



XC3S100E – FPGA Development Board

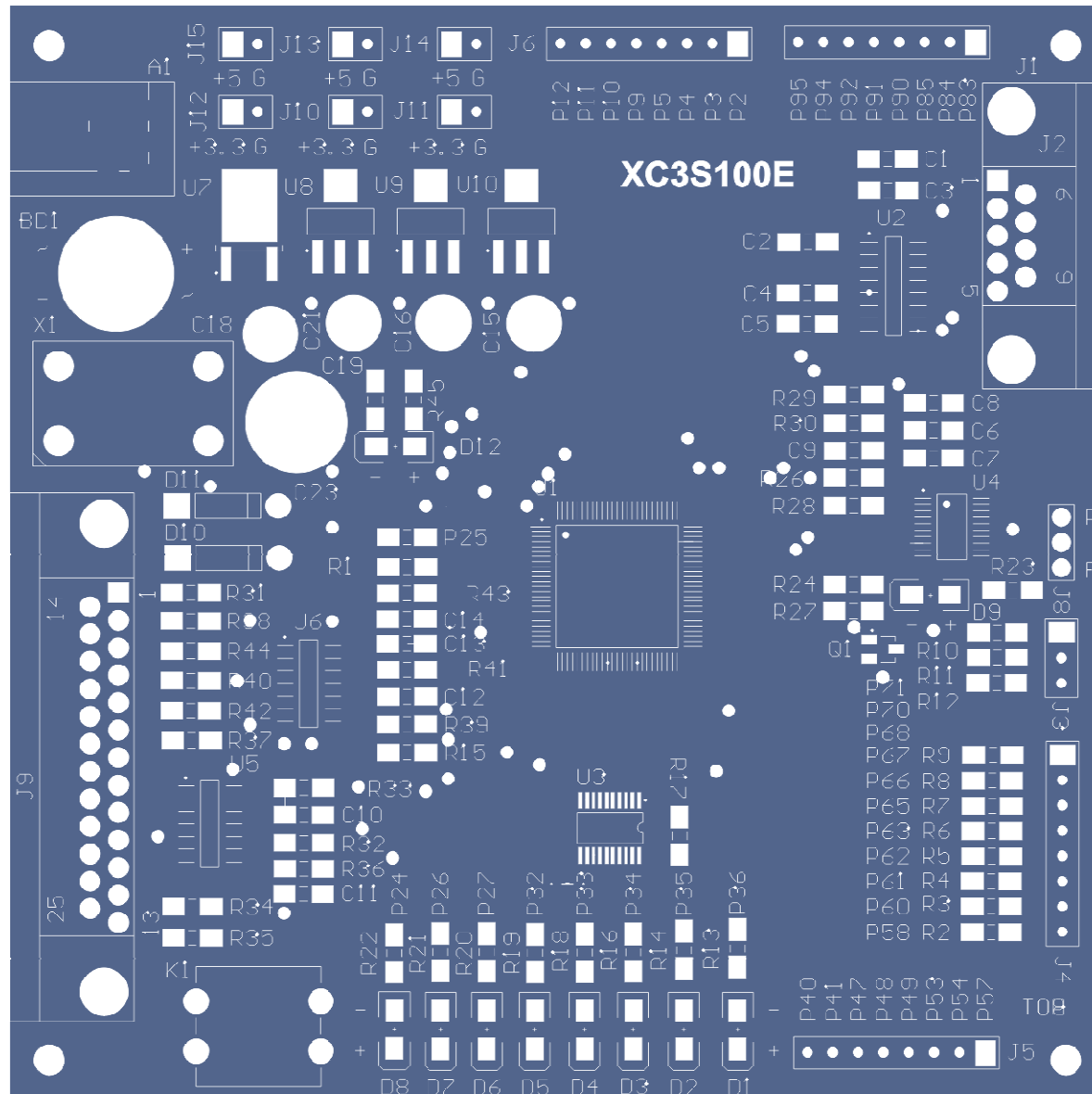


Dr.R.Sundaramurthy

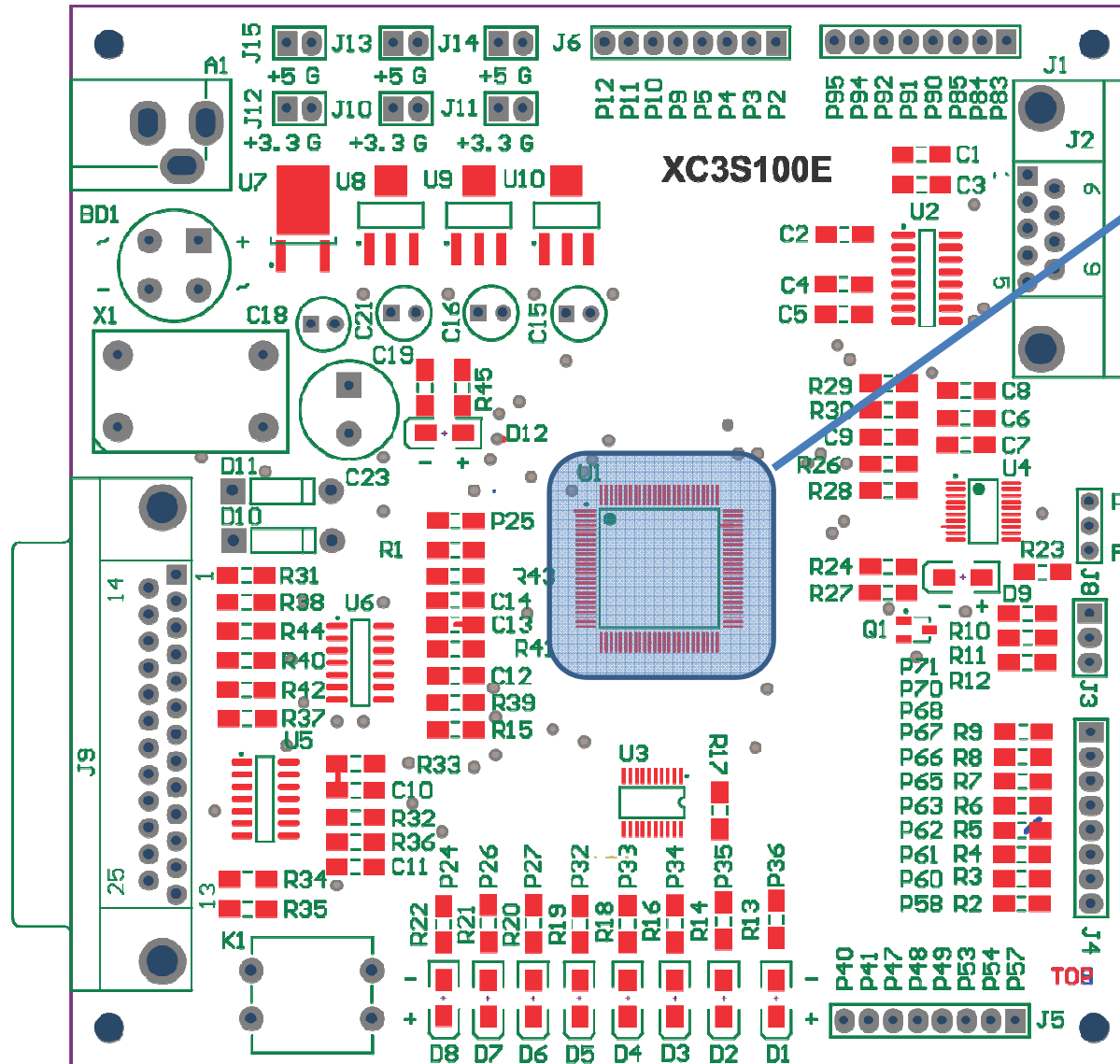
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The Xilinx Spartan 3E- Development Board

