

**Erebus Labs Switching Supply BOM**

Rev 1 Chris Clary Initial Build 4/1/2014  
 Rev 2 Chris Clary Spilt Up the Different Power Supplies 5/26/2014

Main CPU Block						Qty,	\$/each	Subtotal
Item	Reference	Value	Description	Manufacturer	Mfr Part Number			
1	PSOC3		PSOC3 microprocessor	Cypress	CY8C3245PVI-150	1	6.49	6.49
2	B1,B2	SPST	SWITCH TACTILE SPST-NO 0.05A 12V	TE Connectivity	2-1437565-9	2	0.2	0.4
3	C19,C20	22pF	CAP CER 22pF 50V NP0 0603	TDK	C1608C0G1H220J080AA	2	0.1	0.2
4	C4,C5,C6,C15,C16,C17,C18	0.1uF	CAP CER 0.1uF 16V Y5V 0603	Kemet	C0603C104Z4VACTU	7	0.1	0.7
5	C2,C3	1uF	CAP CER 1uF 25V 10% X5R 0603	Taiyo Yuden	TMK107BJ105KA-T	2	0.1	0.2
6	D10	RGB	WL-SBTW SMD RGB TOP LED	Würth Electronics	150141M173100	1	0.67	0.67
7	R2,R7	100Ω	RES 100 OHM 1/8W 1% 0805 SMD	Yageo	RC0805FR-07100RL	2	0.1	0.2
8	R3	180Ω	RES 180 OHM 1/8W 1% 0805 SMD	Yageo	RC0805FR-07180RL	1	0.1	0.1
9	R11	3kΩ	RES 1.5k OHM 1/8W 5% 0805 SMD	Yageo	RC0805JR-073KL	1	0.1	0.1
10	R1,R28,R29	5.6kΩ	RES 5.6k OHM 1/8W 5% 0805 SMD	Yageo	RC0805JR-075K6L	3	0.1	0.3
11	Q1	32.768kHz	32.768KHZ 12.5PF THRU	Abracon Corp.	AB38T-32.768KHZ	1	0.21	0.21
Programmer Block								
Item	Reference	Value	Description	Manufacturer	Mfr Part Number			
12	C1	0.1uF	CAP CER 0.1uF 16V Y5V 0603	Kemet	C0603C104Z4VACTU	1	0.1	0.1
13	ISP		CON HEADER DUAL POSITION .05" SMD	Samtec	FTSH-105-01-L-DV-K	1	3.25	3.25
USB Interface								
Item	Reference	Value	Description	Manufacturer	Mfr Part Number			
14	C13	0.1uF	CAP CER 0.1uF 16V Y5V 0603	Kemet	C0603C104Z4VACTU	1	0.1	0.1
15	R4,R5	22Ω	RES 22 OHM 1/10W 5% 0603 SMD	Yageo	RC0603JR-0722RL	2	0.1	0.2
16	R6	1.5KΩ	RES 1.5k OHM 1/8W 5% 0805 SMD	Yageo	RC0805JR-071K5L	1	0.1	0.1
17	R10	100KΩ	RES 100k OHM 1/8W 5% 0805 SMD	Yageo	RC0805JR-07100KL	1	0.1	0.1
18	X1	USB Mini B	CONN RECPT MINI USB2.0 5POS	Hirose	UX60-MB-5ST	1	1.07	1.07
19	Z1,Z2,Z3	ESD Diode	SUPPRESSOR ESD 5VDC 0603 SMD	Bourne Inc.	CG0603MLC-05LE	1	0.22	0.22
Sensor Interface								
Item	Reference	Value	Description	Manufacturer	Mfr Part Number			
20	C14	0.1uF	CAP CER 0.1uF 16V Y5V 0603	Kemet	C0603C104Z4VACTU	1	0.1	0.1
21	R12,R13,R14,R15	10KΩ	RES 10k OHM 1/8W 5% 0805 SMD	Yageo	RC0805JR-0710KL	4	0.1	0.4
22	X2	RJ-45	CONN MOD R/A 8P8C	TE Connectivity	5555167-1	1	1.37	1.37
Power Block Switching Supply								
Item	Reference	Value	Description	Manufacturer	Mfr Part Number			
23	C21,C22	10pF	CAP CER 10pF 50V 5% NP0 0805	Yageo	CC0805JRNPO9BN100	2	0.1	0.2
24	C27,C29	33pF	CAP CER 33pF 50V 5% NP0 0805	Yageo	CC0805JRNPO9BN330	2	0.1	0.2
25	C23,C26	330pF	CAP CER 330pF 50V 10% X7R 0805	Yageo	CC0805KRX7R9BB331	2	0.1	0.2
26	C9,C12	1000pF	CAP CER 1000pF 50V 20% X7R 0402	TDK Corporation	C1005X7R1H102M050BA	2	0.1	0.2

