

# BoM, for Fabrication, with X, Y Position

ref	value	Position X	Position Y	Orientation	Layer	Vendor	Vendor P/N	NOTE1	NOTE 2
BT1	BATT_RTC	6.3400	1.8550	0	Front	<a href="#">DigiKey</a>	3003K-ND		Battery Socket
*	3V CR2032 Battery					<a href="#">DigiKey</a>	P189-ND		LR2032 Coin Battery
C1	100u	1.7975	9.0375	180	Front	<a href="#">DigiKey</a>	P833-ND		Capacitor Voltage Rating >= 16V
C2	100u	7.0775	8.8800	0	Front	<a href="#">DigiKey</a>	P833-ND		Capacitor Voltage Rating >= 16V
C3	100n	3.6450	9.1600	180	Front	<a href="#">DigiKey</a>	399-5863-ND		Decoupling capacitor
C4	100n	6.5075	9.0300	270	Front	<a href="#">DigiKey</a>	399-5863-ND		Decoupling capacitor
C5	100n	1.4625	2.1250	270	Front	<a href="#">DigiKey</a>	399-5863-ND		Decoupling capacitor
C6	100n	5.8325	9.5175	270	Front	<a href="#">DigiKey</a>	399-5863-ND		Decoupling capacitor
C7	100n	2.0000	9.2450	270	Front	<a href="#">DigiKey</a>	399-5863-ND		FTDI Reset
C8	100u	6.6950	8.8800	270	Front	<a href="#">DigiKey</a>	P833-ND		Capacitor Voltage Rating >= 16V
C9	100n	6.8925	9.0300	270	Front	<a href="#">DigiKey</a>	399-5863-ND		Decoupling capacitor
C10	100n	6.8650	2.1050	270	Front	<a href="#">DigiKey</a>	399-5863-ND		Decoupling capacitor
D1	LED	1.2000	3.0500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D2	LED	1.6000	3.0500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D3	LED	2.0000	3.0500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D4	LED	2.4000	3.0500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D5	LED	2.8000	3.0500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D6	LED	3.2000	3.0500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D7	LED	3.6000	3.0500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D8	LED	4.0000	3.0500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D9	LED	4.4000	3.0500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D10	LED	4.8000	3.0500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D11	LED	5.2000	3.0500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D12	LED	5.6000	3.0500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D13	LED	6.0000	3.0500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D14	LED	6.4000	3.0500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D15	LED	6.8000	3.0500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D16	LED	7.2000	3.0500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D17	LED	1.2000	3.7500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D18	LED	1.6000	3.7500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D19	LED	2.0000	3.7500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D20	LED	2.4000	3.7500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D21	LED	2.8000	3.7500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D22	LED	3.2000	3.7500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D23	LED	3.6000	3.7500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D24	LED	4.0000	3.7500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D25	LED	4.4000	3.7500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg

**BoM, for Fabrication, with X, Y Position**

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D26	LED	4.8000	3.7500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D27	LED	5.2000	3.7500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D28	LED	5.6000	3.7500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D29	LED	6.0000	3.7500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D30	LED	6.4000	3.7500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D31	LED	6.8000	3.7500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D32	LED	7.2000	3.7500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D33	LED	1.2000	4.4500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D34	LED	1.6000	4.4500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D35	LED	2.0000	4.4500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D36	LED	2.4000	4.4500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D37	LED	2.8000	4.4500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D38	LED	3.2000	4.4500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D39	LED	3.6000	4.4500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D40	LED	4.0000	4.4500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D41	LED	4.4000	4.4500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D42	LED	4.8000	4.4500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D43	LED	5.2000	4.4500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D44	LED	5.6000	4.4500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D45	LED	6.0000	4.4500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D46	LED	6.4000	4.4500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D47	LED	6.8000	4.4500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D48	LED	7.2000	4.4500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D49	LED	1.2000	5.1500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D50	LED	1.6000	5.1500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D51	LED	2.0000	5.1500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D52	LED	2.4000	5.1500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D53	LED	2.8000	5.1500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D54	LED	3.2000	5.1500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D55	LED	3.6000	5.1500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D56	LED	4.0000	5.1500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D57	LED	4.4000	5.1500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D58	LED	4.8000	5.1500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D59	LED	5.2000	5.1500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D60	LED	5.6000	5.1500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D61	LED	6.0000	5.1500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D62	LED	6.4000	5.1500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg

**BoM, for Fabrication, with X, Y Position**

ref	value	Position X	Position Y	Orientation	Layer	Vendor	Vendor P/N	NOTE1	NOTE 2
D63	LED	6.8000	5.1500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D64	LED	7.2000	5.1500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D65	LED	1.2000	5.8500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D66	LED	1.6000	5.8500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D67	LED	2.0000	5.8500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D68	LED	2.4000	5.8500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D69	LED	2.8000	5.8500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D70	LED	3.2000	5.8500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D71	LED	3.6000	5.8500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D72	LED	4.0000	5.8500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D73	LED	4.4000	5.8500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D74	LED	4.8000	5.8500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D75	LED	5.2000	5.8500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D76	LED	5.6000	5.8500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D77	LED	6.0000	5.8500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D78	LED	6.4000	5.8500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D79	LED	6.8000	5.8500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D80	LED	7.2000	5.8500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D81	LED	1.2000	6.5500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D82	LED	1.6000	6.5500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D83	LED	2.0000	6.5500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D84	LED	2.4000	6.5500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D85	LED	2.8000	6.5500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D86	LED	3.2000	6.5500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D87	LED	3.6000	6.5500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D88	LED	4.0000	6.5500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D89	LED	4.4000	6.5500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D90	LED	4.8000	6.5500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D91	LED	5.2000	6.5500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D92	LED	5.6000	6.5500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D93	LED	6.0000	6.5500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D94	LED	6.4000	6.5500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D95	LED	6.8000	6.5500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D96	LED	7.2000	6.5500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D97	LED	1.2000	7.2500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D98	LED	1.6000	7.2500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D99	LED	2.0000	7.2500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg

**BoM, for Fabrication, with X, Y Position**

ref	value	Position X	Position Y	Orientation	Layer	Vendor	Vendor P/N	NOTE1	NOTE 2
D100	LED	2.4000	7.2500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D101	LED	2.8000	7.2500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D102	LED	3.2000	7.2500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D103	LED	3.6000	7.2500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D104	LED	4.0000	7.2500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D105	LED	4.4000	7.2500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D106	LED	4.8000	7.2500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D107	LED	5.2000	7.2500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D108	LED	5.6000	7.2500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D109	LED	6.0000	7.2500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D110	LED	6.4000	7.2500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D111	LED	6.8000	7.2500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D112	LED	7.2000	7.2500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D113	LED	1.2000	7.9500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D114	LED	1.6000	7.9500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D115	LED	2.0000	7.9500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D116	LED	2.4000	7.9500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D117	LED	2.8000	7.9500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D118	LED	3.2000	7.9500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D119	LED	3.6000	7.9500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D120	LED	4.0000	7.9500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D121	LED	4.4000	7.9500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D122	LED	4.8000	7.9500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D123	LED	5.2000	7.9500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D124	LED	5.6000	7.9500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D125	LED	6.0000	7.9500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D126	LED	6.4000	7.9500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D127	LED	6.8000	7.9500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D128	LED	7.2000	7.9500	90	Front	<a href="#">DigiKey</a>	C535A-WJN-CU0V0231-ND		CREE LED 5mm Cool White Clear 110deg
D258	DBG	3.5400	9.8000	180	Front	<a href="#">DigiKey</a>	1080-1134-ND		Debug LED, 3mm or 5mm LED, any Color
D260	PWR	4.2300	1.8100	90	Front	<a href="#">DigiKey</a>	1080-1134-ND		Power On LED, 3mm or 5mm LED, any Color
J1	V_IN	7.1900	9.4800	180	Front	<a href="#">DigiKey</a>	H2960CT-ND		USB-Mini Socket
K1	PWR	2.3000	9.7000	180	Front	<a href="#">DigiKey</a>	SAM1031-50-ND		Header, Male, 3 pin, for PWR_SEL
*						<a href="#">DigiKey</a>	S9341-ND		Jumper socket for PWR_SEL K1
K2	LED_ENABLE	2.3000	9.5000	180	Front	<a href="#">DigiKey</a>	SAM1031-50-ND		Header, Male, 3 pin, for LED_ENABLE
*						<a href="#">DigiKey</a>	S9341-ND		Jumper socket for LED_ENABLE K2
K4	SCL	7.1200	2.0100	0	Front	<a href="#">DigiKey</a>	SAM1031-50-ND		Header, Male, 2 pin, Link for INT, OPEN for EXT