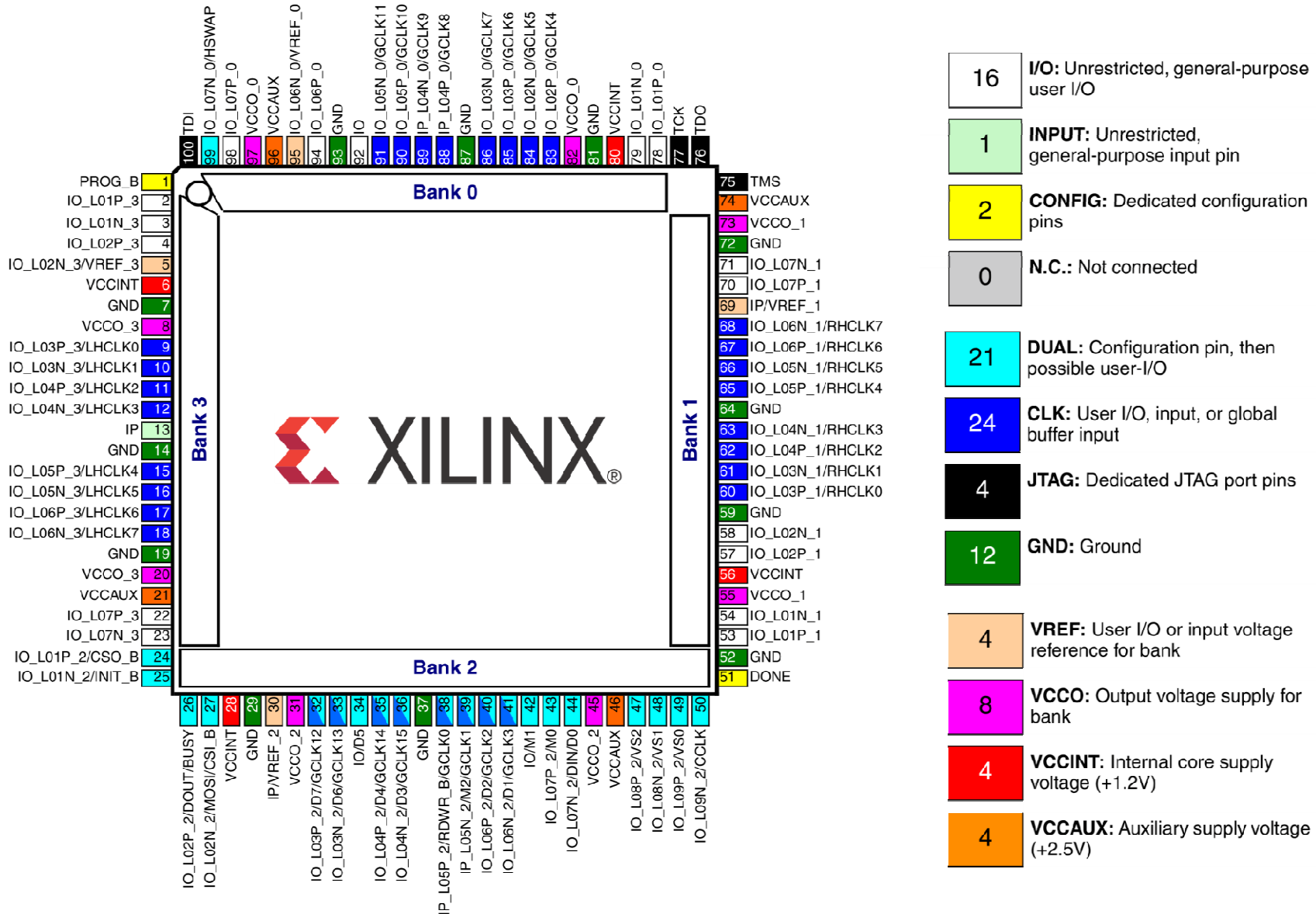


1- FPGA core – Xilinx Spartan 3E-XC3S100E



Manufacturer	Xilinx Inc.
Family	Spartan-3E
Number of CLBs	240
Number of Logic Elements/Cells	2160
Total RAM Bits	73728
Number of I/O	66
Number of Gates	100000
Voltage - Supply	1.14 V ~ 1.26 V
Mounting Type	Surface Mount
Operating Temperature	0°C ~ 85°C
Package / Case	100-TQFP

