

PCB DESIGNS

PowerMeter_Jiale/Gustaf

Bill of Materials

Qty	Reference	Part Description	Manufacturer	Manufacturer Part Number	PCB Footprint	DNle
1	!PCB1	Printed Circuit Board	Any	PowerMeter_Jiale/Gustaf		
13	C1, C3, C4, C8, C11, C12, C17, C19, C20, C52, C57, C64, C70	CAP, CERM, 0.1uF, 25V, +/-5%, X7R, 0603	AVX	06033C104JAT2A	603	
3	C2, C9, C18	CAP, CERM, 330 pF, 50 V, +/- 10%, COG/NP0, 0805	AVX	08055A331KAT2A	805	
3	C55, C61, C68	CAP CER 0.012UF 100V X7R 0805	AVX Corporation	08051C123KAT2A	805	
12	C21, C24, C35, C36, C40, C48, C154, C156, C158, C161, C162, C164	100pF ±5% 100V Ceramic Capacitor COG, NP0 1206 (3216 Metric)	Yageo	CC1206JRNPO0BN101	1206	
30	C170, C173, C175, C176, C178, C181, C182, C184, C186, C187, C190, C193, C195, C196, C198, C201, C202, C204, C206, C207, C210, C213, C215, C216, C218, C221, C222, C224, C226, C227	CAP CER 0.1UF 50V X7R 1206	AVX Corporation	12065C104KAT2A	1206	
24	C171, C172, C174, C177, C179, C180, C183, C185, C191, C192, C194, C197, C199, C200, C203, C205, C211, C212, C214, C217, C219, C220, C223, C225	CAP CER 1UF 50V X7R 1206	AVX Corporation	12065C105KAT2A	1206	
12	C22, C29, C34, C37, C39, C41, C155, C157, C159, C160, C163, C165,	110pF ±5% 100V Ceramic Capacitor COG, NP0 1206 (3216 Metric)	KEMET	C1206C111J1GAC7800	1206	
28	C5, C13, C23, C49, C71, C75, C78, C80, C83, C85, C106, C109, C113, C114, C118, C120, C122, C125, C129, C130, C134, C136, C138, C141, C145, C146, C150, C152	CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0603	Kemet	C0603C104K5RACTU	603	
28	C6, C14, C25, C50, C73, C77, C79, C81, C82, C86, C108, C112, C115, C116, C117, C121, C123, C128, C131, C132, C133, C137, C139, C144, C147, C148, C149, C153	CAP, CERM, 10uF, 35V, +/-20%, X7R, 1210	Taiyo Yuden	GMK325AB7106MM-T	1210	
4	C7, C15, C26, C51	CAP CER 1000PF 1KV 10% RADIAL	Vishay BC Components	S102K29Y5PN63J5R		
2	C16, C28	CAP, AL, 22uF, 25V, +/-20%, 0.76 ohm, SMD	Nichicon	UUD1E220MCL1GS	5x5.8	
12	C31, C33, C38, C42, C43, C44, C45, C54, C56, C60, C62, C67	CAP, CERM, 1 µF, 16 V, +/- 10%, X7R, 0603	MuRata	GRM188R71C105KA12D	603	
1	C53	CAP, CERM, 4.7uF, 10V, +/-10%, X5R, 0603	AVX	0603ZD475KAT2A	603	
8	C72, C84, C110, C119, C126, C135, C142, C151	CAP, CERM, 4.7uF, 50V, +/-10%, X5R, 0805	TDK	C2012X5R1H475K125AB	805	

8	C74, C76, C107, C111, C124, C127, C140, C143	CAP, CERM, 0.01uF, 100V, +/-5%, X7R, 0603	AVX	06031C103J4Z4A	603	
8	D1, D2, D3, D4, D5, D6, D9, D11	LED SmartLED Green 570NM	OSRAM	LG L29K-G2J1-24-Z	603	
12	D15, D16, D17, D18, D19, D20, D35, D36, D41, D42, D47, D48	Diode, P-N, 70V, 0.2A, SOT-323	Diodes Inc	DESD1P0RFW-7	SOT-323	