**BoM, for Fabrication, with X, Y Position**

ref	value	Position X	Position Y	Orientation	Layer	Vendor	Vendor P/N	NOTE1	NOTE 2
*						<a href="#">DigiKey</a>	S9341-ND		Jumper socket for SCL, K4
K5	SDA	7.1200	1.8600	0	Front	<a href="#">DigiKey</a>	SAM1031-50-ND		Header, Male, 2 pin, Link for INT, OPEN for EXT
*						<a href="#">DigiKey</a>	S9341-ND		Jumper socket for SDL, K5
P7	FTDI	1.7500	9.5000	0	Front	<a href="#">DigiKey</a>	SAM1031-50-ND		Header, Male, 6 pin
Q1	2N5401	6.8350	8.5000	90	Front	<a href="#">DigiKey</a>	2N5401GOS-ND		Transistor, TO-92-3
Q2	2N5401	6.5150	8.5000	90	Front	<a href="#">DigiKey</a>	2N5401GOS-ND		Transistor, TO-92-3
Q3	2N5401	6.1800	8.5000	90	Front	<a href="#">DigiKey</a>	2N5401GOS-ND		Transistor, TO-92-3
Q4	2N5401	5.8200	8.5000	90	Front	<a href="#">DigiKey</a>	2N5401GOS-ND		Transistor, TO-92-3
Q5	2N5401	5.4600	8.5000	90	Front	<a href="#">DigiKey</a>	2N5401GOS-ND		Transistor, TO-92-3
Q6	2N5401	5.1000	8.5000	90	Front	<a href="#">DigiKey</a>	2N5401GOS-ND		Transistor, TO-92-3
Q7	2N5401	4.7400	8.5000	90	Front	<a href="#">DigiKey</a>	2N5401GOS-ND		Transistor, TO-92-3
Q8	2N5401	4.3800	8.5000	90	Front	<a href="#">DigiKey</a>	2N5401GOS-ND		Transistor, TO-92-3
Q9	2N5401	4.0200	8.5000	90	Front	<a href="#">DigiKey</a>	2N5401GOS-ND		Transistor, TO-92-3
Q10	2N5401	3.6600	8.5000	90	Front	<a href="#">DigiKey</a>	2N5401GOS-ND		Transistor, TO-92-3
Q11	2N5401	3.3000	8.5000	90	Front	<a href="#">DigiKey</a>	2N5401GOS-ND		Transistor, TO-92-3
Q12	2N5401	2.9400	8.5000	90	Front	<a href="#">DigiKey</a>	2N5401GOS-ND		Transistor, TO-92-3
Q13	2N5401	2.5800	8.5000	90	Front	<a href="#">DigiKey</a>	2N5401GOS-ND		Transistor, TO-92-3
Q14	2N5401	2.2200	8.5000	90	Front	<a href="#">DigiKey</a>	2N5401GOS-ND		Transistor, TO-92-3