XC3S100E – Pin Details



2- Power Section



External Power Interface

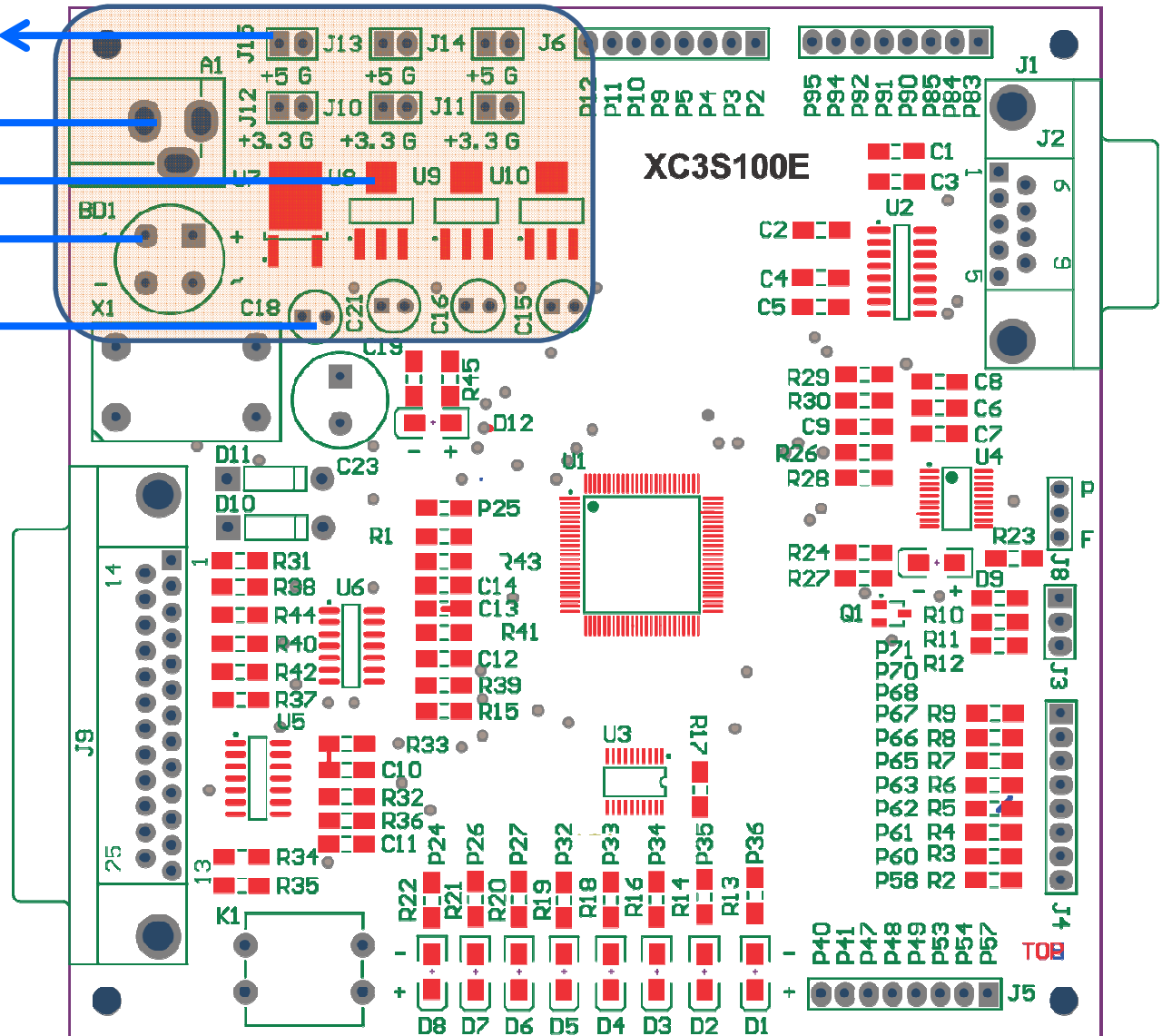
Power Connector

Power Regulators

Bridge Rectifier

Filter Capacitors

Component	Purpose
78M05	5 V Regulator
LM1117	3.3 V Regulator
LM1117	2.5 V Regulator
LM1117	1.2 V Regulator
470uF	Shunt cap Filter
100uF	Shunt cap Filter
10uF	Regulator capacitor

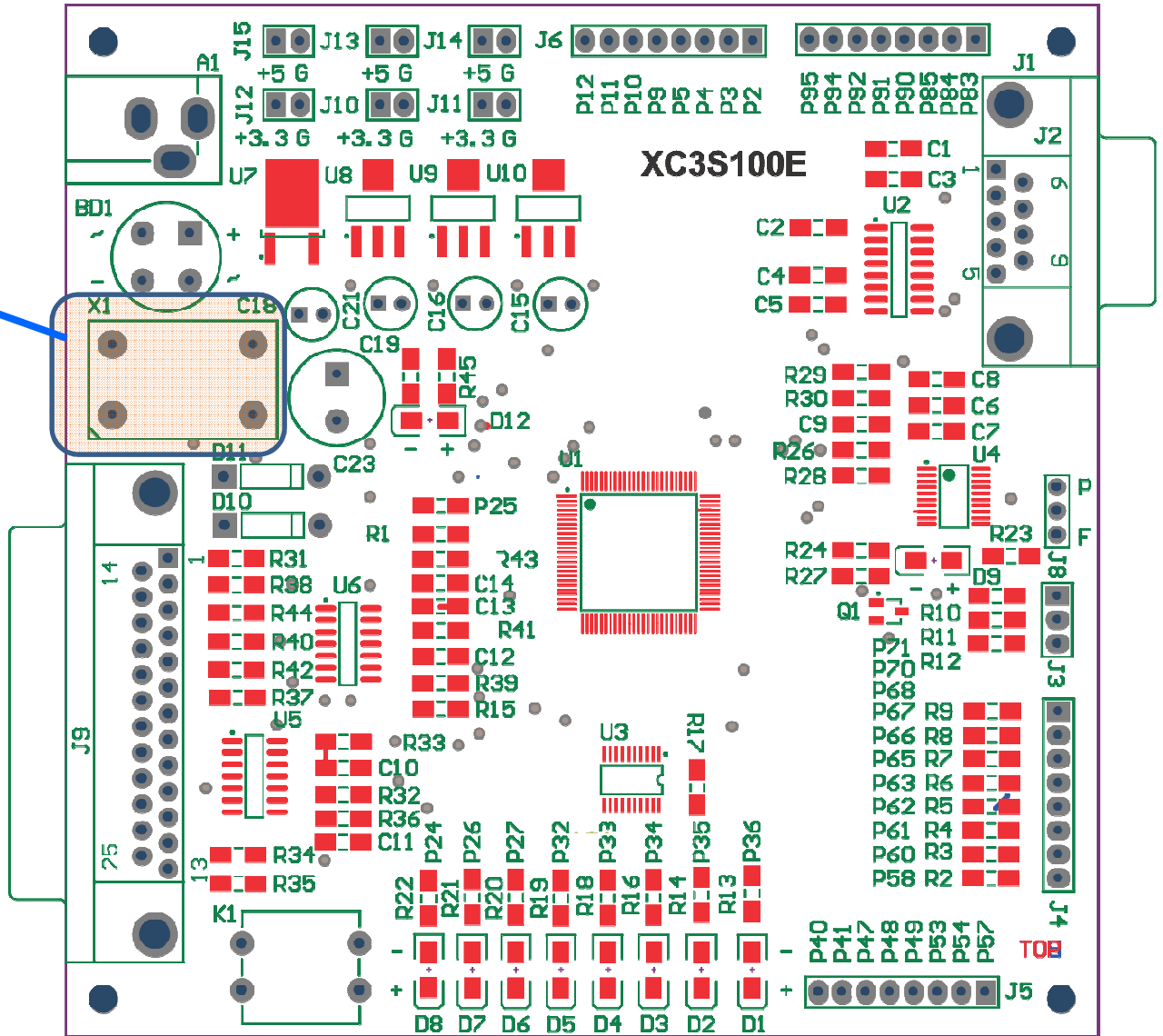
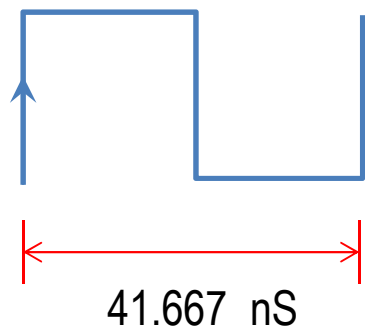


