

cpldfit: version 0.40d

Xilinx Inc.

Fitter Report

Design Name: c3schem

Date: 12-17-2011, 10:25PM

Device Used: XC2C64A-7-VQ44

Fitting Status: Successful

***** Mapped Resource Summary *****

Macrocells	Product Terms	Function Block	Registers	Pins
Used/Tot	Used/Tot	Inps Used/Tot	Used/Tot	Used/Tot
24 /64 (37%)	22 /224 (10%)	37 /160 (23%)	22 /64 (34%)	27 /33 (82%)

** Function Block Resources **

Function Block	Mcells Used/Tot	FB Inps Used/Tot	Pterms Used/Tot	IO Used/Tot	CTC Used/Tot	CTR Used/Tot	CTS Used/Tot	CTE Used/Tot
FB1	8/16	7/40	6/56	7/ 8	0/1	0/1	0/1	0/1
FB2	6/16	9/40	6/56	6/ 9	0/1	0/1	0/1	0/1
FB3	9/16	18/40	9/56	9/ 9*	0/1	0/1	0/1	0/1
FB4	1/16	3/40	1/56	1/ 7	0/1	0/1	0/1	0/1
Total	24/64	37/160	22/224	23/33	0/4	0/4	0/4	0/4

CTC - Control Term Clock

CTR - Control Term Reset

CTS - Control Term Set

CTE - Control Term Output Enable

* - Resource is exhausted

** Global Control Resources **

GCK	GSR	GTS	DGE
Used/Tot	Used/Tot	Used/Tot	Used/Tot
3/3	1/1	0/4	0/0

Signal 'START' mapped onto global clock net GCK0.

Signal 'STOP' mapped onto global clock net GCK1.

Signal 'CLK' mapped onto global clock net GCK2.

Signal 'RESET' mapped onto global set/reset net GSR.

** Pin Resources **

Signal Type	Required	Mapped	Pin Type	Used	Total
Input	: 0	0	I/O	: 19	25
Output	: 23	23	GCK/IO	: 3	3
Bidirectional	: 0	0	GTS/IO	: 4	4
GCK	: 3	3	GSR/IO	: 1	1
GTS	: 0	0			
GSR	: 1	1			
Total	27	27			

End of Mapped Resource Summary

***** Errors and Warnings *****

WARNING:Cpld - Unable to retrieve the path to the iSE Project Repository. Will use the default filename of 'c3schem.ise'.

□***** Summary of Mapped Logic *****

** 23 Outputs **

Signal Name	Total Pts	Total Inps	Bank	Loc	Pin No.	Pin Type	Pin Use	I/O STD	I/O Style
START_S1B	0	0	2	FB1_1	38	I/O	0	LVC MOS33	
STOP_S1B	0	0	2	FB1_2	37	I/O	0	LVC MOS33	
START_S2B	1	1	2	FB1_3	36	I/O	0	LVC MOS33	
START_S3B	1	1	2	FB1_9	34	GTS/I/O	0	LVC MOS33	
STOP_S3B	1	1	2	FB1_10	33	GTS/I/O	0	LVC MOS33	
DOUT<0>	1	2	2	FB1_11	32	GTS/I/O	0	LVC MOS33	
DOUT<1>	1	3	2	FB1_12	31	GTS/I/O	0	LVC MOS33	
DOUT<2>	1	4	1	FB2_1	39	I/O	0	LVC MOS33	
DOUT<3>	1	5	1	FB2_2	40	I/O	0	LVC MOS33	
DOUT<4>	1	6	1	FB2_5	41	I/O	0	LVC MOS33	
DOUT<5>	1	7	1	FB2_6	42	I/O	0	LVC MOS33	
DOUT<6>	1	8	1	FB2_12	2	I/O	0	LVC MOS33	
DOUT<7>	1	9	1	FB2_13	3	I/O	0	LVC MOS33	
DOUT<15>	1	17	2	FB3_1	29	I/O	0	LVC MOS33	
DOUT<14>	1	16	2	FB3_2	28	I/O	0	LVC MOS33	
DOUT<13>	1	15	2	FB3_3	27	I/O	0	LVC MOS33	
DOUT<12>	1	14	2	FB3_6	23	I/O	0	LVC MOS33	
DOUT<11>	1	13	2	FB3_10	22	I/O	0	LVC MOS33	
TC	1	16	2	FB3_11	21	I/O	0	LVC MOS33	
DOUT<10>	1	12	2	FB3_12	20	I/O	0	LVC MOS33	
DOUT<9>	1	11	2	FB3_14	19	I/O	0	LVC MOS33	
DOUT<8>	1	10	2	FB3_15	18	I/O	0	LVC MOS33	
CEO	1	3	1	FB4_1	5	I/O	0	LVC MOS33	

