

Micro-μCurrent

Qty	Designator	Description	Mfr	Part no	Source
2	BAT1, BAT2	Battery holder CR2032	Keystone	3002	TME
2	C1, C2	Capacitor 1μF, 0805	*	*	*
1	C3	Capacitor 1nF, 0805	*	*	*
4	C4, C6, C7, C8	Capacitor 100nF, 0805	*	*	*
1	C5	Capacitor 470nF, 0805	*	*	*
2	C9, C10	Capacitor 10pF, 0805	*	*	*
1	I+	4mm safety jack, red, tab cut off	Electro-PJP	3274-I-RT	TME
1	I-	4mm safety jack, black, tab cut off	Electro-PJP	3274-I-SW	TME
1	IC1	Voltage regulator	Microchip	TC1185-5.0VCT	Digikey
1	IC2	Undervoltage sensing circuit	TI	LM8365BALMFX45/NOPB	Mouser
1	IC3	OpAmp	TI	LMV321DBV	TME
2	IC4, IC5	Precision OpAmp	Maxim	MAX4239AUT+T	Farnell
0	J1	Not fitted	--	--	--
1	LED1	LED red, 3mm, bright	Kingbright	L-934SRD/F or L-934SURDK	TME
2	OUT+, OUT-	4mm plug, threaded	Schützinger	FK1209NI	TME
1	R1	Resistor 0.01R, 0.1%, 2512, Kelvin sense	Vishay	Y14870R01000B9R	Mouser
1	R2	Resistor 1R, 0.25%, 0805	Bourns	CRT0805-CY-1R00ELF	Mouser
1	R3	Resistor 100R, 0.05%, 0603	Susumu	RG1608N-101-W-T1	Mouser
1	R4	Resistor 10k, 0.05%, 0603	Susumu	RG1608N-103-W-T1	Mouser
1	R5	Resistor 1k, 5%, 0805 (increase if LED too bright)	*	*	*
2	R6, R7	Resistor 220k, 5%, 0805	*	*	*
3	R8, R9, R16	Resistor 270R, 5%, 0805	*	*	*
2	R10, R13	Resistor 6.8k, 0.05%, 0603	Susumu	RG1608N-682-W-T1	Mouser
2	R11, R14	Resistor 2.2k, 0.05%, 0603	Susumu	RG1608N-222-W-T1	Mouser
2	R12, R15	Resistor 1k, 0.05%, 0603	Susumu	RG1608N-102-W-T1	Mouser
1	S1	Switch, DPDT	TE	STS220PC or STS220PC04	Mouser
		(alternative for above, extra pins, shorter travel)	XKB	SS22E01L4	LCSC
1	S2	Switch, DP4T	TE	STS2400PC or STS2400PC04	Mouser
		(alternative for above)	XKB	SS24E01L4	LCSC
5	X1A, X2A, X3A, X4A, X5A	Female header, THT, 1x02, 2.54mm, height 5mm	Ninigi	ZL305-02	TME
4	X1B, X2B, X3B, X4B	Pin header, SMD, 1x02 (single row), 2.54mm	Ninigi	ZL301-40P (cut to size)	TME
1	X5B	Pin header, SMD, 2x01 (double row), 2.54mm	Ninigi	ZL301-40P (cut to size, pins rotated)	TME
1	--	Enclosure	Supertronic	PP56N / PP056N-S	TME
2	--	Battery CR2032 (good quality)	*	*	*

Notes: add insulator between battery holder and switch. See photos: <http://arnerossius.de/temp/uCurrent/>

MUST BE Texas Instruments!

For 2A range

For 20mA range, use lower tolerance if available

For 200 μ A range

For 2 μ A range

Increase to 4.7k for longer battery life

Pull out pins and re-insert rotated to fit pads