3 - Crystal Oscillator



Oscillator Frequency = 24 MHz

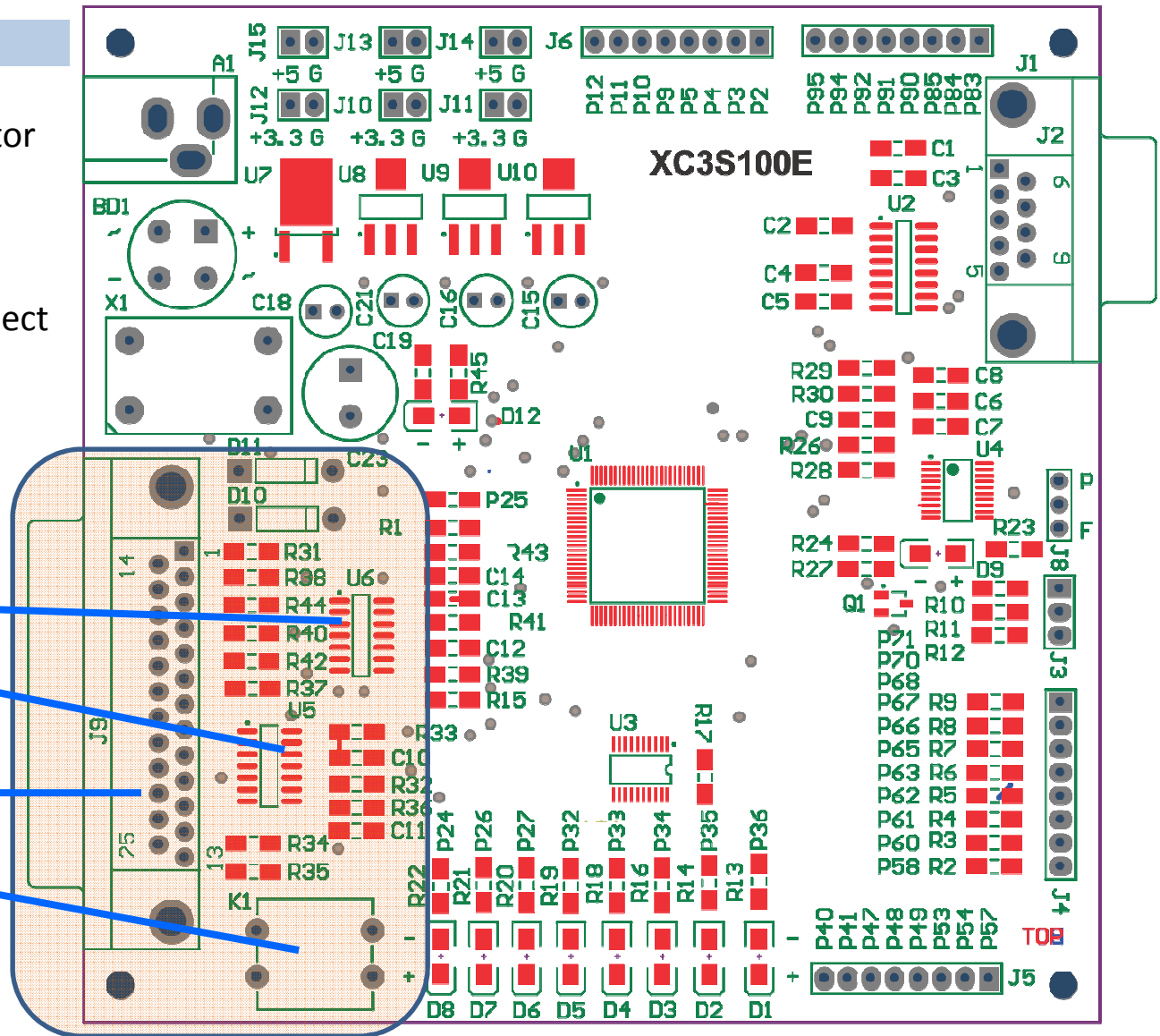
Time period = 41.667 NanoSec



4 – JTAG Interface



Component	Purpose
74HC125	Line Driver
DB-25	25 Pin Male Connector
TDI	JTAG - Test Data In
TDO	JTAG - Test Data Out
TCK	JTAG - Test Clock
TMS	JTAG - Test Mode Select