** 1 Buried Nodes **

Signal Name	Total Pts	Total Inps	Loc	Reg Use	Reg Init State
STOP_S2	1	1	FB1_16	DFF	RESET

** 4 Inputs **

Signal Name	Bank	Loc	Pin No.	Pin Type	Pin Use	I/O STD	I/O Style
RESET	2	FB1_13	30	GSR/I/O	GSR	LVC MOS33	S/KPR
START	1	FB2_7	43	GCK/I/O	GCK	LVC MOS33	S/KPR
STOP	1	FB2_8	44	GCK/I/O	GCK	LVC MOS33	S/KPR
CLK	1	FB2_10	1~	GCK/I/O	GCK	LVC MOS33	KPR

Legend:

Pin No. - ~ - User Assigned

I/O Style - OD - OpenDrain

- PU - Pullup

- KPR - Keeper

- S - SchmittTrigger

- DG - DataGate

Reg Use - LATCH - Transparent latch

- DFF - D-flip-flop

- DEFF - D-flip-flop with clock enable

- TFF - T-flip-flop

- TDEFF - Dual-edge-triggered T-flip-flop

- DDFF - Dual-edge-triggered flip-flop

- DDEFF - Dual-edge-triggered flip-flop with clock enable

/S (after any above flop/latch type) indicates initial state is Set

□***** Function Block Details *****

Legend:

Total Pt - Total product terms used by the macrocell signal
 Loc - Location where logic was mapped in device
 Pin Type/Use - I - Input GCK - Global clock
 O - Output GTS - Global Output Enable
 (b) - Buried macrocell GSR - Global Set/Reset
 VRF - Vref

Pin No. - ~ - User Assigned

□***** FB1 *****

This function block is part of I/O Bank number: 2
 Number of function block inputs used/remaining: 7/33
 Number of function block control terms used/remaining: 0/4
 Number of PLA product terms used/remaining: 6/50

Signal Name	Total Pt	Loc	Pin No.	Pin Type	Pin Use	CTC	CTR	CTS	CTE
START_S1B	0	FB1_1	38	I/O	O				
STOP_S1B	0	FB1_2	37	I/O	O				
START_S2B	1	FB1_3	36	I/O	O				
(unused)	0	FB1_4		(b)					
(unused)	0	FB1_5		(b)					
(unused)	0	FB1_6		(b)					
(unused)	0	FB1_7		(b)					
(unused)	0	FB1_8		(b)					
START_S3B	1	FB1_9	34	GTS/I/O	O				
STOP_S3B	1	FB1_10	33	GTS/I/O	O				
DOUT<0>	1	FB1_11	32	GTS/I/O	O				
DOUT<1>	1	FB1_12	31	GTS/I/O	O				
(unused)	0	FB1_13	30	GSR/I/O	GSR				
(unused)	0	FB1_14		(b)					
(unused)	0	FB1_15		(b)					
STOP_S2	1	FB1_16		(b)	(b)				

Signals Used by Logic in Function Block

1: DOUT<0> 4: START_S3B 6: STOP_S2
 2: START_S1B 5: STOP_S1B 7: STOP_S3B
 3: START_S2B

Signal Name	1	2	3	4	FB
START_S1B	0	0	0	0	Inputs
STOP_S1B	0	0	0	0	0
START_S2B	.X	0	0	0	1
START_S3B	..X	0	0	0	1
STOP_S3B	X	0	0	0	1
DOUT<0>	...X..X	0	0	0	2
DOUT<1>	X..X..X	0	0	0	3
STOP_S2	X	0	0	0	1

