

Number 6XX-41333R
 Cyclone III
 FPGA Starter
 Description Board
 Rev 0E

Item	Type	Description	Package	PCB Footprint	Manufacturer	Manufacturer_Prt	Quantity	Reference	Value
1	Capacitor	1nF, 50V, X7R, +-10%	SMD	C-0603	Panasonic	ECJ1VB1H102K	9	BC1,BC3,BC36,BC37,BC38,BC42,BC43,BC44,BC45	0.001U
2	Capacitor	10nF, 50V, Y5V, -20~+80%	SMD	C-0603	Panasonic	ECJ1VF1H103Z	1	BC32	0.01U
3	Capacitor	0.1uF, 25V, Y5V, -20~+80%	SMD	C-0402	Panasonic	ECJ0EF1E104Z	25	BC5,BC6,BC7,BC8,BC9,BC10,BC11,BC12,BC13,BC14,BC15,BC16,BC17,BC18,BC19,BC20,BC21,BC22,BC23,BC24,BC25,BC26,BC27,BC28,BC29	0.1U
4	Capacitor	0.1uF, 50V, Y5V, -20~+80%	SMD	C-0603	Panasonic	ECJ1VF1H104Z	56	BC2,BC4,BC31,BC33,BC34,BC35,BC39,BC40,BC41,BC46,BC47,BC48,BC49,BC50,BC51,BC52,BC53,BC54,BC55,BC56,BC57,BC58,BC59,BC60,BC61,BC62,BC63,BC64,BC65,BC66,BC67,BC68,BC69,BC70,BC71,BC76,BC77,BC78,BC79,BC80,BC81,BC82,BC83,BC84,BC85,BC86,BC87,BC88,BC89,BC90,BC91,BC92,BC93,BC94,BC95,BC96	0.1U
5	Capacitor	0.1uF, 16V, 8P4C Concave, X7R, +-10%	SMD	CA-AVE-0603-8	WALSIN	Y4C3B104K160CT	5	CN1,CN2,CN3,CN4,CN5	0.1U
6	Capacitor	0.68uF, 10V, X5R, +-20%	SMD	C-0603	Panasonic	ECJ1VB1A684K	3	C23,C27,C31	0.68U
7	Capacitor	1.5nF, 50V, X7R, +-10%	SMD	C-0603	Panasonic	ECJ1VB1C152K	3	C25,C29,C33	1.5N

8	Capacitor	100pF, 50V, NPO, +-5%	SMD	C-0603	Panasonic	ECJ1VC1H101J	1	C22	100P
9	Capacitor	100uF, 6.3V, X5R, +-20%	SMD	C-1210	TDK	C3225X5R1A107 MT	6	C1,C7,C14,C15,C19,C20	100U
10	Capacitor	10uF, 16V, Y5V, -20~+80%	SMD	C-1206	Panasonic	ECJMFF1C106Z	15	C6,C8,C9,C10,C11,C12,C13,C16,C17,C24,C26,C28,C30,C32,C36	10U
11	Capacitor	1uF, 16V, Y5V, -20~+80%	SMD	C-0603	TDK	C1608Y5V1C105 Z	7	C2,C3,C4,C5,BC30,C37,C38	1U
12	Capacitor	2.2nF,50V, X7R,+10%	SMD	C-0603	Panasonic	ECJ1VB1H222K	1	C21	2.2N
13	Capacitor	Aluminum Solid, 220uF,6.3V	SMD	CAPAE-D	SANYO	6SVPC220MV	3	TC2,TC3,TC4	220U/6.3V
14	Capacitor	330pF, 50V, X7R, +-10%	SMD	C-0603	Panasonic	ECJ1VB1H331K	1	C18	330P
15	Capacitor	Aluminum Solid, 39uF,16V	SMD	CAPAE-C	SANYO	16SVPC39M	1	TC1	39U/16V
16	Capacitor	47pF, 50V, NPO, +-5%	SMD	C-0603	Panasonic	ECJ1VC1H470J	2	C35,BC74	47P
17	Connector	BOX Header, MA, ST, BLACK, DIP, 2*5 PIN, P2.54 mm, I8.8 mm	DIP	CON-2X5M_2- 54mm	LEAMAX	217010SE	1	J4	JTAG
18	Connector	SAMTEC HI- Speed Header,160F PIN Header, MA, ST, DIP,	SMD	CON-QSH- 180A	SAMTEC	ASP-122953-01	1	J1	QSH-090- ALTERA
19	Connector	1*2 PIN, P2.54mm, I2.54 mm	DIP	SIP2	LEAMAX	21301*2SE	8	JP1,JP2,JP3,JP4,JP5,JP6,JP7 ,JP8	SIP2
20	Crystal	CMOS Oscillator,24M Hz	SMD	OSC-5X7mm	ECS Inc	ECS-3953M-240- BN-TR	1	Y2	24MHZ