74HC125 Driver

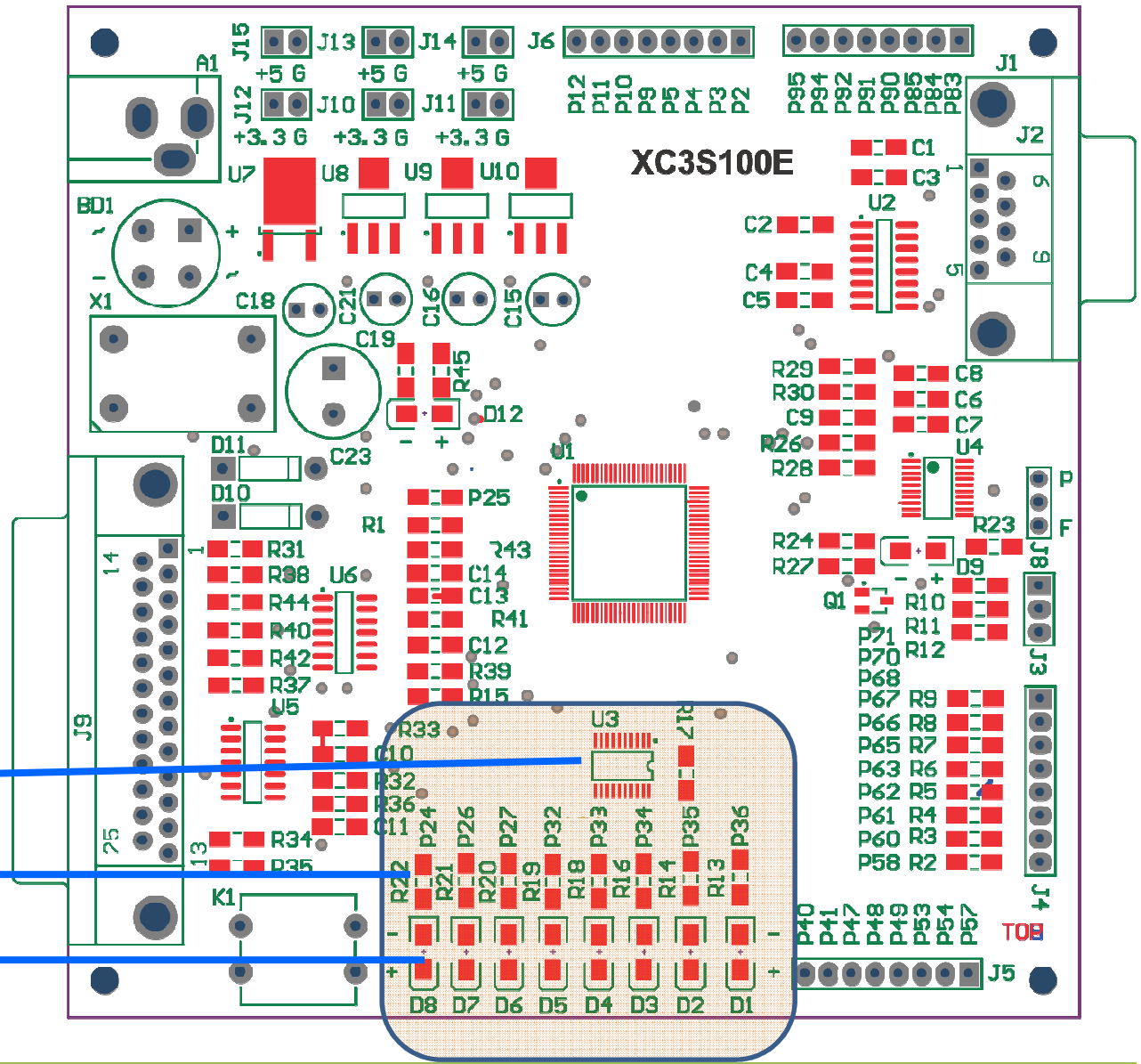
DB-25 Male Connector

Reset

5 – Debug LEDs = 8 Nos



LED Designator	Port Pin
D1	P36
D2	P35
D3	P34
D4	P33
D5	P32
D6	P27
D7	P26
D8	P24



74HC245 Driver

Current Limiting Resistor

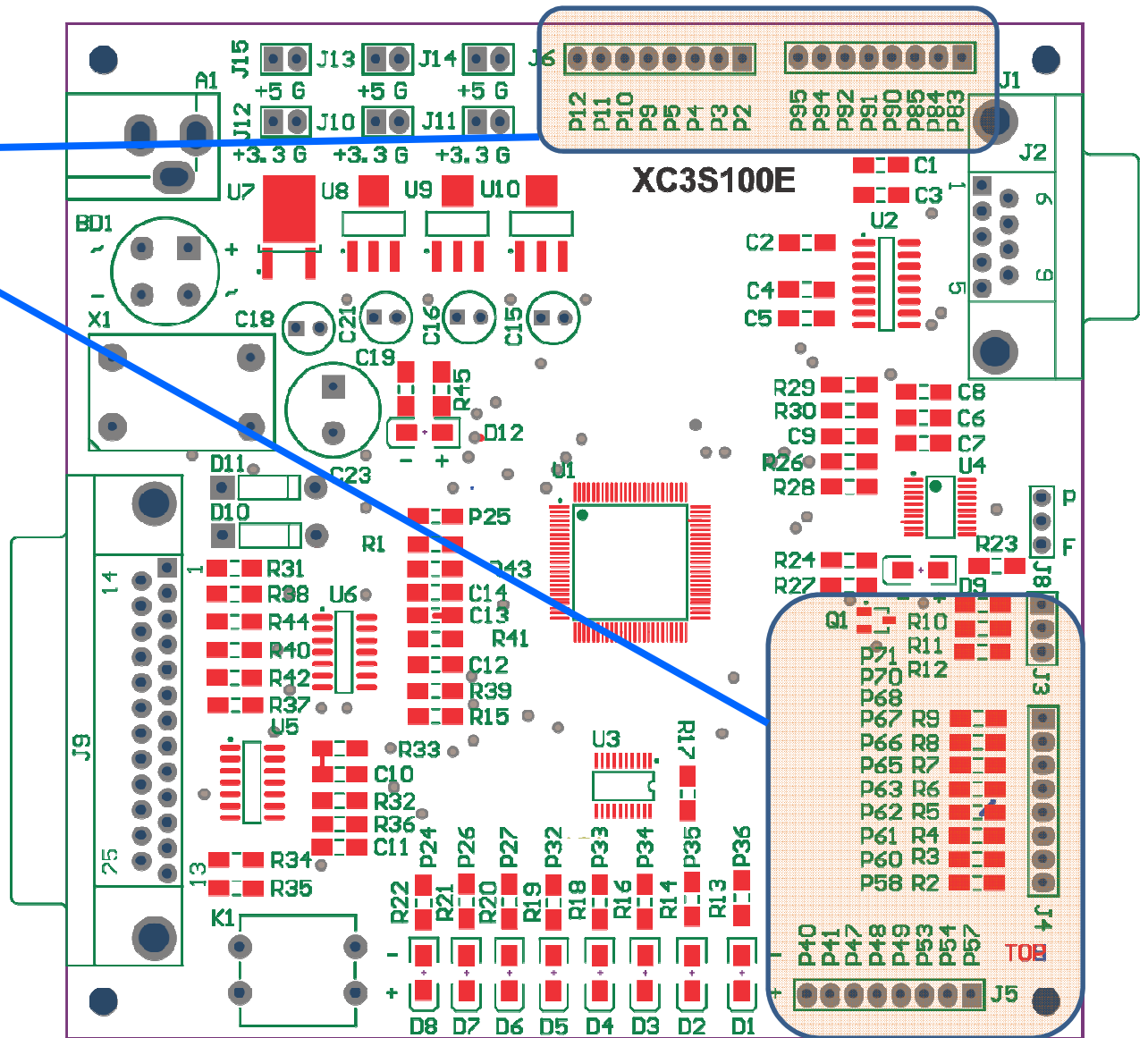
Debug LED

6 – IO Banks



IO Banks
(GPIO)