Q15	2N5401	1.9000	8.5000	90	Front	<a href="#">DigiKey</a>	2N5401GOS-ND		Transistor, TO-92-3
Q16	2N5401	1.6600	8.5000	90	Front	<a href="#">DigiKey</a>	2N5401GOS-ND		Transistor, TO-92-3
Q17	2N5401	3.0500	1.8550	270	Front	<a href="#">DigiKey</a>	2N5401GOS-ND		Transistor, TO-92-3
R1	100	6.7600	8.7000	0	Front	<a href="#">DigiKey</a>	CF18JT100RCT-ND		Resistor, 1/8W, 5%
R2	100	6.6300	8.5650	90	Front	<a href="#">DigiKey</a>	CF18JT100RCT-ND		Resistor, 1/8W, 5%
R3	100	6.2950	8.5650	90	Front	<a href="#">DigiKey</a>	CF18JT100RCT-ND		Resistor, 1/8W, 5%
R4	100	5.9500	8.5550	90	Front	<a href="#">DigiKey</a>	CF18JT100RCT-ND		Resistor, 1/8W, 5%
R5	100	5.5900	8.5650	90	Front	<a href="#">DigiKey</a>	CF18JT100RCT-ND		Resistor, 1/8W, 5%
R6	100	5.2300	8.5650	90	Front	<a href="#">DigiKey</a>	CF18JT100RCT-ND		Resistor, 1/8W, 5%
R7	100	4.8700	8.5650	90	Front	<a href="#">DigiKey</a>	CF18JT100RCT-ND		Resistor, 1/8W, 5%
R8	100	4.5100	8.5500	90	Front	<a href="#">DigiKey</a>	CF18JT100RCT-ND		Resistor, 1/8W, 5%
R9	100	4.1500	8.5650	90	Front	<a href="#">DigiKey</a>	CF18JT100RCT-ND		Resistor, 1/8W, 5%
R10	100	3.7900	8.5650	90	Front	<a href="#">DigiKey</a>	CF18JT100RCT-ND		Resistor, 1/8W, 5%
R11	100	3.4300	8.5650	90	Front	<a href="#">DigiKey</a>	CF18JT100RCT-ND		Resistor, 1/8W, 5%
R12	100	3.0700	8.5650	90	Front	<a href="#">DigiKey</a>	CF18JT100RCT-ND		Resistor, 1/8W, 5%
R13	100	2.7100	8.5650	90	Front	<a href="#">DigiKey</a>	CF18JT100RCT-ND		Resistor, 1/8W, 5%
R14	100	2.3500	8.5650	90	Front	<a href="#">DigiKey</a>	CF18JT100RCT-ND		Resistor, 1/8W, 5%
R15	100	2.0150	8.5650	90	Front	<a href="#">DigiKey</a>	CF18JT100RCT-ND		Resistor, 1/8W, 5%
R16	100	1.9650	8.7500	180	Front	<a href="#">DigiKey</a>	CF18JT100RCT-ND		Resistor, 1/8W, 5%