21	Crystal	CMOS Oscillator,50M Hz	SMD	OSC-5X7mm	ECS Inc	ECS-3953C-500- TR	1	Y1	50MHZ
22	Diode	Schottky Barrier Rectifier, 40V, 3A	SMD	DO-214AC	DIODES	B340A	7	D1,D2,D3,D4,D6,D8,D10	B340A
23	Diode	Schottky Barrier Double Diodes, BAT54S, 30V, 200mA, Pin(1:3:2) = a1:k2:k1,a2	SMD	SOT-23	PHILIPS	BAT54S	5	D5,D7,D9,D11,D12	BAT54S
24	IC	SN74HC245PW R,Octal BUS Transceivers with 3-state Outputs, 2V-6V	SMD	TSSOP-20	TI	SN74HC245PWR	1	U3	74HC245
25	IC	8-Channel Bidirectional Logic Level Translator, 1.15V-5.5 V	SMD	TSSOP-20	ADI	ADG3308BRUZ	1	U10	ADG3308
26	IC	FT245BL, USB FIFO (USB - Parallel) IC, 1M Byte / Sec Transfer Data rate, 4.35V- 5.25V	SMD	LQFP-32	FTDI	FT245BL	1	U8	FT245BL
27	IC	Low-Voltage Level Translators in UCSP, ± 15 kV ESD-Protected, 1 μ A, 16Mbps, Dual/Quad	SMD	TSSOP-14	MAXIM	MAX3378EEUD+	1	U2	MAX3378EE UD+

28	Inductor	0.47uH, 0.0044 ohm, 17.5A, Size:7.3*6.8*3.5 mm	SMD	IND-SPD0735	LI TONE	SPD0735-R47M	1	L1	0.47UH
29	Inductor	Inductor, 6.8uH,4.5A 60ohm,	SMD	IND-SPD0735	HSIN LEI	SPD0735-6R8M	3	L2,L3,L4	6.8UH
30	Inductor	100MHz, 400mA, RoHS	SMD	L-0603	MAX ECHO	EBMS160808A600	3	L5,L6,L7	BEAD
31	Jack	DC JACK , 3 PIN, BLACK, 9V, Size:8.85*14.4*10.7 mm, Φ2.0 mm	DIP	JACK-DC_2MM	LEAMAX	32753PA	1	J2	DC_12V
32	Jack	USB B-TYPE,R/A,with iron, 6 PIN, Size:12.65*16.1*10.5 mm	DIP	JACK-USB-B	LEAMAX	3213W1BC	1	J3	USB B-TYPE
33	LED	Blue light, SMD, 75mW	SMD	LED-0805	LITEON	LTST-C170TBKT	9	LED1,LED2,LED3,LED4,POWER,LOAD,LINK,FLASH_CEn,CONF_DONE	LEDB
34	Memory	93LC46B-1/SN,Serial EEPROM, 64 x 16bit, 2.5V-5.5V	SMD	SOIC-8	Microchip	93LC46B-1/SN	1	U9	93LC46B
35	Memory	DDR, 16M x 16bit, 200MHz, 2.5V	SMD	TSOP-66	PSC	A2S56D40CTP-G5PP	1	U4	DDR 4Mx16x4
36	Memory	FLASH, 8M x 16 Bits, 52MHz, 1.7V-3.6V	SMD	EASY_BGA-64	Intel	PC28F128P30B85	1	U6	FLASH 8Mx16
37	Memory	SSRAM, 256K x 36bit, Access time:200MHz	SMD	TQFP-100N	ISSI	IS61LPS12836A-200TQLI	1	U5	SSRAM 256Kx36