J4	J5	J3	J1	J6
P67	P40	P71	P95	P12
P66	P41	P70	P94	P11
P65	P47	P68	P92	P10
P63	P48		P91	P9
P62	P49		P90	P5
P61	P53		P85	P4
P60	P54		P84	P3
P58	P57		P83	P2

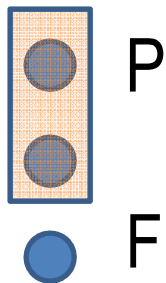


7 – PROM (Vs) FPGA Configuration Selector

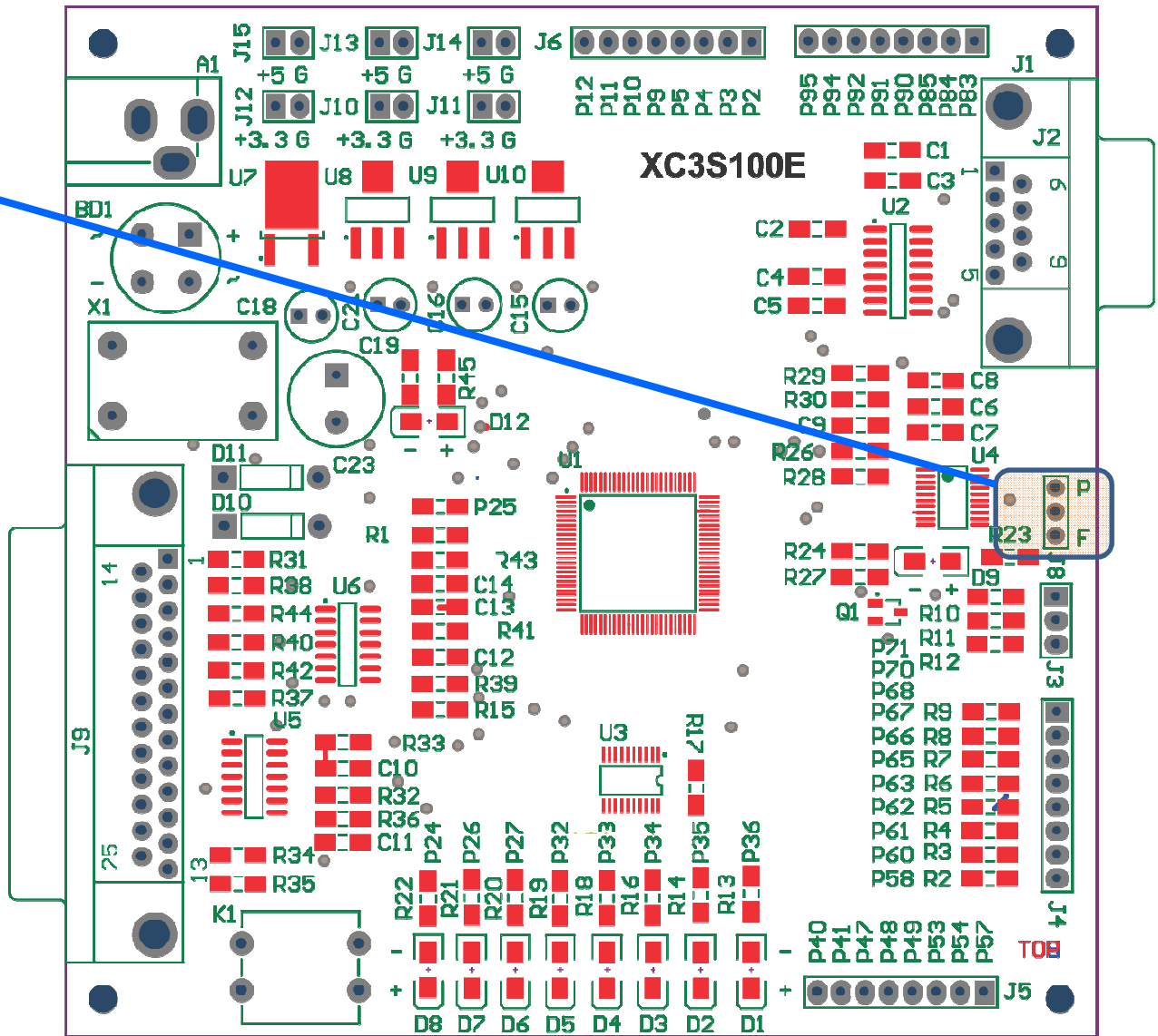
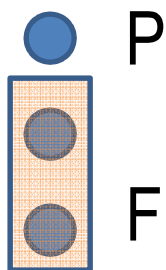


