

**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**

Item	Qty	Reference	Value
	1	1 PSOC3	
	2	2 B1,B2	SPST
	3	2 C19,C20	22pF
	4	7 C4,C5,C6,C15,C16,C17,C18	0.1uF
	5	2 C2,C3	1uF
	6	1 D10	RGB
	7	2 R2,R7	100Ω
	8	1 R3	180Ω
	9	1 R11	3kΩ
	10	3 R1,R28,R29	5.6kΩ
	11	1 Q1	32.768kHz

**Programmer Block**

Item	Qty	Reference	Value
	12	1 C1	0.1uF
	13	1 ISP	

**USB Interface**

Item	Qty	Reference	Value
	14	1 C13	0.1uF
	15	2 R4,R5	22Ω
	16	1 R6	1.5KΩ
	17	1 R10	100KΩ
	18	1 X1	USB Mini B
	19	1 Z1,Z2,Z3	ESD Diode

**Sensor Interface**

Item	Qty	Reference	Value
	20	1 C14	0.1uF
	21	4 R12,R13,R14,R15	10KΩ
	22	1 X2	RJ-45

**Power Block Switching Supply**

Item	Qty	Reference	Value
	23	2 C21,C22	10pF
	24	2 C27,C29	33pF
	25	2 C23,C26	330pF
	26	2 C9,C12	1000pF
	27	2 C8,C7	0.047uF
	28	2 C11,C32	1uF
	29	2 C24,C25	10uF
	30	2 C28,C30	22uF
	31	2 C10,C31	47uF
	32	4 D5,D6,D7,D8	Schottkey Diode
	33	2 IC3,IC4	Switching Regulator
	34	2 L1,L2	3.3uH
	35	2 R8,R9	2Ω
	36	4 R17,R20,R23,R26	10KΩ
	37	2 R18,R21	15KΩ

### Switching

38	2 R22,R24	162K $\Omega$
39	2 R16,R19	499K $\Omega$
40	1 R27	374K $\Omega$
41	1 R25	649k $\Omega$
42	4	1.5V
43	1	Batter Case

### Light Sensor

Item	Qty	Reference	Value
44	2	C33,C34	0.1 $\mu$ F
45	1	J2	RJ-45
46	1	PH1	Photo Cell
47	1	R31	10K $\Omega$

### Gas Sensor

Item	Qty	Reference	Value
48	2	C35,C36	0.1 $\mu$ F
49	1	J3	RJ-45
50	1	R30	30K $\Omega$
51	1	X1	T2600

### Interconnects

Item	Qty	Reference	Value
52	1		Cat 5e
53	1		A Male-Mini B

\*\*The prices reflected in this document have not taken into account bulk c

## Switching

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			Qty,
Description	Manufacturer	Mfr Part Number	
PSOC3 microprocessor	Cypress	CY8C3245PVI-150	1
SWITCH TACTILE SPST-NO 0.05A 12V	TE Connectivity	2-1437565-9	2
CAP CER 22pF 50V NP0 0603	TDK	C1608C0G1H220J080AA	2
CAP CER 0.1uF 16V Y5V 0603	Kemet	C0603C104Z4VACTU	7
CAP CER 1uF 25V 10% X5R 0603	Taiyo Yuden	TMK107BJ105KA-T	2
WL-SBTW SMD RGB TOP LED	Würth Electronics	150141M173100	1
RES 100 OHM 1/8W 1% 0805 SMD	Yageo	RC0805FR-07100RL	2
RES 180 OHM 1/8W 1% 0805 SMD	Yageo	RC0805FR-07180RL	1
RES 1.5k OHM 1/8W 5% 0805 SMD	Yageo	RC0805JR-073KL	1
RES 5.6k OHM 1/8W 5% 0805 SMD	Yageo	RC0805JR-075K6L	3
32.768KHZ 12.5PF THRU	Abracon Corp.	AB38T-32.768KHZ	1
Description	Manufacturer	Mfr Part Number	
CAP CER 0.1uF 16V Y5V 0603	Kemet	C0603C104Z4VACTU	1
CON HEADER DUAL POSITION .05" SMD	Samtec	FTSH-105-01-L-DV-K	1
Description	Manufacturer	Mfr Part Number	
CAP CER 0.1uF 16V Y5V 0603	Kemet	C0603C104Z4VACTU	1
RES 22 OHM 1/10W 5% 0603 SMD	Yageo	RC0603JR-0722RL	2
RES 1.5k OHM 1/8W 5% 0805 SMD	Yageo	RC0805JR-071K5L	1
RES 100k OHM 1/8W 5% 0805 SMD	Yageo	RC0805JR-07100KL	1
CONN RECPT MINI USB2.0 5POS	Hirose	UX60-MB-5ST	1
SUPPRESSOR ESD 5VDC 0603 SMD	Bourne Inc.	CG0603MLC-05LE	1
Description	Manufacturer	Mfr Part Number	
CAP CER 0.1uF 16V Y5V 0603	Kemet	C0603C104Z4VACTU	1
RES 10k OHM 1/8W 5% 0805 SMD	Yageo	RC0805JR-0710KL	4
CONN MOD R/A 8P8C	TE Connectivity	5555167-1	1
Description	Manufacturer	Mfr Part Number	
CAP CER 10pF 50V 5% NP0 0805	Yageo	CC0805JRNPO9BN100	2
CAP CER 33pF 50V 5% NP0 0805	Yageo	CC0805JRNPO9BN330	2
CAP CER 330pF 50V 10% X7R 0805	Yageo	CC0805KRX7R9BB331	2
CAP CER 1000pF 50V 20% X7R 0402	TDK Corporation	C1005X7R1H102M050BA	2
CAP CER 0.047 16V 10% X5R 0402	AVX Corporation	0402YD473KAT2A	2
CAP CER 1uF 6.3V 20% X5R 0603	Murata Electronics	GRM188R60J105MA01D	2
CAP CER 10uF 16V 10% X5R 0805	TDK Corporation	C2012X5R1C106K085AC	2
CAP CER 22uF 16V 10% X5R 0805	TDK Corporation	C2012X5R1C226K125AC	2
CAP TANT 47uF 10V 20% 1210	AVX Corporation	TAJB476M010RNJ	2
DIODE SCHOTTKY 20V 1 A SOD323	NXP Semiconductor	PMEG2010EA,115	4
IC REG BUCK BOOST SYNC 0.5A 16SSOP	Linear Technology	LTC3534EGN#PBF	2
INDUCTOR POWER 3.3UH 1.3A SMD	TDK Corporation	VLS3015ET-3R3M	2
RES 2 OHM 1/16 5% 0402 SMD	Vishay Dale	CRCW04022R00JNED	2
RES 10k OHM 1/8W 5% 0805 SMD	Yageo	RC0805JR-0710KL	4
RES 15k OHM 1/8W 5% 0805 SMD	Yageo	RC0805JR-0715KL	2