□***** FB2 *****

This function block is part of I/O Bank number: 1
 Number of function block inputs used/remaining: 9/31
 Number of function block control terms used/remaining: 0/4
 Number of PLA product terms used/remaining: 6/50

Signal Name	Total Pt	Loc	Pin No.	Pin Type	Pin Use	CTC	CTR	CTS	CTE
DOUT<2>	1	FB2_1	39	I/O	O				
DOUT<3>	1	FB2_2	40	I/O	O				
(unused)	0	FB2_3		(b)					

(unused)	0	FB2_4	(b)
DOUT<4>	1	FB2_5	41 I/O 0
DOUT<5>	1	FB2_6	42 I/O 0
(unused)	0	FB2_7	43 GCK/I/O GCK
(unused)	0	FB2_8	44 GCK/I/O GCK
(unused)	0	FB2_9	(b)
(unused)	0	FB2_10	1 GCK/I/O GCK
(unused)	0	FB2_11	(b)
DOUT<6>	1	FB2_12	2 I/O 0
DOUT<7>	1	FB2_13	3 I/O 0
(unused)	0	FB2_14	(b)
(unused)	0	FB2_15	(b)
(unused)	0	FB2_16	(b)

Signals Used by Logic in Function Block

1: DOUT<0>	4: DOUT<3>	7: DOUT<6>
2: DOUT<1>	5: DOUT<4>	8: START_S3B
3: DOUT<2>	6: DOUT<5>	9: STOP_S3B

Signal Name	1	2	3	4	FB
DOUT<2>	XX.....XX.....				4
DOUT<3>	XXX....XX.....				5
DOUT<4>	XXXX...XX.....				6
DOUT<5>	XXXXXX..XX.....				7
DOUT<6>	XXXXXXX.XX.....				8
DOUT<7>	XXXXXXXXXX.....				9
	0-----+-----	1-----+-----	2-----+-----	3-----+-----	4
	0	0	0	0	

□***** FB3 *****

This function block is part of I/O Bank number:						2		
Number of function block inputs used/remaining:						18/22		
Number of function block control terms used/remaining:						0/4		
Number of PLA product terms used/remaining:						9/47		
Signal Name	Total Loc Pt	Pin No.	Pin Type	Pin Use	CTC	CTR	CTS	CTE
DOUT<15>	1	FB3_1	29	I/O	0			
DOUT<14>	1	FB3_2	28	I/O	0			
DOUT<13>	1	FB3_3	27	I/O	0			
(unused)	0	FB3_4		(b)				
(unused)	0	FB3_5		(b)				
DOUT<12>	1	FB3_6	23	I/O	0			
(unused)	0	FB3_7		(b)				
(unused)	0	FB3_8		(b)				
(unused)	0	FB3_9		(b)				
DOUT<11>	1	FB3_10	22	I/O	0			
TC	1	FB3_11	21	I/O	0			
DOUT<10>	1	FB3_12	20	I/O	0			
(unused)	0	FB3_13		(b)				
DOUT<9>	1	FB3_14	19	I/O	0			
DOUT<8>	1	FB3_15	18	I/O	0			
(unused)	0	FB3_16		(b)				

Signals Used by Logic in Function Block

1: DOUT<0>	7: DOUT<15>	13: DOUT<6>
2: DOUT<10>	8: DOUT<1>	14: DOUT<7>
3: DOUT<11>	9: DOUT<2>	15: DOUT<8>
4: DOUT<12>	10: DOUT<3>	16: DOUT<9>
5: DOUT<13>	11: DOUT<4>	17: START_S3B
6: DOUT<14>	12: DOUT<5>	18: STOP_S3B

Signal	1	2	3	4	FB
Name	0----	0----	0----	0----	0 Inputs
DOUT<15>	XXXXXX	XXXXXXXXXXXX			17
DOUT<14>	XXXXXX	XXXXXXXXXXXX			16
DOUT<13>	XXXX	XXXXXXXXXXXX			15
DOUT<12>	XXX	XXXXXXXXXXXX			14
DOUT<11>	XX	XXXXXXXXXXXX			13
TC		XXXXXXXXXXXX			16
DOUT<10>	X	XXXXXXXXXXXX			12
DOUT<9>	X	XXXXXXXXXX	XX		11
DOUT<8>	X	XXXXXXXXXX	XX		10
	0----	1----	2----	3----	4
	0	0	0	0	

