SIMPlugIN-DIGIT User Manual

... a SIMPlugIN board® family member

Revision: see file name on page header
Date: August 25th 2011

REVISION HISTORY

0.1	First release

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A) Board layout

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0) Introduction and references

This manual describes how to operate SIMPlugIN-DIGIT board.

SIMPlugIN family boards are intended for engineers (engineering students too) that want to enjoy an easy to use and easy to expand FPGA development system.

SIMPlugIN-DIGIT is an add-on board that provides two hexadecimal digit displays (seven segment display) plus a 4 position micro switch. All signals have test point.

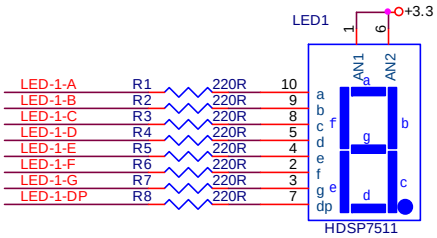
0.1) References

- SIMPlugIN- 6XL45 user manual and schematics

1) General description

The board provides two hex digit displays (seven segment display)

The function is as follows (similar for the other digit)



To turn on a led the corresponding signal should go to logic 0.

Power voltage comments:

The main board must be configured to supply +3.3 volt in the dedicated pin.

Typically you should configure SIMPlugIN main board to supply 3.3 volt to VCCO supply pins of add-on connector.

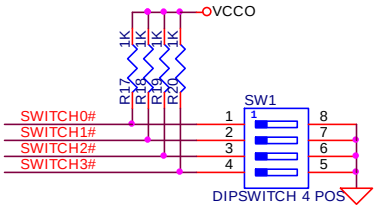
Nevertheless notice that the display led's are fed from +3.3 (this pin is always a 3.3 volt supply independently of the configuration of VCCO.

If the user selects in the base board a VCCO lower than 3.3 (e.g. 2.5 volt) then to turn off a led the FPGA signal should be Hi-Z. Notice: if the FPGA issues low impedance logic 1 then the pin will get a voltage of around, say, 2.5 volt and the other end of the led would be at 3.3 volt as a result the led could be lit with a reduced intensity (instead of being completely off).

To make sure that the led turns completely off the signal should go to Hi-Z.

The logic 0 will turn on the led without problems in any case.

The function of the micro switch is



A position in on will set the corresponding signal to 0.

2) Connectors

Add-on connector

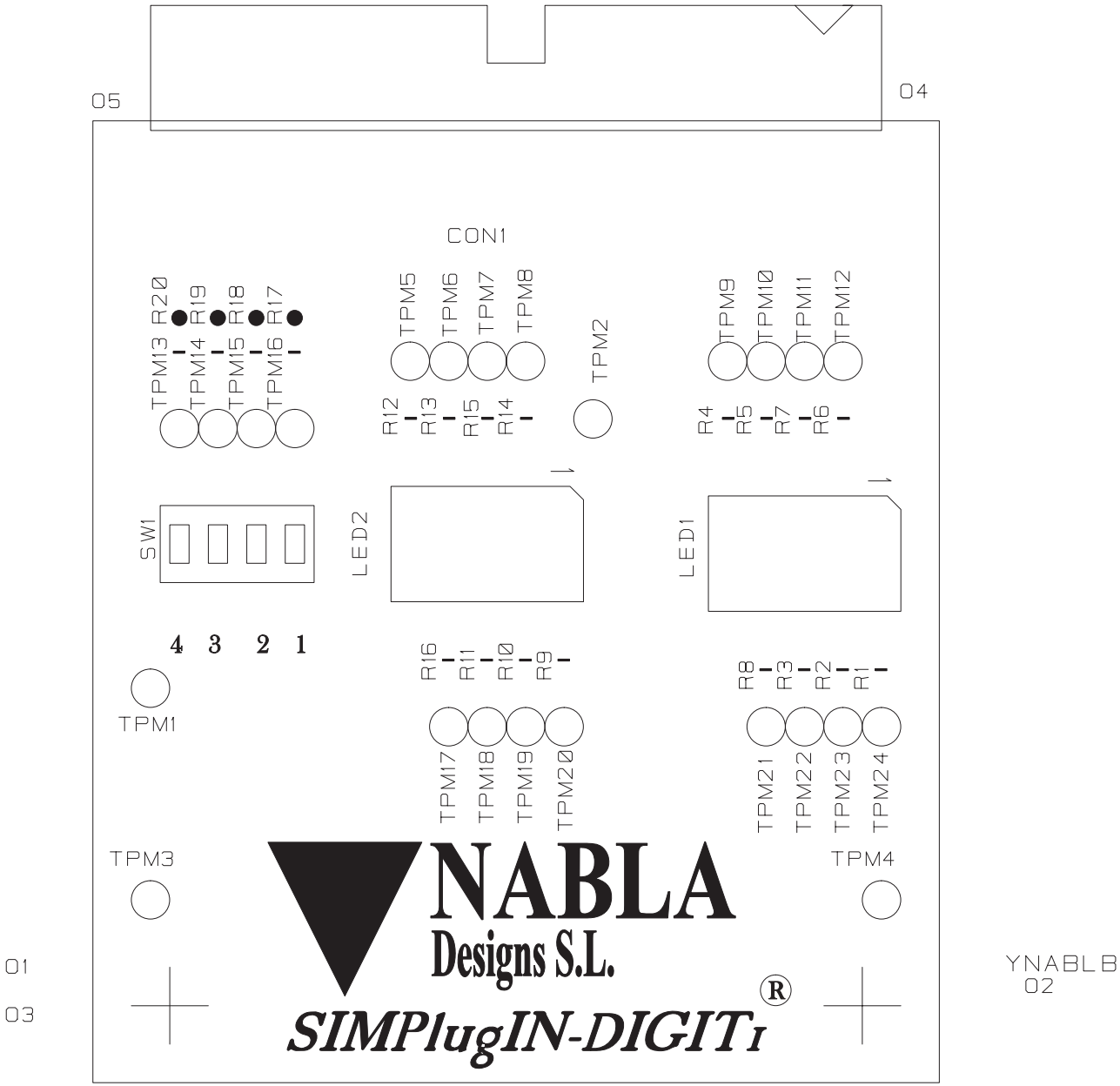
1	+3.3
2	
3	GND
4	VCCO
5	LED-1-F
6	LED-1-G
7	LED-1-E
8	LED-1-D
9	GND
10	VCCO
11	LED-1-DP
12	LED-1-C
13	LED-1-B
14	LED-1-A
15	GND
16	VCCO
17	LED-2-F
18	LED-2-G
19	LED-2-E
20	LED-2-D
21	GND
22	VCCO
23	LED-2-DP
24	LED-2-C
25	LED-2-B
26	LED-2-A
27	GND
28	VCCO
29	SWITCH0#
30	SWITCH1#
31	SWITCH2#
32	SWITCH3#
33	GND
34	VCCO

