

Klondike 16 – ASIC Miner Board

Preliminary Parts List

Part#	Description	Product #	MFR.	Value	Package	QTY	Cost Qty 1	Cost Qty 25	Cost Qty 100	Dist.
PCB	4 Layer Circuit Board	PCB	China	10cm x 10cm		1	9.000	5.000	2.700	
U1-U16	Avalon ASIC chip	AVALON	Avalon		QFN48	16	0.000	0.000	0.000	Avalon
U17	USB Micro Controller	PIC16LF1459-I/SS	Microchip		TSSOP-20	1	1.620	1.480	1.340	Microchip
U18-19	1.2V, 16A Buck Step Down Regulator	IR3895	Intl. Rect.	16A	PQFN-16	2	3.600	2.870	2.370	Mouser
U20	3.3V, 1A Buck Step Down Regulator	MCP16321T-330E/NG	Microchip	1A	VQFN-16	1	1.550	1.290	1.180	Microchip
U21	Dual Schmitt Trigger Buffer	NL27WZ14DFT2G	On Semi.		SOT-363	1	0.440	0.260	0.208	Mouser
U22,U23	1.2V, 600mA LDO Regulator	AP7217D-12YG-13	Diodes Inc.	1.2V, 600mA	SOT-89-3L	2	0.490	0.360	0.309	Digikey
X1	Oscillator	ASDMB-32.0	Abrakon	32MHz	QFN4	1	1.690	1.430	1.010	Digikey
Q1	N-Channel MOSFET	NDS351AN	Fairchild	1.4A, 30V	SSOT-3	1	0.230	0.199	0.171	Mouser
D1	Red LED (Data)	VLMS1300-GS08	Vishay	2V, 20mA	0603	1	0.080	0.072	0.066	Mouser
D2	Green LED (Power)	VLMG1300-GS08	Vishay	2V, 20mA	0603	1	0.080	0.076	0.070	Mouser
L1-2	Power Inductor, Low DCR, 18A	38L361C	Murata	0.360uH	10x10	2	1.620	1.290	1.140	Mouser
L3	Power Inductor	MLP2016S4R7M	TDK	4.7uH	0806	1	0.290	0.273	0.236	Mouser
C19,C273	Electrolytic Capacitor	UWT1V331MNL1GS	Nichicon	330uF	10x10	2	0.165	0.156	0.147	ES
C4-8,C23-27,C41,C42	Ceramic Capacitor	0805X106K6R3CT	Walsin	10uF	0805	12	0.031	0.031	0.028	ES
C9-11,C28-30,C267	Ceramic Capacitor	GRM188R61C104KA01D	Murata	0.1uF	0603	7	0.100	0.015	0.014	Mouser
C3,C22	Reference Capacitor	GRM1885C1H101JA01D	Murata	100pF	0603	2	0.250	0.034	0.024	Mouser
C16,C35	Ceramic Capacitor	VJ0603Y332KXACW1BC	Vishay	3300pF	0603	2	0.060	0.050	0.040	Mouser
C18,C37	Ceramic Capacitor	VJ0603Y221MXJCW1BC	Vishay	220pF	0603	2	0.060	0.040	0.032	Mouser
C12-15,C31-34	Ceramic Capacitor	C3216X7S0J476M	TDK	47uF	1206	8	0.470	0.330	0.300	Mouser
C2,C21	Ceramic Capacitor	C1608X5R1V225M	TDK	2.2uF	0603	2	0.090	0.061	0.055	Mouser
C17,C36	Ceramic Capacitor	GRM188R71E103KA01J	Murata	10nF	0603	2	0.200	0.027	0.018	Mouser
C1,C20	Ceramic Capacitor	GRM188R61E105KA12D	Murata	1.0uF	0603	2	0.110	0.045	0.032	Mouser
C38	Ceramic Capacitor	VJ0603Y223KXACW1BC	Vishay	22nF	0603	1	0.080	0.060	0.050	Mouser
C39,C40,C268-C271	Ceramic Capacitor	C1608X5R0J226M	TDK	22uF	0603	6	0.150	0.117	0.106	Mouser
C43-266	Ceramic Capacitor	C1005X7S1A474K	TDK	0.47uF	0402	192	0.020	0.017	0.015	Mouser
C272	Ceramic Capacitor	VJ0402Y103KXXAC	Vishay	0.01uF	0402	1	0.025	0.016	0.015	Mouser
R8,R18	Thick Film Resistor	ERJ-3EKF1781V	Panasonic	1.78K 1%	0603	2	0.070	0.020	0.003	Mouser
R5,R9,R15,R19	Thick Film Resistor	ERJ-3EKF4021V	Panasonic	4.02K 1%	0603	4	0.070	0.020	0.003	Mouser
R7,R17,R10,R20	Thick Film Resistor	ERJ-3EKF2871V	Panasonic	2.87K 1%	0603	4	0.070	0.020	0.003	Mouser
R6,R16,R22,R43-44	Thick Film Resistor	ERJ-3EKF1000V	Panasonic	100 1%	0603	5	0.070	0.020	0.003	Mouser
R1,R11	Thick Film Resistor	ERJ-3EKF3922V	Panasonic	39.2K 1%	0603	2	0.070	0.020	0.003	Mouser
R3-4,R13-14	Thick Film Resistor	ERJ-3EKF4992V	Panasonic	49.9K 1%	0603	4	0.070	0.020	0.003	Mouser
R2,R12	Thick Film Resistor	ERJ-3EKF7501V	Panasonic	7.5K 1%	0603	2	0.070	0.020	0.003	Mouser
R21	Thick Film Resistor	ERJ-3EKF1002V	Panasonic	10K 1%	0603	1	0.070	0.020	0.003	Mouser
R23,R42	Thick Film Resistor	ERJ-3EKF1001V	Panasonic	1K 1%	0603	2	0.070	0.020	0.003	Mouser
R24,R25	Thick Film Resistor	ERJ-3EKF2201V	Panasonic	2.2K 1%	0603	2	0.070	0.020	0.003	Mouser
R26-41	Thick Film Resistor	ERJ-2RKF1003X	Panasonic	100K	0402	16	0.070	0.020	0.003	Mouser
RT	Thermistor	NCP15XW222J03RC	Murata	2.2K 5%	0402	1	0.270	0.127	0.085	Mouser
J1	Power Connector, MiniFitJr, PCIe	45718-0002	Molex	6pin, 4.2mm	Thru-Hole	1	0.960	0.800	0.737	Mouser
J1	Alternate: Phoenix Terminal 2 pin	1770885	Phoenix	6A, 2.5mm	SMD RA	0	0.430	0.390	0.350	Mouser
J2	Micro USB Connector, Type B	10033526-N3212MLF	FCI	5pin	SMD	1	0.450	0.430	0.390	Mouser
J3,J5	Pin Headers, SMD 4 pin Vertical	10987	4UCONN	2x2pin, 2.54mm	Vertical SMD	4	0.089	0.089	0.089	4UCONN
J4	Pin Header SMD, RA mount (FAN)	11182	4UCONN	3 pin, 2.54mm	RA SMD	1	0.037	0.037	0.037	4UCONN
				TOTAL	PER BOARD	322	43.06	29.69	23.47	
					SMD	295				
					QFN	20				
					Fine-Pitch	1				
					Thru-Hole	1				
					Manual SMD	5				