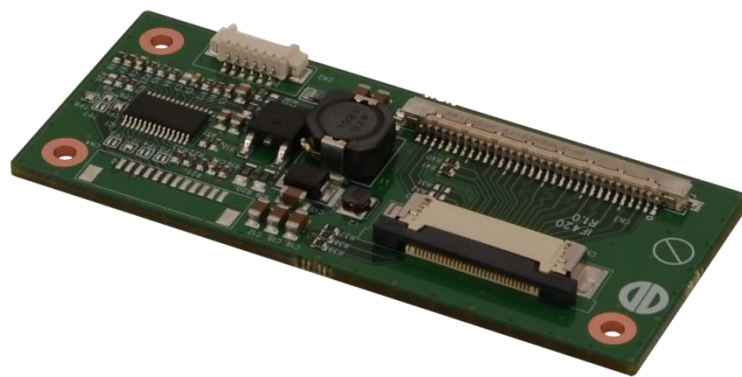


Datasheet

IF420-00

IF420-00 Ortustech 5"/7" LED 20mA

ZU-02-420



Version 1.2

16.11.2018

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Table of Contents

1	Revision History	3
2	Overview	4
3	General Features	4
4	Absolut Maximum Ratings	4
5	Electrical Specification	5
6	Mechanical Specification.....	6
7	Connectors.....	7
7.1	Input Connectors.....	7
7.2	Output Connectors.....	8
8	Ordering Information	8

1 Revision History

Date	Rev.No.	Description	Page
13.09.2018	1.0	Initial version	All
30.10.2018	1.1	Change Ordering information	1, 8
16.11.2018	1.2	Change Overview	4

2 Overview

The IF420-00 is an interface board for the 7" inch Ortustech COM70H7M24ULC and 5" inch Ortustech COM50H5N01ULC with Blanview 2nd Generation and contains an LED driver part and wire to board connectors for the LVDS and Backlight.

3 General Features

LVDS and Backlight input with wire to board connectors.
 Integrated LED driver MPS MP3391 for 12V input voltage.
 Backlight control via PWM (100Hz – 20 kHz).
 Backlight enable.

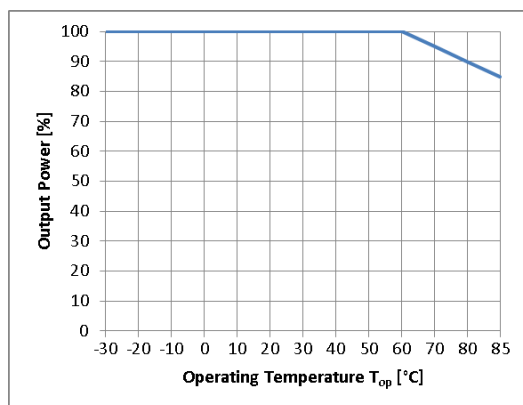
4 Absolut Maximum Ratings

Item	Symbol	Min.	Max	Unit	Note
Supply Voltage	V_{LED}	9	35	VDC	1, 2
Control Voltages	V_{EN}, V_{PDIM}	0.3	6.3	V	2
Storage Temperature	T_{st}	-40	+95	°C	2
Operating Temperature	T_{op}	-30	+85	°C	2, 3

Note (1) Within operating temperature range.

Note (2) Permanent damage to the device may occur if maximum values are exceeded.

Note (3) In the upper range of T_{OP} total output power as well as the heat dissipation/cooling has to be checked. Forced airflow might be required. The diagram below shows the derating characteristic:



5 Electrical Specification

Item	Symbol	Min.	Typ.	Max	Unit	Note
LED Supply Voltage	V_{LED}	10	12	16	VDC	
LED Input Power	P_{LED}		0.97	1.1	W	
LED Current	I_{LED}		20		mA	BLL1, BLL2
Efficiency		88	90	93	%	
Min. On Level voltage	V_{EN}, V_{PDIM}	1.6		5.0	V	1
Max. Off Level voltage	V_{EN}, V_{PDIM}	0		0.6	V	1
PWM Frequency	F_{PWM}	100		20k	Hz	
PWM Duty	D_{PWM}	0.3		100	%	2
PWM Voltage	V_{PWM}	0	3.3	5.0		