3) Configuration jumpers

There are no configuration jumpers

4) Test points

TPM1	GND
TPM2	GND
TPM3	GND
TPM4	GND
TPM5	LED-2-D
TPM6	LED-2-E
TPM7	LED-2-G
TPM8	LED-2-F
TPM9	LED-1-D
TPM10	LED-1-E
TPM11	LED-1-G
TPM12	LED-1-F
TPM13	SWITCH3#
TPM14	SWITCH2#
TPM15	SWITCH1#
TPM16	SWITCH0#
TPM17	LED-2-DP
TPM18	LED-2-C
TPM19	LED-2-B
TPM20	LED-2-A
TPM21	LED-1-DP
TPM22	LED-1-C
TPM23	LED-1-B
TPM24	LED-1-A


05
04
CON1
TPM13 R20
TPM14 R19
TPM15 R18
TPM16 R17
TPM5
TPM6
TPM7
TPM8
TPM2
TPM9
TPM10
TPM11
TPM12
R12
R13
R15
R14
R4
R5
R7
R6
SW1
LED2
LED1
4 3 2 1
R16
R11
R10
R9
R8
R3
R2
R1
TPM1
TPM17
TPM18
TPM19
TPM20
TPM21
TPM22
TPM23
TPM24
TPM3
TPM4
NABLA
Designs S.L.
SIMPlugIN-DIGIT1
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01
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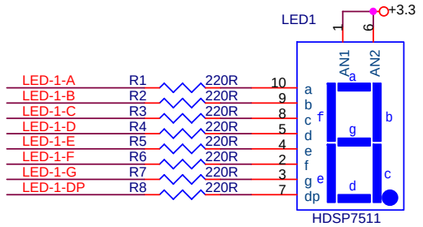

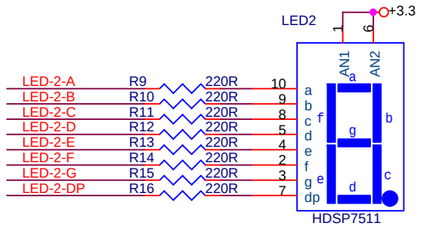

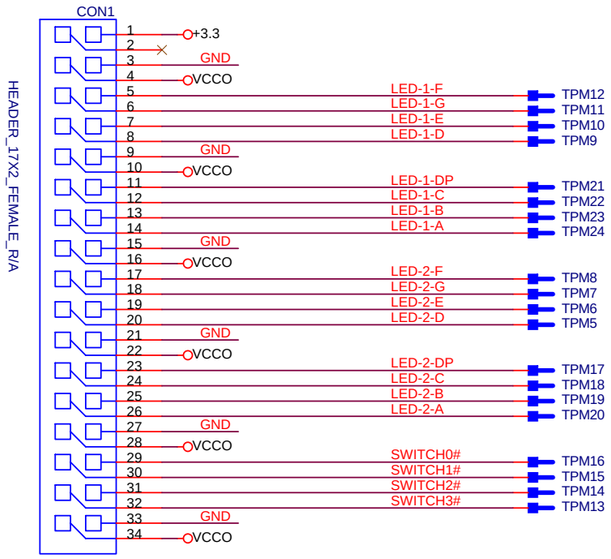

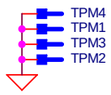

NABLA
Designs S.L.

Project: SIMPlugIN Board: SIMPlugIN-DIGIT1

Board description
Add-on board with 2 seven segment display + 4 position dip switch

Size: A3

Page description:

Rev 1.0p

Last modified date: Wednesday, April 27, 2011

Revised: Wednesday, April 27, 2011				
Item	**qty**	**Reference**	**Part**	**PCB Footprint**
1	1	CON1	HEADER_17X2_FEMALE_R/A	
2	2	LED1,LED2	HDSP7511	HDSP7511
3	16	R1,R2,R3,R4,R5,R6,R7,R8,	220R	0603
		R9,R10,R11,R12,R13,R14,		
		R15,R16		
4	4	R17,R18,R19,R20	1K	0603
5	1	SW1	DIPSWITCH 4 POS	SWITCHDIP4
6	4	TPM1,TPM2,TPM3,TPM4	header 1x1	header 1x1
7	20	TPM5,TPM6,TPM7,TPM8,TPM9,	DNP header 1x1	header 1x1
		TPM10,TPM11,TPM12,TPM13,		
		TPM14,TPM15,TPM16,TPM17,		
		TPM18,TPM19,TPM20,TPM21,		
		TPM22,TPM23,TPM24		