38	Module	6A High Efficiency, DC/DC μ Module, 15*15*2.8 mm Cyclone III	SMD	LGA-118	Linear	LTM4603EV#PBF	1	REG1	LTM4603HV IV
39	PLD	3C25, 25K LEs, 250 I/O, 324 PIN, -6 Speed Grade, 1.2V	SMD	FBGA-324	ALTERA	EP3C25F324C6	1	U1	EP3C25F324
40	PLD	EPM3128ATC100-10, MAX3000A 128A, 2.5K Gates, 128 Microcells, 80 I/O, 100 PIN, -10 Speed Grade, 3.3V	SMD	TQFP-100	ALTERA	EPM3128ATC100-10	1	U7	EPM3128AT
41	Regulator	3.3V, 800mA, Pin(1:2:3:4) = GND:OUT:IN:VOUT	SMD	SOT-223	Linear	LT1117CST-3.3	1	REG6	LT1117CST-3.3
42	Regulator	4.5A, 500kHz Step-Down Switching Regulator	SMD	SOIC-8	Linear	LT1959CS8	3	REG3,REG4,REG5	LT1959
43	Regulator	3A, 2MHz Monolithic Synchronous Regulator	SMD	TSSOP-16E	Linear	LTC3413EFE#PBF	1	REG2	LTC3413
44	Resistor	10 ohm, 16P8R Convex, 1/16W, +-5%	SMD	RA-VEX-0603-16	WALSIN	EXB-2HV100JV	2	RN4,RN5	10
45	Resistor	22 ohm, 1/10W, +-1%	SMD	R-0603	Panasonic	ERJ-S03F22R0V	4	R10,R40,R41,R42	22

46	Resistor	22 ohm, 16P8R Convex, 1/16W, SMD +-5%	RA-VEX-0603- 16	WALSIN	EXB-2HV220JV	11	RN6,RN7,RN8,RN14,RN15 ,RN16,RN17,RN18,RN19,R N20,RN21	22
47	Resistor	24.9 ohm, 1/10W, +-1% SMD	R-0603	Panasonic	ERJ-S03F24R9V	2	R6,R7	24.9
48	Resistor	56 ohm, 16P8R Convex, 1/16W, SMD +-5%	RA-VEX-0603- 16	WALSIN	EXB-2HV560JV	4	RN9,RN10,RN11,RN12	56
49	Resistor	100 ohm, 1/10W, +-1% SMD	R-0603	Panasonic	ERJ-S03F1000V	3	R3,R4,R8	100
50	Resistor	120 ohm, 1/10W, +-1% SMD	R-0603	Panasonic	ERJ-S03F1200V	5	R5,R34,R45,R47,R50	120
51	Resistor	120 ohm, 8P4R Convex, 1/10W, SMD +-5%	RA-VEX-0603- 8	LIKET	EXB-38V121JV	3	RN2,RN3,RN23	120
52	Resistor	330 ohm, 1/10W, +-1% SMD	R-0603	Panasonic	ERJ-S03F3300V	1	R38	330
53	Resistor	1.21K ohm, 1/10W, +-1% SMD	R-0603	Panasonic	ERJ-S03F1211V	1	R36	1.21K
54	Resistor	1.5K ohm, 1/10W, +-1% SMD	R-0603	Panasonic	ERJ-S03F1501V	3	R39,R44,R46	1.5K
55	Resistor	100K ohm, 1/10W, +-1% SMD	R-0603	Panasonic	ERJ-3EKF1003V	7	R1,R22,R26,R29,R43,R60, R61	100K
56	Resistor	100K ohm, 8P4R Convex, SMD 1/10W, +-5%	RA-VEX-0603- 8	LIKET	EXB-38V104JV	1	RN1	100K
57	Resistor	10K ohm, 1/10W, +-1% SMD	R-0603	Panasonic	ERJ-S03F1002V	6	R9,R48,R49,R54,R58,R59	10K
58	Resistor	10K ohm, 8P4R Convex, 1/10W, SMD +-5%	RA-VEX-0603- 8	LIKET	EXB-38V103JV	2	RN24,RN25	10K
59	Resistor	10m ohm, 1/4W, +-1% SMD	R-1206	Vishay	WSL1206R0100F EA	2	RS1,RS2	10m
60	Resistor	19.1K ohm, 1/10W, +-1% SMD	R-0603	Panasonic	ERJ-3EKF1912V	1	R25	19.1K
61	Resistor	1K ohm, 1/10W, +-1% SMD	R-0603	Panasonic	ERJ-S03F1001V	3	R52,R56,R57	1K