□***** FB4 *****

This function block is part of I/O Bank number: 1

Number of function block inputs used/remaining: 3/37

Number of function block control terms used/remaining: 0/4

Number of PLA product terms used/remaining: 1/55

Signal	Total Loc	Pin	Pin	Pin	CTC	CTR	CTS	CTE
Name	Pt	No.	Type	Use				
CEO	1	FB4_1	5	I/O	0			
(unused)	0	FB4_2	6	I/O				
(unused)	0	FB4_3		(b)				
(unused)	0	FB4_4		(b)				
(unused)	0	FB4_5		(b)				
(unused)	0	FB4_6		(b)				
(unused)	0	FB4_7	8	I/O				
(unused)	0	FB4_8		(b)				
(unused)	0	FB4_9		(b)				
(unused)	0	FB4_10		(b)				
(unused)	0	FB4_11	12	I/O				
(unused)	0	FB4_12		(b)				
(unused)	0	FB4_13	13	I/O				
(unused)	0	FB4_14	14	I/O				
(unused)	0	FB4_15	16	I/O				
(unused)	0	FB4_16		(b)				

Signals Used by Logic in Function Block

1: START_S3B 2: STOP_S3B 3: TC

Signal	1	2	3	4	FB
Name	0----	0----	0----	0----	0 Inputs
CEO	XXX				3
	0----	1----	2----	3----	4
	0	0	0	0	

□***** Equations *****

***** Mapped Logic *****

CEO <= (START_S3B AND NOT STOP_S3B AND TC);

FTCPE_DOUT0: FTCPE port map (DOUT(0),DOUT_T(0),CLK,RESET,'0','1');
DOUT_T(0) <= (START_S3B AND NOT STOP_S3B);

FTCPE_DOUT1: FTCPE port map (DOUT(1),DOUT_T(1),CLK,RESET,'0','1');
DOUT_T(1) <= (START_S3B AND NOT STOP_S3B AND DOUT(0));

FTCPE_DOUT2: FTCPE port map (DOUT(2),DOUT_T(2),CLK,RESET,'0','1');

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DOUT_T(2) <= (START_S3B AND NOT STOP_S3B AND DOUT(0) AND DOUT(1));

FTCPE_DOUT3: FTCPE port map (DOUT(3),DOUT_T(3),CLK,RESET,'0','1');
DOUT_T(3) <= (START_S3B AND NOT STOP_S3B AND DOUT(0) AND DOUT(1) AND
DOUT(2));

FTCPE_DOUT4: FTCPE port map (DOUT(4),DOUT_T(4),CLK,RESET,'0','1');
DOUT_T(4) <= (START_S3B AND NOT STOP_S3B AND DOUT(0) AND DOUT(1) AND
DOUT(2) AND DOUT(3));

FTCPE_DOUT5: FTCPE port map (DOUT(5),DOUT_T(5),CLK,RESET,'0','1');
DOUT_T(5) <= (START_S3B AND NOT STOP_S3B AND DOUT(0) AND DOUT(1) AND
DOUT(2) AND DOUT(3) AND DOUT(4));

FTCPE_DOUT6: FTCPE port map (DOUT(6),DOUT_T(6),CLK,RESET,'0','1');
DOUT_T(6) <= (START_S3B AND NOT STOP_S3B AND DOUT(0) AND DOUT(1) AND
DOUT(2) AND DOUT(3) AND DOUT(4) AND DOUT(5));

FTCPE_DOUT7: FTCPE port map (DOUT(7),DOUT_T(7),CLK,RESET,'0','1');
DOUT_T(7) <= (START_S3B AND NOT STOP_S3B AND DOUT(0) AND DOUT(1) AND
DOUT(2) AND DOUT(3) AND DOUT(4) AND DOUT(5) AND DOUT(6));

FTCPE_DOUT8: FTCPE port map (DOUT(8),DOUT_T(8),CLK,RESET,'0','1');
DOUT_T(8) <= (START_S3B AND NOT STOP_S3B AND DOUT(0) AND DOUT(1) AND
DOUT(2) AND DOUT(3) AND DOUT(4) AND DOUT(5) AND DOUT(6) AND
DOUT(7));

