

PROGRAMMABLE COMPLEX OSCILLATOR MODEL 259**BILL OF MATERIALS REV 2.1****PCB1****SEMICONDUCTORS**

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
1N457	D1, D2, D3, D4, D5, D7, D8, D9, D11, D14, D15, D18	12		512-1N457

CAPACITORS

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
47uF	C1	1	TANTALUM AXIAL	74-173D476X9010XE3

RESISTORS

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
4K99 1%	R35, R37, R137, R139	4	1% 1/4W	271-4.99K-RC
180K 1%	R5A, R109A	2	0805 SMT	603-RT0805FRE07180KL
470R	R2, R14, R48, R57, R58, R80, R86, R87, R117, R166A, R200, R287	12	5% 1/4W	291-470-RC
2K2	R78	1	5% 1/4W	291-2.2K-RC
3K3	R77	1	5% 1/4W	291-3.3K-RC
10K	R160	1	5% 1/4W	291-10K-RC
15K	R32, R36, R133, R138	4	5% 1/4W	291-15K-RC
47K	R75	1	5% 1/4W	291-47K-RC
100K	R1, R105, R166, R188, R252, R264	6	5% 1/4W	291-100K-RC
130K	R4, R108	2	5% 1/4W	291-130K-RC
150K	R167, R190, R253, R267	4	5% 1/4W	291-150K-RC
220K	R45	1	5% 1/4W	291-220K-RC
680K	R113B, R198	2	5% 1/4W	291-680K-RC
2M2	R17, R112	2	5% 1/4W	291-2.2M-RC
10M	R31, R136	2	5% 1/4W	291-10M-RC
100K	TR1, TR2	2	SINGLE TURN	652-3362P-1-104LF
20K	TR3, TR4, TR5, TR6, TR7, TR8, TR9	7	SINGLE TURN	652-3362P-1-203LF
10K-100K LOG	POT1, POT7	2	9MM	http://smallbear-electronics.mybigcommerce.com/alpha-single-gang-16mm-right-angle-pc-mount/
10K-100K LIN	POT3, POT5, POT6, POT9, POT14, POT15	6	16MM ANGLED	http://smallbear-electronics.mybigcommerce.com/alpha-single-gang-16mm-right-angle-pc-mount/
10K-100K LIN	POT4, POT10, POT11, POT12, POT13	5	16MM ANGLED	http://smallbear-electronics.mybigcommerce.com/alpha-single-gang-9mm-right-angle-pc-mount/
50K LIN	POT2, POT8	2	16MM	31JN405-F

MISC

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
	LED1, LED2, LED3, LED4, LED5, LED6, LED7, LED8, LED9, LED10, LED11, LED12, LED13, LED14, LED15	15		630-HLMP-K101
		1	BANANA JACK BLUE	530-108-0910-1
		8	BANANA JACK BLACK	530-108-0903-1
		10	TINJAX	502-41
DPDT ON-OFF-(ON)	SW1	1	TOGGLE SWITCH	611-7207SYCQE
DPDT ON-ON-ON	SW3	1	TOGGLE SWITCH	611-7211-002
SPDT ON-OFF-ON	SW2	1	TOGGLE SWITCH	611-7103-002
SPDT (ON)-OFF-(ON)	SW8	1	TOGGLE SWITCH	611-7105-002
SPDT ON-ON	SW4, SW5, SW6, SW7	4	TOGGLE SWITCH	611-7101-002
	PLD1, PLD2	2	PIN FEMALE HEADER	517-929836-01-26-RK
		7	BLUE SWITCH CAP	
		1	WHITE SWITCH CAP	

PCB2**SEMICONDUCTORS**

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
1N457	D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D13	13		512-1N457
1N5228	Z1	1		78-1N5228B
TL072	IC1, IC2, IC3, IC18, IC20, IC21, IC26, IC27, IC28, IC29, IC30, IC31, IC32, IC33, IC34, IC35	16		595-TL072IP
DG445	IC4, IC5, IC17, IC23, IC24	5		781-DG445DJ-E3
CD4001	IC9, IC14	2		595-CD4001BE
CD4030	IC8, IC13	2		595-CD4030BE
CD4040	IC11, IC15	2		595-CD4040BE
CD4555	IC7	1		595-CD4555BE
74LS05	IC10, IC16	2		595-SN74LS05N
LM301	IC12, IC19	2		926-LM301AN/NOPB
LM311	IC6, IC22, IC25	3		595-LM311P
CA3130	IC36, IC37, IC38, IC39, IC40	5		968-CA3130EZ
MAT02	Q1, Q5	2	any dual NPN is fine	EBAY
MAT03	Q2, Q6	2	any dual PNP is fine	EBAY
PN3958	Q10/11	1	LS3958 will work too	EBAY
PN3565	Q3, Q4, Q7, Q8, Q12, Q13	6		610-PN3565
J201	Q9	1		106-J201