62	Resistor	2.2K ohm, 1/10W, +-1%	SMD	R-0603	Panasonic	ERJ-S03F2201V	2	R51,R53	2.2K
63	Resistor	2.49K ohm, 1/10W, +-1%	SMD	R-0603	Panasonic	ERJ-3EKF2491V	3	R33,R35,R37	2.49K
64	Resistor	24K ohm, 1/10W, +-1%	SMD	R-0603	Panasonic	ERJ-S03F2402V	1	R27	24K
65	Resistor	309K ohm, 1/10W, +-1%	SMD	R-0603	Panasonic	ERJ-3EKF3093V	1	R30	309K
66	Resistor	392K ohm, 1/10W, +-1%	SMD	R-0603	Panasonic	ERJ-3EKF3923V	1	R23	392K
67	Resistor	4.32K ohm, 1/10W, +-1%	SMD	R-0603	Panasonic	ERJ-3EKF4321V	1	R32	4.32K
68	Resistor	4.7K ohm, 1/10W, +-1%	SMD	R-0603	Panasonic	ERJ-S03F4701V	1	R55	4.7K
69	Resistor	4.7M ohm, 1/10W, +-5%	SMD	R-0603	Panasonic	ERJ-3GEYJ475V	1	R28	4.7M
70	Resistor	5.1K ohm, 1/10W, +-5%	SMD	R-0603	Panasonic	ERJ-S03F5101V	13	R2,R11,R12,R13,R14,R15, R16,R17,R18,R19,R20,R21, R31	5.1K
71	Resistor	5.1K ohm, 8P4R Convex, 1/10W, +-5%	SMD	RA-VEX-0603- 8	Yageo	TC164-JR- 075K1L	1	RN22	5.1K
72	Switch	Push SW, 8*8 4 Pin,	DIP	SW-PUSH-8x8	SANHUNG	PS-22E80L	1	SW1	POWER SW
73	Switch	L6*W6*T5 mm, P3.5*1.6 mm, 160g, RoHS UTC8050S,	DIP	SW-TACT- 6X6	SAH HUNG	EM-TC-0103-X	6	Button1,Button2,Button3,Bu tton4,Reconfigure,CPU_RE SET	TACT SW
74	Transistor	20V, 700mA, Pin(1:3:2) = E:B:C	SMD	SOT-23	UTC	HE8050	4	Q2,Q4,Q5,Q6	8050
75	Transistor	UTC8550S, 20V, 700mA, Pin(1:3:2) = E:B:C	SMD	SOT-23	UTC	HE8550	2	Q1,Q3	8550