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RES 162k OHM 1/8W 1% 0805 SMD	Yageo	RC0805FR-07162KL	2
RES 499k OHM 1/8W 1% 0805 SMD	Yageo	RC0805FR-07499KL	2
RES 374k OHM 1/8W 1% 0805 SMD	Yageo	RC0805FR-07374KL	1
RES 649k OHM 1/8W 1% 0805 SMD	Yageo	RC0805FR-07649KL	1
BATTERY IND ALKALINE AA SIZE	Panasonic	LR6XWA/2SB	4
HOLDER 4AA BATTERY CELLS WILRE LDS	MPD	BC4AAW	1

Description	Manufacturer	Mfr Part Number	
CAP CER 0.1uF 16V Y5V 0603	Kemet	C0603C104Z4VACTU	2
CONN MOD R/A 8P8C	TE Connectivity	5555167-1	1
PHOTOCELL 4-11K OHM 4.20 MM	Advanced Photonix	PDV-P9001	1
YAGEO 10K OHM 1/4W 5% 1206	Yageo	RC1206JR-0710KL	1

Description	Manufacturer	Mfr Part Number	
CAP CER 0.1uF 16V Y5V 0603	Kemet	C0603C104Z4VACTU	2
CONN MOD R/A 8P8C	TE Connectivity	5555167-1	1
RES 30.0K OHM 1/4W 1% 1206	Yageo	RC1206FR-0730KL	1
GAS SENSOR INDOOR POLLUTANT T-05	Figaro	T2600	1

Description	Manufacturer	Mfr Part Number	
CABLE CAT 5E SHEILDDED BLUE 1M	Assmann WSW Comp.	A-MCSP-80010/B-R	1
USB A MALE-MINI B 5 PIN 1M	CNC Tech	102-1031-GR-00100	1

order discounts.

# Switching

\$/each	Subtotal
6.49	6.49
0.2	0.4
0.1	0.2
0.1	0.7
0.1	0.2
0.67	0.67
0.1	0.2
0.1	0.1
0.1	0.1
0.1	0.3
0.21	0.21
0.1	0.1
3.25	3.25
0.1	0.1
0.1	0.2
0.1	0.1
0.1	0.1
1.07	1.07
0.22	0.22
0.1	0.1
0.1	0.4
1.37	1.37
0.1	0.2
0.1	0.2
0.1	0.2
0.1	0.2
0.15	0.3
0.1	0.2
0.26	0.52
0.77	1.54
1.09	2.18
0.43	1.72
6.73	13.46
0.54	1.08
0.7	1.4
0.1	0.4
0.1	0.2

Switching

	0.1	0.2
	0.1	0.2
	0.1	0.1
	0.1	0.1
	0.5	2
	1.48	1.48
	0.1	0.2
	1.37	1.37
	1.87	1.87
	0.1	0.1
	0.1	0.2
	1.37	1.37
	0.1	0.1
N/A		0
	3.36	3.36
	2.43	2.43
TOTAL		55.46