**BoM, for Fabrication, with X, Y Position**

ref	value	Position X	Position Y	Orientation	Layer	Vendor	Vendor P/N	NOTE1	NOTE 2
R17	10k	1.8725	1.4225	270	Front	<a href="#">DigiKey</a>	CF18JT10K0CT-ND		Resistor, 1/8W, 5%
R18	10k	2.4725	1.4225	270	Front	<a href="#">DigiKey</a>	CF18JT10K0CT-ND		Resistor, 1/8W, 5%
R19	10k	3.0725	1.4225	270	Front	<a href="#">DigiKey</a>	CF18JT10K0CT-ND		Resistor, 1/8W, 5%
R20	4k7	4.0500	9.7500	180	Front	<a href="#">DigiKey</a>	CF18JT4K70CT-ND		Resistor, 1/8W, 5%
R21	4k7	4.0500	9.8700	180	Front	<a href="#">DigiKey</a>	CF18JT4K70CT-ND		Resistor, 1/8W, 5%
R22	10k	3.9900	9.1600	0	Front	<a href="#">DigiKey</a>	CF18JT10K0CT-ND		Resistor, 1/8W, 5%
R23	10k	3.6725	1.4225	270	Front	<a href="#">DigiKey</a>	CF18JT10K0CT-ND		Resistor, 1/8W, 5%
R24	1k	3.2000	2.2625	180	Front	<a href="#">DigiKey</a>	CF18JT1K00CT-ND		Resistor, 1/8W, 5%
R25	1k	3.0900	9.8500	180	Front	<a href="#">DigiKey</a>	CF18JT1K00CT-ND		Resistor, 1/8W, 5%
R26	1k	4.0500	1.9600	270	Front	<a href="#">DigiKey</a>	CF18JT1K00CT-ND		Resistor, 1/8W, 5%
R30	100E	3.2000	2.3525	180	Front	<a href="#">DigiKey</a>	CF18JT100RCT-ND		Resistor, 1/8W, 5%
R31	10K	3.7075	2.3600	180	Front	<a href="#">DigiKey</a>	CF18JT10K0CT-ND		Resistor, 1/8W, 5%
R32	LDR SOCKET	5.1000	1.2200	0	Front	<a href="#">DigiKey</a>	A32932-ND		Socket header, 2 pin, for LDR
--	LDR					<a href="#">DigiKey</a>	PDV-P9007-ND		LDR, 10k to 100k
R33	680E	3.2000	2.4450	180	Front	<a href="#">DigiKey</a>	CF18JT680RCT-ND		Resistor, 1/8W, 5%
R34	2k	4.5000	1.5100	90	Front	<a href="#">DigiKey</a>	3352T-202LF-ND		Pot, Thumbwheel, Ceramic,
R35	680E	1.3350	1.9100	90	Front	<a href="#">DigiKey</a>	CF18JT680RCT-ND		Resistor, 1/8W, 5%
R36	10k	5.7025	1.9900	180	Front	<a href="#">DigiKey</a>	CF18JT10K0CT-ND		Resistor, 1/8W, 5%
R37	10k	5.6250	1.6400	180	Front	<a href="#">DigiKey</a>	CF18JT10K0CT-ND		Resistor, 1/8W, 5%
R38	10k	5.7025	2.1100	180	Front	<a href="#">DigiKey</a>	CF18JT10K0CT-ND		Resistor, 1/8W, 5%
SP1	SPEAKER	3.6000	1.9500	90	Front	<a href="#">DigiKey</a>	102-1169-ND		Audio Buzzer
SW12	INC	3.3000	1.4000	270	Back	<a href="#">DigiKey</a>	450-1644-ND		Push button switch, Long Button
SW22	DEC	2.7000	1.4000	270	Back	<a href="#">DigiKey</a>	450-1644-ND		Push button switch, Long Button
SW32	MODE	2.1000	1.4000	270	Back	<a href="#">DigiKey</a>	450-1644-ND		Push button switch, Long Button
SW42	RST	1.5000	1.4000	270	Back	<a href="#">DigiKey</a>	450-1649-ND		Push button switch, Short Button
SW52	ENTER	3.9000	1.4000	270	Back	<a href="#">DigiKey</a>	450-1644-ND		Push button switch, Long Button
U1	STP8DP05	1.9850	2.1750	0	Front	<a href="#">DigiKey</a>	497-6271-5-ND		IC, Row Driver
*	Socket STP8DP05					<a href="#">DigiKey</a>	A100206-ND		Socket for IC U1
U2	7805	6.1025	9.5200	0	Front	--	--		SHORTING LINK between VI and VO
U3	ATMEGA8-P	3.4900	9.4500	180	Front	<a href="#">DigiKey</a>	ATMEGA328-PU-ND		Micro Controller
*	IC ATMEGA8-P					<a href="#">DigiKey</a>	A100210-ND		Socket for IC U3
U4	74HC154	5.1200	9.3400	180	Front	<a href="#">DigiKey</a>	568-1407-5-ND		IC, Column Driver
*	IC 74HC154					<a href="#">DigiKey</a>	3M5479-ND		Socket for IC U4
U6	DS3231N	6.3375	1.8525	90	Back	<a href="#">DigiKey</a>	DS3231S#-ND		IC, RTC
X1	16MHz	3.2400	9.1600	180	Front	<a href="#">DigiKey</a>	X908-ND		Resonator, with capacitors, 3 pin

BoM, for Fabrication, with X, Y Position

ref	value	Position X	Position Y	Orientation	Layer	Vendor	Vendor P/N	NOTE1	NOTE 2
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## NOT USED COMPONENTS

