ENP252 NANO-CC-EL-ver0.62 Build BOM

ID	Value	Qty	Do Not Place / notes	Ref Designators	Supplier	Supplier P/N	Price	Ext'd price ($50.26)	Item
1	10uF	5	C1: consider laying horizontally under Nano to avoid USB cable	C1, C2, C4, C7, C10	Mouser	140-REA100M1HBK0511P	$0.077	$0.39	Cap:AL:10uF:[50V, 20%,65mA,0.1 DF]:TH:5mmx11mmx2mm_ls:Mouser 140-REA100M1HBK0511P
2	1nF	2		C11, C15	Mouser	594-H102K25X7RN63J5R	$0.060	$0.12	Cap:ceramic:1nF:[10%, 1kV, X7R]:TH:5m:Mouser 594-H102K25X7RN63J5R
3	10nF	1		C13	Mouser	594-K103K15X7RF5UL2	$0.032	$0.03	Cap:ceramic:10nF:[10%, 50V, X7R]:TH:2.5mm:Mouser 594-K103K15X7RF5UL2
4	100nF	12		C3, C5, C8, C9, C12, C14, C17, C18, C19, C20, C22, C23	Mouser	594-K104K15X7RF5UH5	$0.043	$0.52	Cap:ceramic:100nF:[10%, 50V, X7R]:TH:5mm:Mouser 594-K104K15X7RF5UH5
5	1uF	2		C6, C16	Mouser	810-FK24X7R1H105K	$0.139	$0.28	Cap:ceramic:1uF:[50V, 10%, X7R]:TH:5mm:Mouser 810-FK24X7R1H105K
6	Barrel	1	Clip side lead and mount on top-side	CN1	Mouser	490-PJ-102AH	$0.708	$0.71	CON:F:Barrel:[2.1mm, Barrel connector (breadboard)]:Mouser 490-PJ-102AH
7	1N4148	10	D_TEMPSNS mounts to HS w/ long leads and epoxy.	D1, D2, D3, D4, D5, D6, D7, D8, D9, D_TEMPSNS	Mouser	583-1N4148-T	$0.020	$0.20	Diode:signal:1N4148:[75V, 300mA, switching diode]:TH:DO-35:Mouser 583-1N4148-T
8	10A2-B	1	DNP/place on top after JP2 & JP3 are placed	D100	Mouser	583-10A2-B	$0.570	$0.57	Diode:Rectifier:10A2-B:[200V, 10A]:TH:R-6:Mouser 583-10A2-B
9	WA-T220-101E	1	solder only ungrounded pin. cut grounded pin thermals so HS floats	HS1	Mouser	588-WA-T220-101E	$2.010	$2.01	HS:Discrete:TO-220:WA-T220-101E:[Vertical, 12degC/W@10W]:Mouser 588-WA-T220-101E
10	LM358AP	2	Don't solder. plug into DIP8 sockets	IC1, IC2	Mouser	595-LM358AP	$0.187	$0.37	IC:OPAMP:LM358AP:[Gen Purpose bipolar, dual, 0.7MHz GBP]:TH:DIP8:Mouser 595-LM358AP
11	DIP8	2		DIP-IC1, DIP-IC2	Mouser	571-1-2199298-2	$0.090	$0.18	Socket:DIP:DIP8:[TIN, 14P]:TH:Mouser 571-1-2199298-2
12	Molex SL 70543	1	DNP	J1	Mouser	538-70543-0005	$0.868	$0.87	HDR:SHROUDED:Polarized:Molex SL 70543:[6 pos, 0.1"]:Mouser 538-70543-0005
13	Molex SL 70543	1	DNP	J2	Mouser	538-70543-0003	$0.746	$0.75	HDR:SHROUDED:Polarized:Molex SL 70543:[4 pos, 0.1"]:Mouser 538-70543-0003
14	UNSHROUDED	0.2	Will need to cut to length. cut at the middle of a fem pin, sacrificing one pin in the process	JP1, JP4, JP5	Mouser	538-22-28-8363	$1.500	$0.26	HDR:UNSHROUDED:[rt-angle,1x36]:TH:0.1":Mouser 538-22-28-8363
15	2 pos	2		JP2, JP3	Mouser	158-P02EK381V2-E	$0.490	$0.98	TermBlk:screw:2 pos:[12A, 300V, 90 deg]:TH:3.81mm:Mouser 158-P02EK381V2-E
16	GRN	2		LED1, LED2	Mouser	859-LTL-4231N	$0.068	$0.14	LED:GRN:[]:TH:3mm:Mouser 859-LTL-4231N
17	RED	1		LED3	Mouser	859-LTL-4221N	$0.061	$0.06	LED:RED:[]:TH:3mm:Mouser 859-LTL-4221N
18	YLW	1		LED4	Mouser	859-LTL1CHKYK	$0.102	$0.10	LED:YLW:[]:TH:3mm:Mouser 859-LTL1CHKYK
19	2N7000	4		M1, M2, M3, M4	Mouser	512-2N7000TA	$0.094	$0.38	Tran:MOSFET:N-CHNL:2N7000:[60V, 200mA, 5 ohm MAX]:TH:TO-92:Mouser 512-2N7000TA
