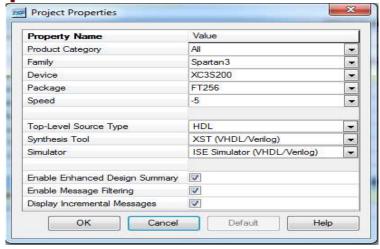
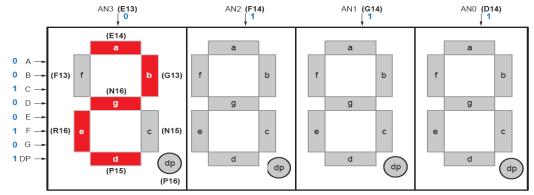
### DATOS TARJETAS

## Spartan-3 Starter Kit Board





#### **Slider Switch Connections**

| Switch   | SW7 | SW6 | SW5 | SW4 | SW3 | SW2 | SW1 | SW0 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|
| FPGA Pin | K13 | K14 | J13 | J14 | H13 | H14 | G12 | F12 |

#### **Push Button Switch Connections**

| Push Button | BTN3 (User Reset) | BTN2 | BTN1 | BTN0 |
|-------------|-------------------|------|------|------|
| FPGA Pin    | L14               | L13  | M14  | M13  |

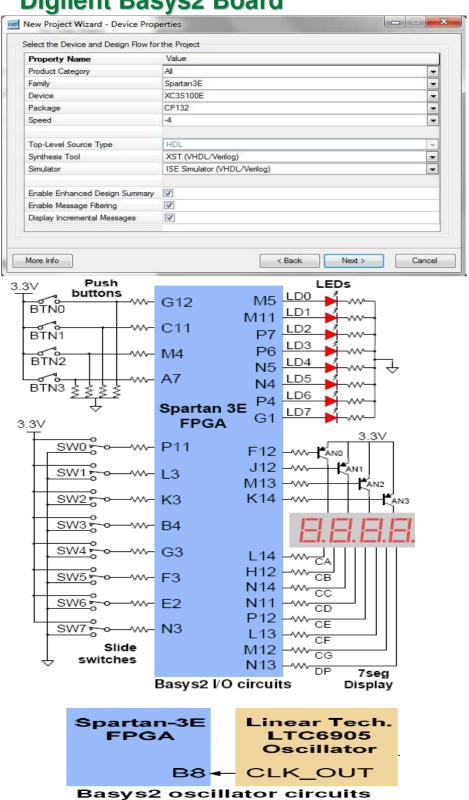
#### LED Connections to the Spartan-3 FPGA

| LED      | LD7 | LD6 | LD5 | LD4 | LD3 | LD2 | LD1 | LD0 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|
| FPGA Pin | P11 | P12 | N12 | P13 | N14 | L12 | P14 | K12 |

#### **Clock Oscillator Sources**

| Olock Oscillator Oddrees |          |  |  |  |
|--------------------------|----------|--|--|--|
| Oscillator Source        | FPGA Pin |  |  |  |
| 50 MHz (IC4)             | Т9       |  |  |  |

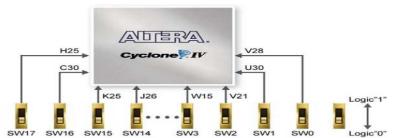
**Digilent Basys2 Board** 



## DE2i-150 Board

Device Family: Ciclone IV FPGA GX

Device: EP4CGX150DF31C7



Connections between the slide switches and Cyclone IV GX FPGA

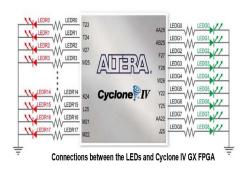
| Connections betw | een the siid |
|------------------|--------------|
| Signal Name      | FPGA         |
| SW[0]            | V28          |
| SW[1]            | U30          |
| SW[2]            | V21          |
| SW[3]            | C2           |
| SW[4]            | AB30         |
| SW[5]            | U21          |
| SW[6]            | T28          |
| SW[7]            | R30          |
| SW[8]            | P30          |
| SW[9]            | R29          |
| SW[10]           | R26          |
| SW[11]           | N26          |
| SW[12]           | M26          |
| SW[13]           | N25          |
| SW[14]           | J26          |
| SW[15]           | K25          |
| SW[16]           | C30          |
| SW[17]           | H25          |
|                  |              |

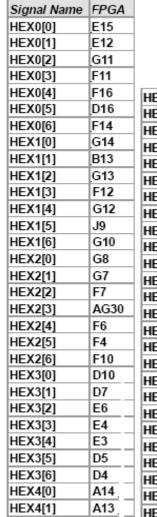
# Pin Assignments for Push-buttons

| Signal Name | FPGA |
|-------------|------|
| KEY[0]      | AA26 |
| KEY[1]      | AE25 |
| KEY[2]      | AF30 |
| KEY[3]      | AE26 |

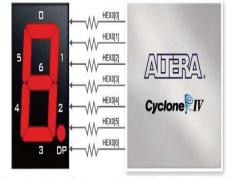
#### Pin Assignments for LEDs Signal Name | FPGA

| Signal maine | FF GA. |
|--------------|--------|
| LEDR[0]      | T23    |
| LEDR[1]      | T24    |
| LEDR[2]      | V27    |
| LEDR[3]      | W25    |
| LEDR[4]      | T21    |
| LEDR[5]      | T26    |
| LEDR[6]      | R25    |
| LEDR[7]      | T27    |
| LEDR[8]      | P25    |
| LEDR[9]      | R24    |
| LEDR[10]     | P21    |
| LEDR[11]     | N24    |
| LEDR[12]     | N21    |
| LEDR[13]     | M25    |
| LEDR[14]     | K24    |
| LEDR[15]     | L25    |
| LEDR[16]     | M21    |
| LEDR[17]     | M22    |
| LEDG[0]      | AA25   |
| LEDG[1]      | AB25   |
| LEDG[2]      | F27    |
| LEDG[3]      | F26    |
| LEDG[4]      | W26    |
| LEDG[5]      | Y22    |
| LEDG[6]      | Y25    |
| LEDG[7]      | AA22   |
| LEDG[8]      | J25    |
|              |        |





| HEX4[2] | C7  |
|---------|-----|
| HEX4[3] | C6  |
| HEX4[4] | C5  |
| HEX4[5] | C4  |
| HEX4[6] | C3  |
| HEX5[0] | D3  |
| HEX5[1] | A10 |
| HEX5[2] | A9  |
| HEX5[3] | A7  |
| HEX5[4] | A6  |
| HEX5[5] | A11 |
| HEX5[6] | B6  |
| HEX6[0] | B9  |
| HEX6[1] | B10 |
| HEX6[2] | C8  |
| HEX6[3] | C9  |
| HEX6[4] | D8  |
| HEX6[5] | D9  |
| HEX6[6] | E9  |
| HEX7[0] | E10 |
| HEX7[1] | F8  |
| HEX7[2] | F9  |
| IEX7[3] | C10 |
| HEX7[4] | C11 |
| IEX7[5] | C12 |
| IEX7[6] | D12 |



Connections between the 7-segment display HEXO and Cyclone IV GX FPGA



Block diagram of the clock distribution