PROM (Vs) FPGA
Selector

PROM Configuration



FPGA Configuration

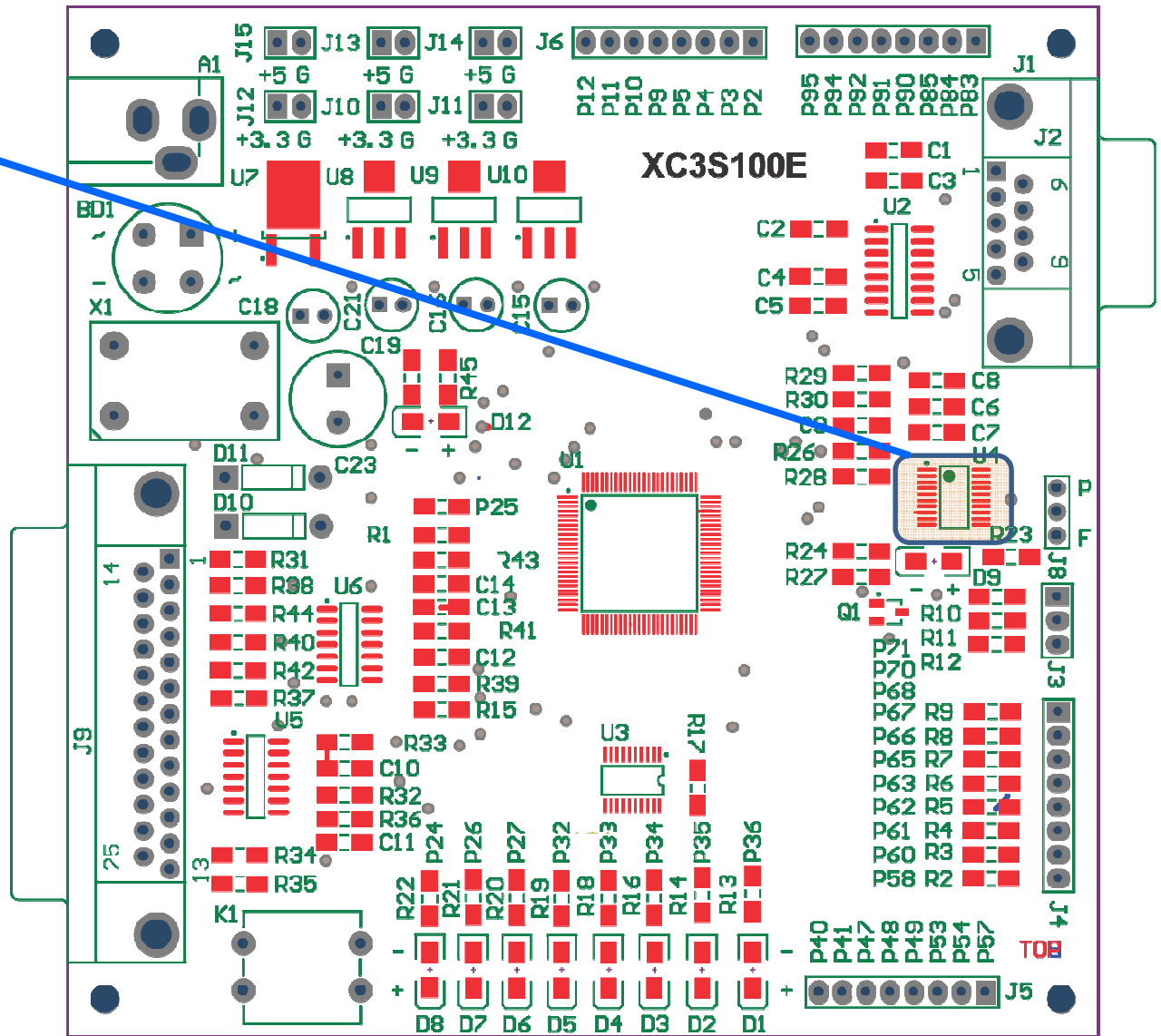


8 – Flash PROM- (XCF01S-VOG20C)

