

# Formic Board v.1.1 Bill Of Materials

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Component	Qty	Reference Designators	Manufacturer	Part nr.
<b>Main ICs</b>				
1 FPGA LX150T-4, 676 pins	1	U1	Xilinx	XC6SLX150T-4FQG676C
2 SRAM ZBT 256K x 36	3	U2-U4	Cypress	CY7C1354CV25-166BZC
3 DDR 1Gb	1	U5	Micron	MT47H64M16HR-25E L:G-ND
4 FPGA heat sink	1		Aavid	374424B00035G
<b>Configuration + JTAG</b>				
5 FPGA configuration PROM	1	U15	Xilinx	XCF32PFSG48C
6 JTAG slide switches	2	U16, U17	APEM	MMS42R
7 JTAG buffer	1	U14	ST Micro	74V2G126STR
<b>Connectors</b>				
8 SATA Header	8	S0D, S1H, S2H, S3D-S5D, S6H, S7H	Molex	67800-8005
9 RS232 Header	1	RS232	Norcomp	190-009-163R001
10 Power in + out	2	POWER_I, POWER_O	OST	OSTTC020162
11 JTAG in + out	2	JTAG_L, JTAG_R	Samtec	TSW-107-07-T-D
12 I2C header	1	I2C		
13 RS232 line driver	1	U13	Analog	ADM3101EACPZ-250R7
<b>Power supplies</b>				
14 Regulator 10A switching	1	U9	Texas	PTH08T241WAD
15 Regulator 6A switching	2	U7, U8	Texas	PTH08T231WAD
16 Regulator 1A tracking	1	U12	Texas	TPS51200DRCR
17 Regulator 1.5A linear	2	U10, U11	Texas	TPS74201RGW
18 Regulator 100 mA linear	1	U6	Texas	LM317LCPK
<b>Passives</b>				
19 Resistor 11.3K, 1%, 0.1W, 100 ppm	2	RP9, RP10	Panasonic	ERJ-2RKF1132X
20 Resistor 10.0K, 1%, 0.1W, 100 ppm	2	RP15, RP16	Panasonic	ERJ-2RKF1002X
21 Resistor 8.87K, 1%, 0.1W, 100 ppm	3	RP3, RP5, RP8	Panasonic	ERJ-2RKF8871X
22 Resistor 4.99K, 1%, 0.1W, 100 ppm	2	RP11, RP13	Panasonic	ERJ-2RKF4991X
23 Resistor 4.70K, 1%, 0.1W, 100 ppm	24	R1-R4, R6, R9, R11-R24, R26, R27, R43, RP6	Panasonic	ERJ-2RKF4701X
24 Resistor 2.70K, 1%, 0.1W, 100 ppm	1	RP7	Panasonic	ERJ-2RKF2701X
25 Resistor 2.49K, 1%, 0.1W, 100 ppm	2	RP12, RP14	Panasonic	ERJ-2RKF2491X
26 Resistor 2.37K, 1%, 0.1W, 100 ppm	1	RP4	Panasonic	ERJ-2RKF2371X
27 Resistor 787, 1%, 0.1W, 100 ppm	1	RP2	Panasonic	ERJ-2RKF7870X
28 Resistor 470, 1%, 0.1W, 100 ppm	1	RP1	Panasonic	ERJ-2RKF4700X
29 Resistor 330, 1%, 0.1W, 100 ppm	1	R10	Panasonic	ERJ-2RKF3300X
30 Resistor 100, 1%, 0.1W, 100 ppm	2	R8, R49	Panasonic	ERJ-2RKF1000X
31 Resistor 49.9, 1%, 0.1W, 100 ppm	23	R28-R42, R50-55, R501, R502	Panasonic	ERJ-2RKF49R9X
32 Resistor 22, 1%, 0.1W, 100 ppm	12	RD0-RD11	Panasonic	ERJ-2RKF22R0X
33 Resistor 0, 0.1W, 100ppm	6	R5, R44-R48	Panasonic	ERJ-6GEY0R00V
34 Electrolytic 1000 µF, 16V	1	CP37	Panasonic	EEU-FR1C102L
35 Ceramic 100 µF, 16V	10	CP1, CP3-CP8, CP14-CP16	TDK	C5750Y5V1C107Z
36 Ceramic 100 µF, 6.3V	30	C1, C5, C6, C16-C21, C46, C47, C56, C57, C66, C67, C76-C78, C101, C104, CP9-CP11, CP17-CP22, CP39	Murata	GRM32ER60J107ME20L
37 Ceramic 10 µF, 6.3V	5	CP28-CP32	Murata	GRM21BR70J106KE76L
38 Ceramic 4.7 µF, 6.3V	35	C2, C7-C9, C22-C28, C48, C49, C58, C59, C68, C69, C79-C81, C103, C106, C509, C510, C519-C522, C531, C532, CP23-CP26, CP33	Murata	GRM188R60J475KE19D

39 Ceramic 0.47 $\mu$ F, 6.3V	54 C3, C4, C10-C15, C29-C45, C50-C55, C60-C65, C70-C75, C82-C90, C102, C105	Murata	GRM155R60J474KE19D
40 Ceramic 0.22 $\mu$ F, 6.3V	20 C501-C508, C511-C518, C523, C524, C533, C534	Murata	GRM155R60J224KE01D
41 Ceramic 100 nF, 10V	17 C91-C99, CP34, CP35, CP38, CRS1-CRS5	Murata	GRM155R61A104KA01D
42 Ceramic 10 nF, 6.3V	32 CS01-CS04, CS11-CS14, CS21-CS24, CS31-CS34, CS41-CS44, CS51-CS54, CS61-CS64, CS71-CS74	Murata	GRM155R60J103KA01D
43 Ceramic 1nF, 50V	1 CP27	Murata	GRM155R71H102KA01D

#### LEDs, Switches, Buttons

44 Reset button	1 U21	E-switch	320.02E11.08RED (smaller)
45 LED, Orange, 2.5V	12 LD0-LD11	Kingbright	APHHS1005SECK
46 Dip switches	1 U22	E-switch	KAJ12LGGT

#### Clock generators

47 Clock 150 MHz, 1.8V LVDS	2 U18, U19	Silicon Labs	500DSAA150M000ACF
48 Clock 200 MHz, 2.5V LVDS	1 U20	Silicon Labs	500DLAA200M000ACF