CAPACITORS

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
1uF	C25, C26, C29, C36	4	TANTALUM AXIAL	74-173D105X9035VWE3
2.2uF	C16A	1	TANTALUM AXIAL	74-173D35V2.2
4.7uF	C37, C38	2	TANTALUM AXIAL	74-173D475X9035WWE3
10uF	C35	1	TANTALUM AXIAL	74-173D106X9035XWE3
47uF	C3, C16	2	TANTALUM AXIAL	74-173D476X9010XE3
10pF	C28A	1	CERAMIC 6.35MM LS	581-SA102A100J
22pF	C18	1	CERAMIC 6.35MM LS	581-SA102A220J
47pF	C31, C32, C33, C34	4	CERAMIC 6.35MM LS	581-SA102A470J
100pF	C1, C4, C14, C15, C17, C21, C22A, C24, C27A, C30	10	CERAMIC 6.35MM LS	581-SA102A101J
220pF	C2, C8A, C9, C11, C20A, C27	6	CERAMIC 6.35MM LS	581-SA101A221.JAR
470pF	C22, C23A, C28	3	CERAMIC 6.35MM LS	581-SA101A471.JAR
2000pF	C23	1	CERAMIC 6.35MM LS	581-SA101C222K
10000pF	C7, C19, C24A, F1, F2, F3, F4	7	CERAMIC 6.35MM LS	581-SA105E103M
47000pF	C5, C6, C13, C24B	4	CERAMIC 6.35MM LS	581-SA105C473KAR
4.7nF	C8, C20	2	FILM 10MM LS	871-B32621A6472J
180nF	C10, C12	2	FILM 10MM LS	667-ECW-F2184JAQ