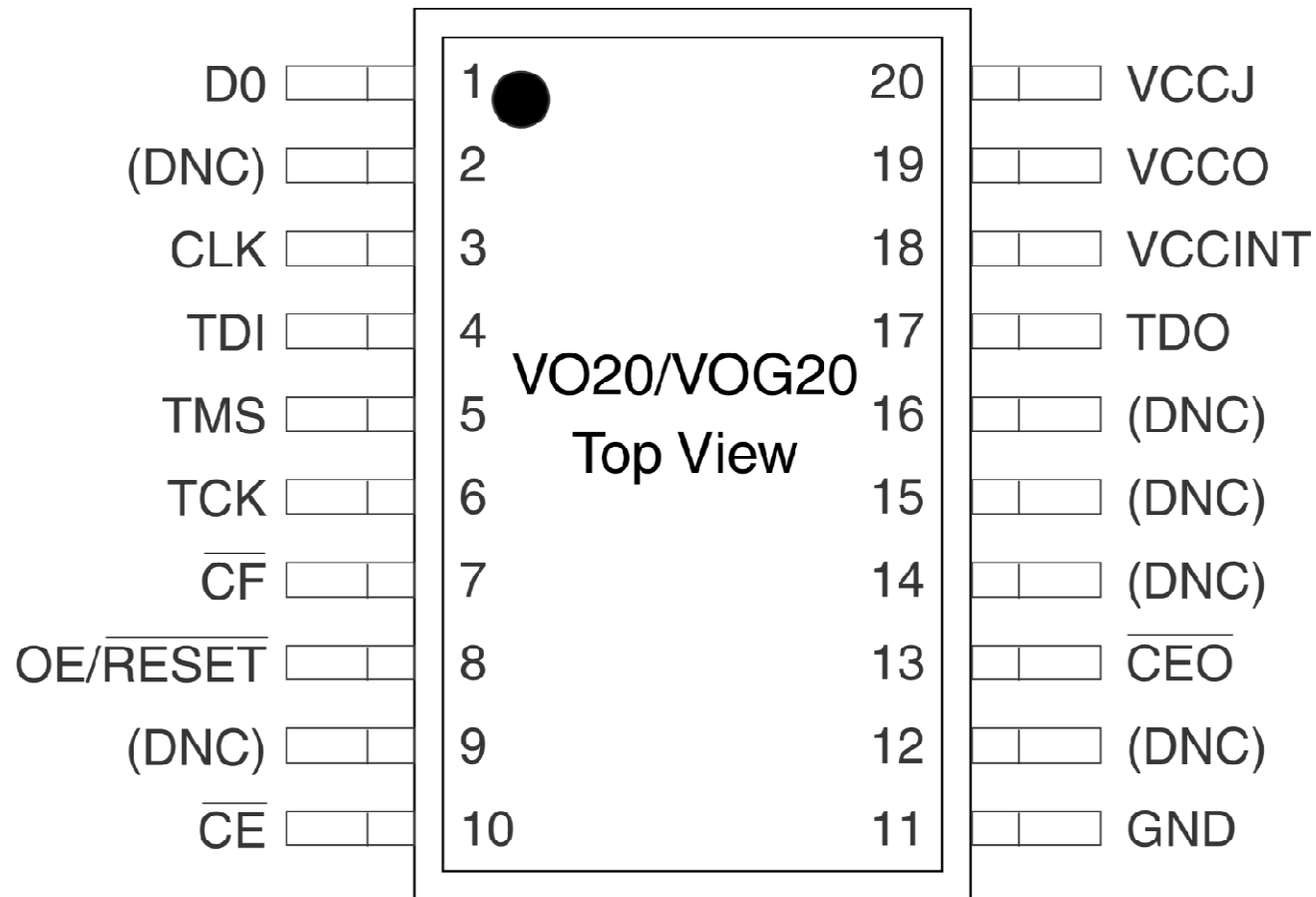


Platform
Flash PROM

Manufacturer	Xilinx Inc.
Programmable Type	In System Programmable
Memory Size	1Mb
Voltage - Supply	3 V ~ 3.6 V
Operating Temperature	-40°C ~ 85°C
Package / Case	20-TSSOP (0.173", 4.40mm Width)



Pin Details (XCF01S-VOG20C)



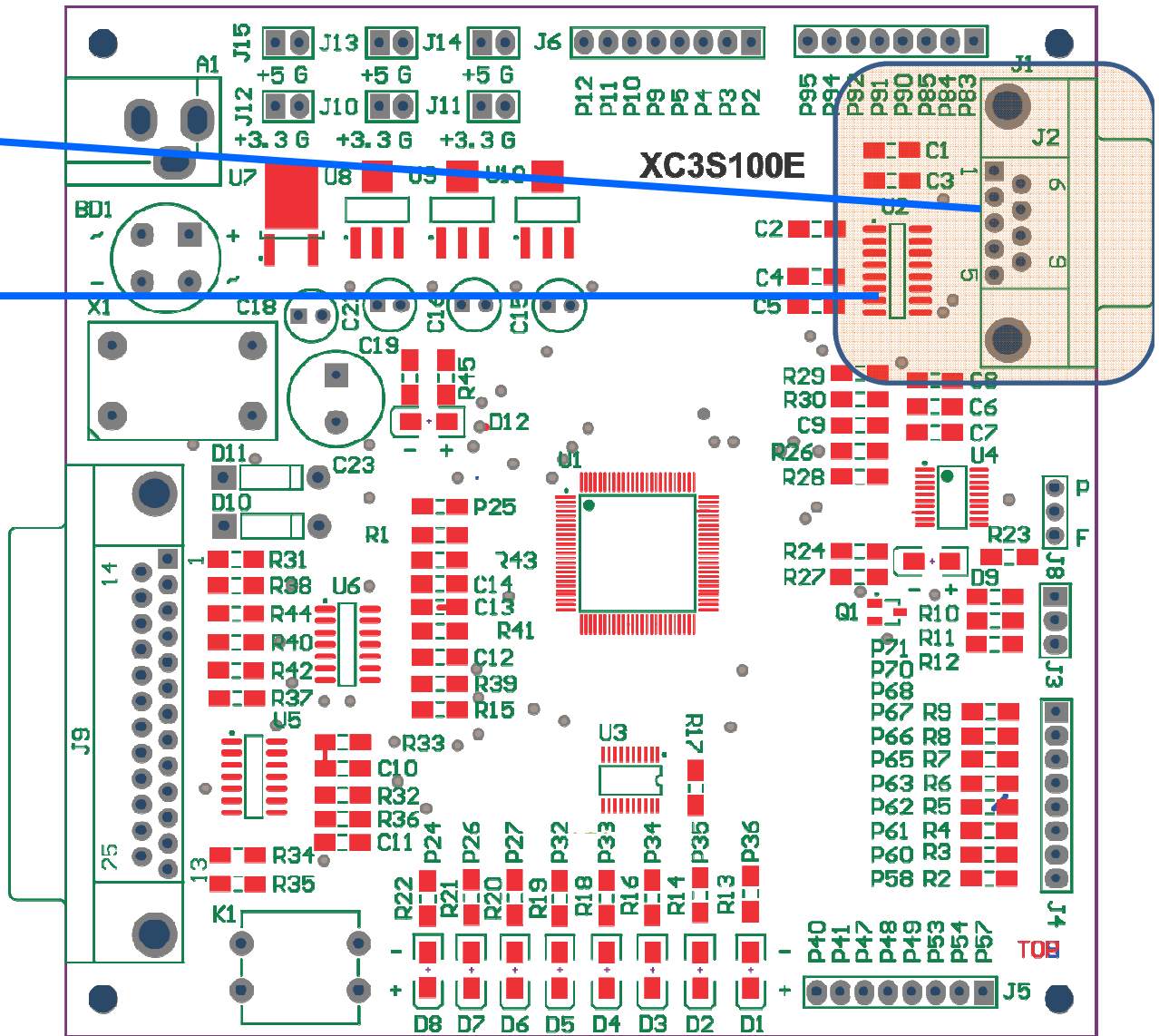
9 – UART Interface



9 Pin D-Type
UART Interface

Max3232

Pin	Functionality
P86	clk
P78	TxD
P79	RxD





End of Session



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