## Switching

27	C8,C7	0.047uF	CAP CER 0.047 16V 10% X5R 0402	AVX Corporation	0402YD473KAT2A	2	0.15	0.3
28	C11,C32	1uF	CAP CER 1uF 6.3V 20% X5R 0603	Murata Electronics	GRM188R60J105MA01D	2	0.1	0.2
29	C24,C25	10uF	CAP CER 10uF 16V 10% X5R 0805	TDK Corporation	C2012X5R1C106K085AC	2	0.26	0.52
30	C28,C30	22uF	CAP CER 22uF 16V 10% X5R 0805	TDK Corporation	C2012X5R1C226K125AC	2	0.77	1.54
31	C10,C31	47uF	CAP TANT 47uF 10V 20% 1210	AVX Corporation	TAJB476M010RNJ	2	1.09	2.18
32	D5,D6,D7,D8	Schottkey Diode	DIODE SCHOTTKY 20V 1 A SOD323	NXP Semiconductor	PMEG2010EA,115	4	0.43	1.72
33	IC3,IC4	Switching Regulator	IC REG BUCK BOOST SYNC 0.5A 16SSOP	Linear Technology	LTC3534EGN#PBF	2	6.73	13.46
34	L1,L2	3.3uH	INDUCTOR POWER 3.3UH 1.3A SMD	TDK Corporation	VLS3015ET-3R3M	2	0.54	1.08
35	R8,R9	2Ω	RES 2 OHM 1/16 5% 0402 SMD	Vishay Dale	CRCW04022R00JNED	2	0.7	1.4
36	R17,R20,R23,R26	10KΩ	RES 10k OHM 1/8W 5% 0805 SMD	Yageo	RC0805JR-0710KL	4	0.1	0.4
37	R18,R21	15KΩ	RES 15k OHM 1/8W 5% 0805 SMD	Yageo	RC0805JR-0715KL	2	0.1	0.2
38	R22,R24	162KΩ	RES 162k OHM 1/8W 1% 0805 SMD	Yageo	RC0805FR-07162KL	2	0.1	0.2
39	R16,R19	499KΩ	RES 499k OHM 1/8W 1% 0805 SMD	Yageo	RC0805FR-07499KL	2	0.1	0.2
40	R27	374KΩ	RES 374k OHM 1/8W 1% 0805 SMD	Yageo	RC0805FR-07374KL	1	0.1	0.1
41	R25	649kΩ	RES 649k OHM 1/8W 1% 0805 SMD	Yageo	RC0805FR-07649KL	1	0.1	0.1
42		1.5V	BATTERY IND ALKALINE AA SIZE	Panasonic	LR6XWA/2SB	4	0.5	2
43		Batter Case	HOLDER 4AA BATTERY CELLS WILRE LDS	MPD	BC4AAW	1	1.48	1.48

## Light Sensor

Item	Reference	Value	Description	Manufacturer	Mfr Part Number			
44	C33,C34	0.1uF	CAP CER 0.1uF 16V Y5V 0603	Kemet	C0603C104Z4VACTU	2	0.1	0.2
45	J2	RJ-45	CONN MOD R/A 8P8C	TE Connectivity	5555167-1	1	1.37	1.37
46	PH1	Photo Cell	PHOTOCELL 4-11K OHM 4.20 MM	Advanced Photonix	PDV-P9001	1	1.87	1.87
47	R31	10KΩ	YAGEO 10K OHM 1/4W 5% 1206	Yageo	RC1206JR-0710KL	1	0.1	0.1

## Gas Sensor

Item	Reference	Value	Description	Manufacturer	Mfr Part Number			
48	C35,C36	0.1uF	CAP CER 0.1uF 16V Y5V 0603	Kemet	C0603C104Z4VACTU	2	0.1	0.2
49	J3	RJ-45	CONN MOD R/A 8P8C	TE Connectivity	5555167-1	1	1.37	1.37
50	R30	30KΩ	RES 30.0K OHM1/4W 1% 1206	Yageo	RC1206FR-0730KL	1	0.1	0.1
51	X1	T2600	GAS SENSOR INDOOR POLLUTANT T-05	Figaro	T2600	1	N/A	0

## Interconnects

Item	Reference	Value	Description	Manufacturer	Mfr Part Number			
52		Cat 5e	CABLE CAT 5E SHEILDED BLUE 1M	Assmann WSW Com	A-MCSP-80010/B-R	1	3.36	3.36
53		A Male-Mini B	USB A MALE-MINI B 5 PIN 1M	CNC Tech	102-1031-GR-00100	1	2.43	2.43

	<b>TOTAL</b>	<b>55.46</b>
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\*\*The prices reflected in this document have not taken into account bulk order dicounts.