RESISTORS

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
1K 1%	R118	1	1% 1/4W	271-1K-RC
2K49 1%	R125	1	1% 1/4W	271-2.49K-RC
4K99 1%	R56, R66, R153, R155	4	1% 1/4W	271-4.99K-RC
10K 1%	R53, R55, R126, R156, R186, R238, R246, R249, R251	9	1% 1/4W	271-10K-RC
15K 1%	R247	1	1% 1/4W	271-15K-RC
20K 1%	R51, R175, R187, R272	4	1% 1/4W	271-20K-RC
24K9 1%	R242, R243	2	1% 1/4W	271-24.9K-RC
28K7 1%	R154	1	1% 1/4W	271-28.7K-RC
30K 1%	R120, R226	2	1% 1/4W	271-30K-RC
30K1 1%	R176, R273	2	1% 1/4W	271-30.1K-RC
33K 1%	R224	1	1% 1/4W	271-33K-RC
43K2 1%	R236	1	1% 1/4W	271-43.2K-RC
49K9 1%	R62, R174, R234, R274	4	1% 1/4W	271-49.9K-RC
56K 1%	R232	1	1% 1/4W	271-56K-RC
68K 1%	R222, R228	2	1% 1/4W	271-68K-RC
75K 1%	R271	1	1% 1/4W	271-75K-RC
91K 1%	R230	1	1% 1/4W	271-91K-RC
100K 1%	R12, R20, R30, R115, R223, R227, R231, R235, R239, R240	10	1% 1/4W	271-100K-RC
150K 1%	R19A, R113	2	1% 1/4W	271-150K-RC
121K 1%	R21A, R123A	2	1% 1/4W	271-121K-RC
100R	R15, R81, R119, R201, R284, R288	6	5% 1/4W	291-100-RC
220R	R64, R261	2	5% 1/4W	291-220-RC
470R	R285	1	5% 1/4W	291-470-RC
680R	R147, R148, R157, R272A, R292	5	5% 1/4W	291-680-RC
820R	R65	1	5% 1/4W	291-820-RC
1K	R23, R144, R214A, R248A, R259, R263	6	5% 1/4W	291-1K-RC
1K8	R208	1	5% 1/4W	291-1.8K-RC
2K2	R177, R255	2	5% 1/4W	291-2.2K-RC
3K3	R143, R150, R216	3	5% 1/4W	291-3.3K-RC
4K7	R54, R172, R173, R248, R250, R258, R260, R262	8	5% 1/4W	291-4.7K-RC
6K8	R27, R130, R142, R152, R179, R210A, R276A, R290	8	5% 1/4W	291-6.8K-RC
10K	R8, R18, R42, R46, R47, R56A, R60, R61, R67, R71, R73, R76, R79, R88, R90, R91, R92, R96, R97, R102, R114, R161, R162, R164A, R169A, R178, R182, R192, R195, R206, R213, R220A, R221, R225, R229, R233, R237, R241, R244, R268, R275, R276, R278, R281, R294	45	5% 1/4W	291-10K-RC
12K	R165, R219, R280	3	5% 1/4W	291-12K-RC
15K	R50, R158, R214, R279	4	5% 1/4W	291-15K-RC
18K	R185	1	5% 1/4W	291-18K-RC
22K	R29, R131, R149, R209, R217, R218, R286, R290A	8	5% 1/4W	291-22K-RC
24K	R49, R164	2	5% 1/4W	291-24K-RC
33K	R16, R24, R48A, R68, R69, R85, R94, R95, R116, R145, R146, R163, R181, R202, R205, R215, R283, R289, R293	19	5% 1/4W	291-33K-RC
39K	R82, R196	2	5% 1/4W	291-39K-RC
47K	R13, R25, R129, R180, R184	5	5% 1/4W	291-47K-RC
56K	R19, R113A	2	5% 1/4W	291-56K-RC
62K	R63	1	5% 1/4W	291-62K-RC
68K	R9, R10, R21, R52, R103, R104, R123, R171, R212	9	5% 1/4W	291-68K-RC
82K	R83, R291	2	5% 1/4W	291-82K-RC
100K	R26, R39, R43, R44, R59, R70, R72, R72A, R74, R89, R93, R98, R99, R101, R128, R132, R140, R141, R183, R193, R194, R197, R199, R207, R256, R269, R270, R282	28	5% 1/4W	291-100K-RC
130K	R170, R204	2	5% 1/4W	291-130K-RC
150K	R198, R203	2	5% 1/4W	291-150K-RC
220K	R121	1	5% 1/4W	291-220K-RC
240K	R220	1	5% 1/4W	291-240K-RC
300K	R204A, R257	2	5% 1/4W	291-300K-RC
330K	R28, R124	2	5% 1/4W	291-330K-RC
470K	R40, R100, R211	3	5% 1/4W	291-470K-RC
1M	R71A, R73A, R96A, R97A, R245A, R245B	6	5% 1/4W	291-1M-RC
1M2	R245	1	5% 1/4W	291-1.2M-RC
1M5	R27A, R130A	2	5% 1/4W	291-1.5M-RC
3M3	R49A	1	5% 1/4W	291-3.3M-RC
4M7	R41	1	5% 1/4W	291-4.7M-RC
10M	R281A	1	5% 1/4W	291-10M-RC
1R	R1	1	5% 1W	294-1.0-RC
1K	R22, R122	2	TEMPCO	https://www.thonk.co.uk/shop/tempco-resistor-krl-bantry-3500ppm-x2/
20K	TR1	1	SINGLE TURN	652-3362P-1-203LF
5K	TR2, TR3	2	SINGLE TURN	652-3362P-1-502LF

MISC

VALUE	DESIGNATOR	QTY	DESCRIPTION	MOUSER PART#
	PLD1, PLD2	2	2x13PIN MALE HEADER	517-929836-01-26-RK
VTL5C3/2	V-A, V-B, V-D, V-G, V-H	5	DUAL VACTROL	https://www.thonk.co.uk/shop/vactrols-vtl/
VTL5C3	V-C, V-E, V-F	3	SINGLE VACTROL	https://www.thonk.co.uk/shop/vactrols-vtl/
		2	26PIN RIBBON CABLE	EBAY ITEM # 231938545446
		1	POWER CONNECTOR	587-306-50-010
		4	15MM F-F STANDOFF	855-R30-1001502
		4	30MM F-F STANDOFF	855-R30-1003002
			PANEL	http://siddarthianinnovations.bigcartel.com/product/259-front-panel-for-diy-kit