20	MJE3055T	1		Q1	Mouser	512-MJE3055TTU	$0.502	$0.50	Tran:BJT:NPN:MJE3055T:[60V, 10A, 2MHz]:TH:TO-220:Mouser 512-MJE3055TTU
21	2N3904	1		Q2	Mouser	512-2N3904TAR	$0.058	$0.06	Tran:BJT:NPN:2N3904:[40V, 200mA]:TH:TO-92:Mouser 512-2N3904TAR
22	2N3906	1		Q3	Mouser	512-2N3906TAR	$0.037	$0.04	Tran:BJT:PNP:2N3906:[-40V, -200mA]:TH:TO-92:Mouser 512-2N3906TAR
23		0	R14: DNP	R14	-			$0.00	DNP
24	1M	1	R12:choose your own value	R12	Mouser	MFR-25FBF52-1M	$0.019	$0.02	Res:F:1M:[1%,1/4W]:TH:Mouser MFR-25FBF52-1M
25	1k	7		R17, R31, R33, R6,R25, R27, R28	Mouser	MFR-25FBF52-1K	$0.020	$0.14	Res:F:1k:[1%,1/4W]:TH:Mouser MFR-25FBF52-1K
26	100k	4		R18, R19, R21, R22	Mouser	MFR-25FBF52-100k	$0.019	$0.08	Res:F:100k:[1%,1/4W]:TH:Mouser MFR-25FBF52-100k
27	20k	1		R39	Mouser	MFR-25FBF52-20k	$0.019	$0.02	Res:F:20k:[1%,1/4W]:TH:Mouser MFR-25FBF52-20k
28	49.9k	3		R7, R20, R24	Mouser	MFR-25FBF52-49K9	$0.020	$0.06	Res:F:49.9k:[1%,1/4W]:TH:Mouser MFR-25FBF52-49K9
29	680	4		R35, R36, R38, R37	Mouser	603-CFR-25JR-52-680R	$0.012	$0.05	Res:CF:680:[5%,1/4W]:TH:Mouser 603-CFR-25JR-52-680R
30	10k	15	R11:DNP, R13:choose your own value	R1, R2, R3, R4, R9, R10, R11, R13, R16, R23, R29, R30, R32, R34, R50	Mouser	MFR-25FBF52-10k	$0.019	$0.29	Res:F:10k:[1%,1/4W]:TH:Mouser MFR-25FBF52-10k
31	1	10		R40, R41, R42, R43, R44, R45, R46, R47, R48, R49	Mouser	MFR-25FBF52-1R	$0.047	$0.47	Res:F:1:[1%,1/4W]:TH:Mouser MFR-25FBF52-1R
32	10	2		R5, R8	Mouser	MFR-25FBF52-10R	$0.019	$0.04	Res:F:10:[1%,1/4W]:TH:Mouser MFR-25FBF52-10R
33	multi-directional	1	backordered	S1	Mouser	688-SKRHAAE010	$1.260	$1.26	SW:multi-directional:[tactile,4-way-push-btn]:SMD:Mouser 688-SKRHAAE010
34	momentary	1		S2	Mouser	612-TL1105FF1	$0.163	$0.16	SW:momentary:[tactile, 4 0.1" pin]:TH:Mouser 612-TL1105FF1
35	Nano-v3-generic	1	use the one you have unless broken	MOD1	Amazon	Longruner Mini Nano V3.0	$3.900	$3.90	Module:Arduino:Nano-v3-generic:[ ]:Amazon Longruner Mini Nano V3.0
36	0.1in-FEM-HDR	0.8	Will need to cut to length. cut at the middle of a fem pin, sacrificing one pin in the process	HDR-MOD1	Amazon	50Pcs Straight Female PCB H	$0.215	$0.17	HDR:SOCKET:0.1in-FEM-HDR:[40 pos, 0.1", vertical]:TH:Amazon 50Pcs Straight Female PCB Header 40 Way 2.54mm Spacing Connector Black
37	LM4040D25	1	only 10 2.50V ref's on-hand. can temporarily use 2.048V ref	U1	Mouser	595-LM4040D25ILPR	$0.550	$0.55	IC:Reference:LM4040D25:[2.5V shunt reference]:TH:TO-92:Mouser 595-LM4040D25ILPR
38	128x32	1	OLED - Do not solder. plug into fem header	MOD2	Mouser	485-931	$15.750	$15.75	DISP:OLED:128x32:[monochrome,I2C,Adafruit]:TH:Mouser 485-931
39	Nano-CC-EL-ver-0.62	1		PCB1	4pcb	10013764	$13.250	$13.25	PCB:Nano-CC-EL-ver-0.62:[3"x 5", 2017-03-11]:4pcb 10013764
40	9V/305mA-AC-US	1		PS1	Mouser	552-PSM03A-090-R	$4.520	$4.52	PS:AC:Wall-mount:9V/305mA-AC-US:[9 VDC, 305 mA, US]:Mouser 552-PSM03A-090-R
41	0.1in-FEM-HDR	0.2	fem hdr for OLED Display	HDR-MOD2	Amazon	50Pcs Straight Female PCB H	$0.215	$0.04	HDR:SOCKET:0.1in-FEM-HDR:[40 pos, 0.1", vertical]:TH:Amazon 50Pcs Straight Female PCB Header 40 Way 2.54mm Spacing Connector Black