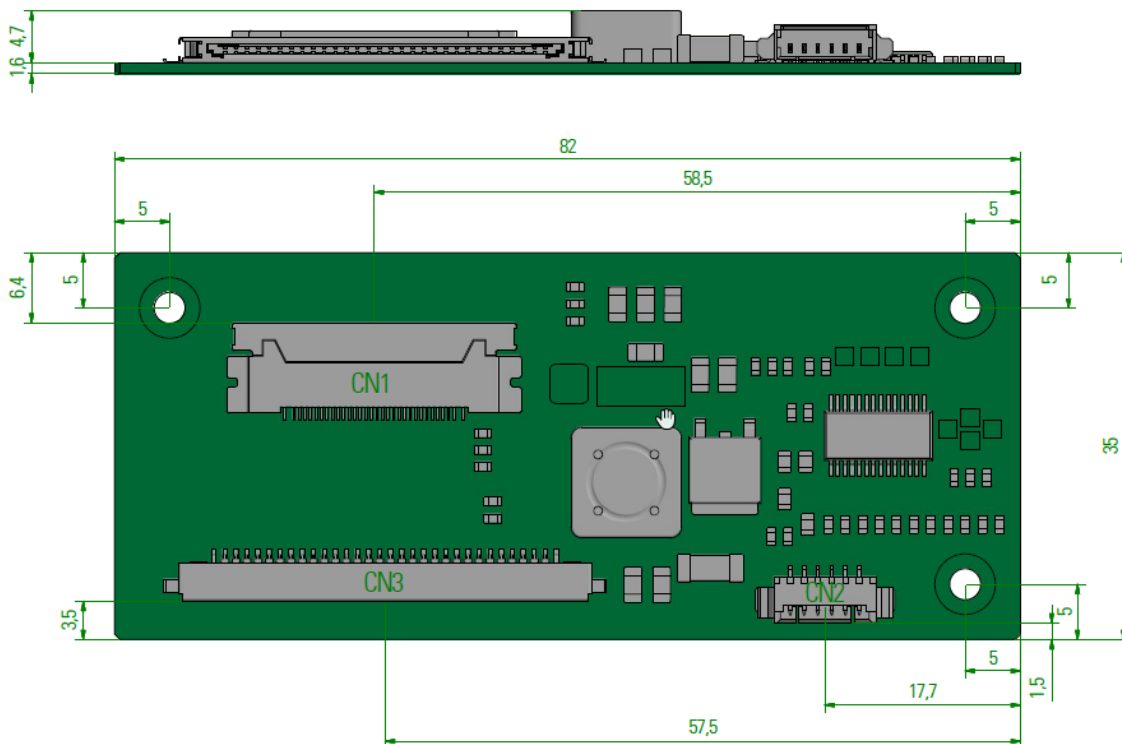
Note (1) PWM Mode

Note (2) PWM Duty min depends on PWM frequency

F_{PWM} (hz)	D_{min} (%)	D_{max} (%)
100<f≤200	0.30	100
200<f≤500	0.75	100
500<f≤1k	1.50	100
1k<f≤2k	3.00	100
2k<f≤5k	7.50	100
5k<f≤10k	15.00	100
10k<f≤13k	19.00	100
13k<f≤20k	30.00	100

6 Mechanical Specification

Item	Description	Note
Length	82 mm	± 0.2mm
Width	35 mm	± 0.2 mm
Height (top side)	4.7 mm	± 0.2 mm
Height (PCB)	1.6 mm	± 0.1 mm
Height (Bottom)	0 mm	No components on bottom side



7 Connectors

CON	Description	Type	Manufacturer
CN1	Panel Connector	IMSA-9699S-30A-GFN1	Iriso
CN2	Backlight driver	53261-0671	Molex
CN3	LVDS Data	FI-X30SSLA-HF	JAE

7.1 Input Connectors

CN2 Backlight Driver

Pin	Signal	Description
1	V _{LED}	LED Supply Voltage
2	V _{LED}	LED Supply Voltage
3	GND	Ground
4	GND	Ground
5	EN	Backlight on/off control
6	PDIM	PWM Brightness control

CN3 LVDS Data

Pin	Signal	Description	Pin	Signal	Description
1	NC	No connection	16	R0-	LVDS DATA0(-)
2	GND	Ground	17	GND	Ground
3	R3+	LVDS DATA3(+)	18	STBYB	Standby signal
4	R3-	LVDS DATA3(-)	19	IM	6/8 bit L:6bit H: or NC 8bit
5	GND	Ground	20	UL/DR	UL/DR L: DR H: or NC UL
6	R2+	LVDS DATA2(+)	21	NC	No connection
7	R2-	LVDS DATA2(-)	22	NC	No connection
8	GND	Ground	23	NC	No connection
9	CLK+	LVDS Clock(+)	24	NC	No connection
10	CLK-	LVDS Clock(-)	25	VDD	Panel Power
11	GND	Ground	26	VDD	Panel Power
12	R1+	LVDS DATA1(+)	27	GND	Ground
13	R1-	LVDS DATA1(-)	28	NC	No connection ¹
14	GND	Ground	29	NC	No connection ¹
15	R0+	LVDS DATA0(+)	30	NC	No connection ¹

Note (1) Panel BLH; BLL1; BLL2 LED strings may be wired with an assembly variant of the IF420 to supply with current directly without on board LED driver.

7.2 Output Connectors

CN1 Panel Connector

Pin	Signal	Description	Pin	Signal	Description
1	BLH	LED driver source (A)	16	R0+	LVDS Data0(+)
2	BLL2	LED driver source (C2)	17	GND	Ground
3	BLL1	LED driver source (C1)	18	R1-	LVDS Data1(-)
4	GND	Ground	19	R1+	LVDS Data1(+)
5	VDD	Panel Power input	20	GND	Ground
6	VDD	Panel Power input	21	CLK-	LVDS Clock(-)
7	Test1	Connect to VDD	22	CLK+	LVDS Clock(+)
8	Test2	Connect to GND	23	GND	Ground
9	Test3	Connect to GND	24	R2-	LVDS Data2(-)
10	NC	No Connection	25	R2+	LVDS Data2(+)
11	UL/DR	Up & Left / Down & Right	26	GND	Ground
12	IM	6/8 bit	27	R3-	LVDS Data3(-)
13	STBYB	Standby Signal	28	R3+	LVDS Data3(+)
14	GND	Ground	29	GND	Ground
15	R0-	LVDS Data0(-)	30	NC	No Connection

8 Ordering Information

Part Number	Description	Note
ZU-02-420	IF420-00 Ortustech 5"/7" LED 20mA	
ZU-02-420A	IF420-01 Ortustech 5"/7" LED 34mA	
OR-03-001	COM70H7M24ULC-IF	Panel with preassembled IF420-00
OR-03-002	COM50H5N01ULC-IF	Panel with preassembled IF420-00
KA-10-199	Cable Prisma / IF420 300mm	LVDS Data, Backlight Power input cable

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