C11	22p	3.4425	9.1100	90	Front	<a href="#">DigiKey</a>	BC1034CT-ND	Optional	if using crystal instead of resonator
C12	22p	3.0375	9.1100	90	Front	<a href="#">DigiKey</a>	BC1034CT-ND	Optional	if using crystal instead of resonator
CD1	CDOT1	6.3375	1.4675	180	Front	<a href="#">DigiKey</a>	3M9515-ND	Optional	if using I2SD, rtcBoB or ChronoDot, Socket, 4 pin
CD2	CDOT2	6.3375	2.3675	0	Front	<a href="#">DigiKey</a>	3M9515-ND	Optional	if using I2SD, rtcBoB or ChronoDot, Socket, 4 pin
CD3	CDOT3	6.3375	1.2275	180	Front	<a href="#">DigiKey</a>	SAM1031-50-ND	Optional	if using I2SD, rtcBoB or ChronoDot, Header, 4 pin
DIL-U1	STP16DP05	2.1850	2.1750	0	Front	<a href="#">DigiKey</a>	3M5479-ND	Optional	if using rowBoB, 24 pin IC socket
J2	V_IN	6.6750	9.4800	180	Front	<a href="#">DigiKey</a>	ED2982-ND	Optional	USB-B, Socket
J3	V_IN	6.4875	9.8050	180	Front	<a href="#">DigiKey</a>	CP-002B-ND	Optional	Barrel socket
K3	7Seg_Sel	5.2275	9.2775	90	Back	--	--	Optional	Solder Bridge for uC pin selection
P1	7SegDisp	5.1850	1.7750	0	Front	<a href="#">Sparkfun</a>	COM-09766	Optional	7 segment 4 digit display
P13	ISP	2.6500	9.8000	90	Front	<a href="#">DigiKey</a>	SAM1095-36-ND	Optional	Header, 3x2 pin
P41	STACK-L	1.4000	9.0000	270	Front	<a href="#">DigiKey</a>	SAM1009-50-ND	Optional	Socket, 4 pin, right angle, for daisy-chaining boards
P42	STACK-R	7.2600	9.0000	90	Front	<a href="#">DigiKey</a>	SAM1043-50-ND	Optional	Header, 4 pin, right angle, for daisy-chaining boards
P43	CONN_1					--	Break Out Pad, no component	Optional	ATMega Port PC2
SW1	INC	3.3000	1.2725	270	Front	<a href="#">DigiKey</a>	450-1657-ND	Optional	Right Angle switch, for Top access
SW2	DEC	2.7000	1.2725	270	Front	<a href="#">DigiKey</a>	450-1657-ND	Optional	Right Angle switch, for Top access
SW3	MODE	2.1000	1.2725	270	Front	<a href="#">DigiKey</a>	450-1657-ND	Optional	Right Angle switch, for Top access
SW4	RST	1.5000	1.2725	270	Front	<a href="#">DigiKey</a>	450-1657-ND	Optional	Right Angle switch, for Top access
SW5	ENTER	3.9000	1.2725	270	Front	<a href="#">DigiKey</a>	450-1657-ND	Optional	Right Angle switch, for Top access
U2	7805	6.1025	9.5200	0	Front	<a href="#">DigiKey</a>	MC7805CTGOS-ND	Optional	if V_IN > 5V. ELSE USE SHORTING LINK

### MISC. COMPONENTS

BF1	BAFFLE	Angus Hines
BP1	BackPlate	Angus Hines
FM1	FRAME	Ikea or Angus Hines or None
FP1	FacePlate	Angus Hines
P8	CONN_1	Fixing Screw for Board
P9	CONN_1	Fixing Screw for Board
P10	CONN_1	Fixing Screw for Board
P11	CONN_1	Fixing Screw for Board
P14	CONN_1	Fixing Screw for Baffle
P15	CONN_1	Fixing Screw for Baffle
P53	CONN_1	Fixing Screw for Baffle
P54	CONN_1	Fixing Screw for Baffle

BoM, for Fabrication, with X, Y Position
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ref	value	Position X	Position Y	Orientation	Layer	Vendor	Vendor P/N	NOTE1	NOTE 2
P49	CONN_1								Fixing Screw for rtcBoB
P50	CONN_1								Fixing Screw for rtcBoB
P51	CONN_1								Fixing Screw for rtcBoB
P52	CONN_1								Fixing Screw for rtcBoB
rowBoB1	CONN_1								Fixing Screw for rowBoB
P24 to P39 DIL6									Prototyping area
PCB1	PCB								Main Board, seeed
G1	Logo-WL3								
G***	OSHW_6mm								