FTCPE_DOUT9: FTCPE port map (DOUT(9),DOUT_T(9),CLK,RESET,'0','1');
DOUT_T(9) <= (START_S3B AND NOT STOP_S3B AND DOUT(0) AND DOUT(1) AND
DOUT(2) AND DOUT(3) AND DOUT(4) AND DOUT(5) AND DOUT(6) AND
DOUT(7) AND DOUT(8));

FTCPE_DOUT10: FTCPE port map (DOUT(10),DOUT_T(10),CLK,RESET,'0','1');
DOUT_T(10) <= (START_S3B AND NOT STOP_S3B AND DOUT(0) AND DOUT(1) AND
DOUT(2) AND DOUT(3) AND DOUT(4) AND DOUT(5) AND DOUT(6) AND
DOUT(7) AND DOUT(8) AND DOUT(9));

FTCPE_DOUT11: FTCPE port map (DOUT(11),DOUT_T(11),CLK,RESET,'0','1');
DOUT_T(11) <= (START_S3B AND NOT STOP_S3B AND DOUT(0) AND DOUT(1) AND
DOUT(2) AND DOUT(3) AND DOUT(4) AND DOUT(5) AND DOUT(6) AND
DOUT(7) AND DOUT(8) AND DOUT(9) AND DOUT(10));

FTCPE_DOUT12: FTCPE port map (DOUT(12),DOUT_T(12),CLK,RESET,'0','1');
DOUT_T(12) <= (START_S3B AND NOT STOP_S3B AND DOUT(0) AND DOUT(1) AND
DOUT(2) AND DOUT(3) AND DOUT(4) AND DOUT(5) AND DOUT(6) AND
DOUT(7) AND DOUT(8) AND DOUT(9) AND DOUT(10) AND DOUT(11));

FTCPE_DOUT13: FTCPE port map (DOUT(13),DOUT_T(13),CLK,RESET,'0','1');
DOUT_T(13) <= (START_S3B AND NOT STOP_S3B AND DOUT(0) AND DOUT(1) AND
DOUT(2) AND DOUT(3) AND DOUT(4) AND DOUT(5) AND DOUT(6) AND
DOUT(7) AND DOUT(8) AND DOUT(9) AND DOUT(10) AND DOUT(11) AND
DOUT(12));

FTCPE_DOUT14: FTCPE port map (DOUT(14),DOUT_T(14),CLK,RESET,'0','1');
DOUT_T(14) <= (START_S3B AND NOT STOP_S3B AND DOUT(0) AND DOUT(1) AND
DOUT(2) AND DOUT(3) AND DOUT(4) AND DOUT(5) AND DOUT(6) AND
DOUT(7) AND DOUT(8) AND DOUT(9) AND DOUT(10) AND DOUT(11) AND
DOUT(12) AND DOUT(13));

FTCPE_DOUT15: FTCPE port map (DOUT(15),DOUT_T(15),CLK,RESET,'0','1');

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DOUT_T(15) <= (START_S3B AND NOT STOP_S3B AND DOUT(0) AND DOUT(1) AND
               DOUT(2) AND DOUT(3) AND DOUT(4) AND DOUT(5) AND DOUT(6) AND
               DOUT(7) AND DOUT(8) AND DOUT(9) AND DOUT(10) AND DOUT(11) AND
               DOUT(12) AND DOUT(13) AND DOUT(14));

FDCPE_START_S1B: FDCPE port map (START_S1B,NOT '0',START,RESET,'0','1');

FDCPE_START_S2B: FDCPE port map (START_S2B,START_S1B,CLK,RESET,'0','1');

FDCPE_START_S3B: FDCPE port map (START_S3B,START_S2B,CLK,RESET,'0','1');

FDCPE_STOP_S1B: FDCPE port map (STOP_S1B,NOT '0',STOP,RESET,'0','1');

FDCPE_STOP_S2: FDCPE port map (STOP_S2,STOP_S1B,CLK,RESET,'0','1');

FDCPE_STOP_S3B: FDCPE port map (STOP_S3B,STOP_S2,CLK,RESET,'0','1');

