

Bill Of Materials for NeoVCO Core

Design Title NeoVCO Core
Author Dustin Stroh (J3RK)
Document Number
Revision 2.2
Design Created Thursday, March 30, 2023
Design Last Modified Thursday, March 30, 2023
Total Parts In Design 114

0 Modules

Quantity	References	Value	PCB Package	Notes
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Sub-totals:

19 Capacitors

Quantity	References	Value	PCB Package	Notes
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5	C1-C3,C12-C13	10nF	CAP10	C0G/NP0 MLCC / Ceramic / Film
1	C4	3.3nF	CAP20	Polypropylene Recommended
1	C5	100nF	CAP20	Polypropylene Recommended
5	C6-C8,C14-C15	22pF	CAP10	C0G/NP0 MLCC / Ceramic / Film
1	C9	47pF	CAP10	C0G/NP0 MLCC / Ceramic / Film
2	C10-C11	330nF	CAP10	C0G/NP0 MLCC / Ceramic / Film
4	C16-C19	100nF	CAP10	C0G/NP0 MLCC / Ceramic / Film

Sub-totals:

45 Resistors

Quantity	References	Value	PCB Package	Notes
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1	R1	340R	RES40	1% (100PPM / 50PPM Recommended)
3	R2,R31,R45	10K	RES40	1% (100PPM / 50PPM Recommended)
2	R3-R4	499K	RES40	1% (100PPM / 50PPM Recommended)
1	R5	56.3K	RES40	1% (100PPM / 50PPM Recommended)
1	R6	267R	RES40	1% (100PPM / 50PPM Recommended)
1	R7	4.32K	RES40	1% (100PPM / 50PPM Recommended)
1	R8	267K	RES40	1% (100PPM / 50PPM Recommended)
1	R9	27K	RES40	1% (100PPM / 50PPM Recommended)
6	R10,R37,R39-R41,R44	100K	RES40	1% (100PPM / 50PPM Recommended)
6	R11,R13-R14,R16-R17,R19	40K	RES40	1% (100PPM / 50PPM Recommended)
6	R12,R15,R18,R25-R26,R33	20K	RES40	1% (100PPM / 50PPM Recommended)
4	R20-R22,R36	100R	RES40	1% (100PPM / 50PPM Recommended)
1	R23	3.0K	RES40	1% (100PPM / 50PPM Recommended)
1	R24	330R	RES40	1% (100PPM / 50PPM Recommended)
1	R27	75K	RES40	1% (100PPM / 50PPM Recommended)
2	R28,R32	2.2K	RES40	1% (100PPM / 50PPM Recommended)
2	R29-R30	4.7K	RES40	1% (100PPM / 50PPM Recommended)
2	R34-R35	12K	RES40	1% (100PPM / 50PPM Recommended)
1	R38	51K	RES40	1% (100PPM / 50PPM Recommended)
2	R42-R43	1M	RES40	1% (100PPM / 50PPM Recommended)

Sub-totals:

9 Integrated Circuits

Quantity	References	Value	PCB Package	Notes
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1	U1	LM4040-2.5	TO92	Type A, B, or C
1	U2	J2131	SO16	SSI2131 SOIC

3	U3-U4,U7	TL072	SO8	U3 and U4 Recommend OPA2132 / OPA2134 / OPA1656 / AD8034
1	U5	TL071	SO8	LED Driver Op Amp (Any single op amp will work here.)
1	U6	SSM2212	SO8	LS318 / LS38 / SSM2212
1	U8	7805	TO220	TO220 (1.5A used to support extra function sub PCBs)
1	U9	7905	P1	TO220 (1.5A used to support extra function sub PCBs)

Sub-totals:

0 Transistors

Quantity	References	Value	PCB Package	Notes
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Sub-totals:

0 Diodes

Quantity	References	Value	PCB Package	Notes
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Sub-totals:

41 Miscellaneous

Quantity	References	Value	PCB Package	Notes
14	+12V,+2.5V,+5V,-12V,-5V,0V,HSY,LF,PULSE,SAW,SINE,SSY,TRI,WC	CONN-SIL1	CONN-SIL1	On PCB Solder Pads. (no component needed)
1	BIAS1	5K	CONN-SIL3	Bourns 3362P (actual brand name) recommended. (Avoid knockoffs.)
10	BP1-BP10	100nF	0805	Decoupling / Bypass SMT 0805 Capacitors. COG/NP0 Preferred
3	COARSE,LINFM1,PWM1	100K	CONN-SIL3	Panel Pots (Linear)
2	FB1-FB2	1R	RES40	Ferrite Beads Recommended
2	FINE,WCVL1	100k	CONN-SIL3	Panel Pots (Linear)
1	J1	SIL-156-04	SIL-156-04	MTA-156 Friction Lock Power Header.
1	LED1	LED-GREEN	CONN-SIL2	2 Lead BiColor LED
2	PF1-PF2	10uF	ELEC-RAD13	Power Filtering Electrolytic Capacitors
4	RATE,UB1-UB3	SW-SPST	CONN-SIL2	SPST / SPDT Toggle Switch. NKK Recommended.
1	VO	VOCT1	CONN-SIL1	On PCB Solder Pads. (no component needed)

Sub-totals:

Totals:

Thursday, March 30, 2023 11:07:30 AM