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8	D21, D23, D32, D33, D37, D39, D43, D45	Diode, Schottky, 20V, 0.5A, SOD-123	Fairchild Semiconductor	MBR0520L	SOD-123	
8	D22, D24, D31, D34, D38, D40, D44, D46	Diode, Zener, 6.2V, 1W, PowerDI123	Diodes Inc.	DFLZ6V2-7	PowerDI123	
6	FB1, FB2, FB3, FB4, FB5, FB6	FERRITE BEAD 300 OHM 0603 1LN	TDK Corporation	MMZ1608B301CTAH0	603	
8	FB13, FB14, FB17, FB18, FB19, FB20, FB21, FB22	FERRITE CHIP 1000 OHM 300MA 0603	TDK Corporation	MMZ1608B102C	603	
15	FB9, FB11, FB12, R67, R68, R69, R70, R79, R80, R81, R82, R90, R91, R92, R93	RES SMD 634K OHM 1% 1/4W 1206	Panasonic Electronic Components	ERJ-8ENF6343V	1206	
2	J8, J9	6 Position Wire to Board Terminal Block Horizontal with Board 0.138" (3.50mm) Through Hole	On Shore Technology Inc.	ED555/6DS	6x1 Header	
1	J30	3 Position Wire to Board Terminal Block Horizontal with Board 0.200" (5.08mm) Through Hole	On Shore Technology Inc.	ED120/3DS	3x1 Header	
12	J10, J11, J18, J19, J20, J21, J22, J23, J24, J25, J26, J27	Header, 2.54 mm, 2x1, Gold, TH	Wurth Elektronik eiSos	61300211121	Header, 2.54mm, 2x1, TH	
3	J14, J15, J16	TERMINAL BLOCK 5.08MM VERT 2POS, TH	On-Shore Technology	ED120/2DS	TERM_BLK, 2pos, 5.08mm	
3	R1, R9, R22	16 mOhms ±5% 2W Chip Resistor 2512 (6432 Metric) Current Sense Thick Film	TE Connectivity Passive Product	RLP73V3AR016JTE	2512	
6	R2, R4, R11, R14, R24, R26,	RES, 12.0, 1%, 0.1 W, 0603	Yageo America	RC0603FR-0712RL	603	
6	R63, R65, R74, R77, R86, R89	RES SMD 33 OHM 1% 1/10W 0603	Yageo	RC0603FR-0733RL	603	
12	R3, R5, R12, R15, R23, R25, R64, R66, R75, R78, R87, R88	RES, 10.0 ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060310R0FKEA	603	
6	R29, R34, R38, R46, R116, R120	RES SMD 3.01K OHM 1% 3/4W 1206	Vishay Dale	CRCW12063K01FKEAHP	1206	
6	R30, R35, R42, R48, R117, R121	RES 16.5 KOHMS 0.1% 0.4W 1206	TE Connectivity Passive Product	RQ73C2B16K5BTD	1206	
6	R31, R36, R43, R49, R118, R122	RES SMD 2.49K OHM 1% 3/4W 1206	Vishay Dale	CRCW12062K49FKEAHP	1206	
6	R32, R37, R45, R50, R119, R123	RES SMD 7.5K OHM 1% 3/4W 1206	Vishay Dale	CRCW12067K50FKEAHP	1206	
6	R108, R112, R124, R128, R132, R136	RES SMD 1.37K OHM 0.1% 1/4W 1206	Panasonic Electronic Components	ERA-8ARB1371V	1206	
6	R109, R113, R125, R129 R133, R137	RES SMD 17.8K OHM 0.1% 1/4W 1206	Panasonic Electronic Components	ERA-8ARB1782V	1206	
6	R110, R114, R126, R130, R134, R138	RES 0.5 OHM 1% 1/2W 1206	Yageo	RL1206FR-7W0R5L	1206	
6	R111, R115, R127, R131, R135, R139	RES SMD 4.02K OHM 1% 3/4W 1206	Vishay Dale	CRCW12064K02FKEAHP	1206	
8	R6, R7, R19, R21, R33, R55, R57, R105	RES, 3.9k ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06033K90JNEA	603	
4	R59, R71, R83, R98	RES SMD 953 OHM 1% 1/8W 0805	Vishay Dale	CRCW0805953RFKEA	805	
3	R60, R72, R84	RES SMD 953 OHM 1% 1/4W 1206	Yageo Components	RC1206FR-07953RL	1206	

4	R94, R99, R101, R103	RES, 11.5k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060311K5FKEA	603	
4	R95, R100, R102, R104	RES, 3.16 k, 1%, 0.1 W, 0603	Yageo America	RC0603FR-073K16L	603	
4	T1, T2, T3, T5	Transformer 469uH SMD	Würth Electronics Midcom	750342271	10.05mm L x 6.73mm W	
6	U1, U3, U5, U11, U12, U14	Isolation IC Current Sensing, Power Management 8-SOIC	Texas Instruments	AMC1300BDWVR	DWV0008A	
4	U2, U4, U6, U10	Transformer Driver for Isolated Power Supplies, DBV0005A	Texas Instruments	SN6501DBV	DBV0005A	
3	U25, U30, U35	General Purpose Amplifier 4 Circuit Rail-to-Rail 14-SOIC	Texas Instruments	OPA4192ID	14-SOIC	
12	U26, U27, U28, U29, U31, U32, U33, U34, U36, U37, U38, U39	Differential Amplifier 1 Circuit 8- SOIC	Texas Instruments	INA149AIDR	8-SOIC	

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4	U15, U19, U21, U23	-36V, -200mA, Ultralow-Noise, Negative Linear Regulator	Texas Instruments	TPS7A3001DGNR	MSOP- PowerPAD (DGN) 8	
4	U16, U20, U22, U24	Regulator, LDO, 5V, 0.15A, SOT23-5	Texas Instruments	TLV70450DBV	DBV0005A	
0	R39, R44, R47, R52, R97, R107	RES, 160 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603160KFKEA	603	DNI
0	R61, R73, R85	RES, 2.40 k, 1%, 0.25 W, 1206	Yageo America	RC1206FR-072K4L	1206	DNI

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