COM2 8
COM3 9

SEG32 2
SEG33 3
SEG34 4
SEG35 5

BL55072A-R
Address: 0x7C

COM0

DS500

1A 35
1B 34
1C 7
1D 6
1E 5
1F 36
1G 37
DP1 8

2A 30
2B 29
2C 11
2D 10
2E 9
2F 31
2G 32
DP2 12

3A 25
3B 24
3C 15
3D 14
3E 13
3F 26
3G 27
DP3 16

4A 21
4B 20
4C 19
4D 18
4E 17
4F 22
4G 23
COL 28

N.C. 38
N.C. 39
N.C. 2
N.C. 3
N.C. 4
N.C. 33

COM 1
COM 40

LCD 4x1