TC <= (DOUT(0) AND DOUT(1) AND DOUT(2) AND DOUT(3) AND
       DOUT(4) AND DOUT(5) AND DOUT(6) AND DOUT(7) AND DOUT(8) AND
       DOUT(9) AND DOUT(10) AND DOUT(11) AND DOUT(12) AND DOUT(13) AND
       DOUT(14) AND DOUT(15));

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Register Legend:

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FDCPE (Q,D,C,CLR,PRE,CE);
FDDCPE (Q,D,C,CLR,PRE,CE);
FTCPE (Q,D,C,CLR,PRE,CE);
FTDCPE (Q,D,C,CLR,PRE,CE);
LDCP (Q,D,G,CLR,PRE);

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□***** Device Pin Out *****

Device : XC2C64A-7-VQ44

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/44 43 42 41 40 39 38 37 36 35 34 \
| 1                                33 |
| 2                                32 |
| 3                                31 |
| 4                                30 |
| 5          XC2C64A-7-VQ44        29 |
| 6                                28 |
| 7                                27 |
| 8                                26 |
| 9                                25 |
| 10                               24 |
| 11                               23 |
\ 12 13 14 15 16 17 18 19 20 21 22 /
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Pin Signal
No. Name

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1 CLK
2 DOUT<6>
3 DOUT<7>
4 GND
5 CEO

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Pin Signal
No. Name

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23 DOUT<12>
24 TDO
25 GND
26 VCCIO-3.3
27 DOUT<13>

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6 KPR	28 DOUT<14>
7 VCCIO-3.3	29 DOUT<15>
8 KPR	30 RESET
9 TDI	31 DOUT<1>
10 TMS	32 DOUT<0>
11 TCK	33 STOP_S3B
12 KPR	34 START_S3B
13 KPR	35 VCCAUX
14 KPR	36 START_S2B
15 VCC	37 STOP_S1B
16 KPR	38 START_S1B
17 GND	39 DOUT<2>
18 DOUT<8>	40 DOUT<3>
19 DOUT<9>	41 DOUT<4>
20 DOUT<10>	42 DOUT<5>
21 TC	43 START
22 DOUT<11>	44 STOP

Legend :

- NC = Not Connected, unbonded pin
- PGND = Unused I/O configured as additional Ground pin
- KPR = Unused I/O with weak keeper (leave unconnected)
- WPU = Unused I/O with weak pull up (leave unconnected)
- TIE = Unused I/O floating -- must tie to VCC, GND or other signal
- VCC = Dedicated Power Pin
- VCCAUX = Power supply for JTAG pins
- VCCIO-3.3 = I/O supply voltage for LVTTTL, LVCMOS33, SSTL3_I
- VCCIO-2.5 = I/O supply voltage for LVCMOS25, SSTL2_I
- VCCIO-1.8 = I/O supply voltage for LVCMOS18
- VCCIO-1.5 = I/O supply voltage for LVCMOS15, HSTL_I
- VREF = Reference voltage for indicated input standard
- *VREF = Reference voltage pin selected by software
- GND = Dedicated Ground Pin
- TDI = Test Data In, JTAG pin
- TDO = Test Data Out, JTAG pin
- TCK = Test Clock, JTAG pin
- TMS = Test Mode Select, JTAG pin
- PROHIBITED = User reserved pin

☐ ***** Compiler Options *****

Following is a list of all global compiler options used by the fitter run.

Device(s) Specified	: xc2c64a-7-VQ44
Optimization Method	: DENSITY
Multi-Level Logic Optimization	: ON
Ignore Timing Specifications	: OFF
Default Register Power Up Value	: LOW
Keep User Location Constraints	: ON
What-You-See-Is-What-You-Get	: OFF
Exhaustive Fitting	: OFF
Keep Unused Inputs	: OFF
Slew Rate	: FAST
Set Unused I/O Pin Termination	: KEEPER
Global Clock Optimization	: ON
Global Set/Reset Optimization	: ON
Global Output Enable Optimization	: ON
Enable Input Registers	: ON
Function Block Fan-in Limit	: 38
Use DATA_GATE Attribute	: ON
Set Tristate Outputs to Termination Mode	: KEEPER

Default Voltage Standard for All Outputs : LVCMOS18
Input Limit : 32
Pterm Limit : 28

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