

XTIDA-010086 REV E2 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
IPCB1			XTIDA-010086	Any	Printed Circuit Board	
C1_Ch1, C1_Ch2, C1_Ch3, C1_Ch4, C1_Ch5, C1_Ch6, C1_Ch7, C1_Ch8, C14_Ch1, C14_Ch2, C14_Ch3, C14_Ch4, C14_Ch5, C14_Ch6, C14_Ch7, C14_Ch8, C56, C122_Ch1, C122_Ch2, C122_Ch3, C122_Ch4, C122_Ch5, C122_Ch6, C122_Ch7, C122_Ch8, C135_Ch1, C135_Ch2, C135_Ch3, C135_Ch4, C135_Ch5, C135_Ch6, C135_Ch7,	41	0.1uF	C0603C104J3RACTU	Kemet	CAP, CERM, 0.1 µF, 25 V, +/- 5%, X7R, 0603	0603
C3_Ch1, C3_Ch2, C3_Ch3, C3_Ch4, C3_Ch5, C3_Ch6, C3_Ch7, C3_Ch8	8	330uF	35SVPK330M	Panasonic	330µF 35V Aluminum Polymer Capacitor Radial, Can - SMD 18mOhm 1000 Hrs @ 125°C	F12, SMD, 2-Leads, Body 10.5x10.5mm, Height 12.7mm
C4_Ch1, C4_Ch2, C4_Ch3, C4_Ch4, C4_Ch5, C4_Ch6, C4_Ch7, C4_Ch8, C5_Ch1, C5_Ch2, C5_Ch3, C5_Ch4, C5_Ch5, C5_Ch6, C5_Ch7, C5_Ch8, C6_Ch1, C6_Ch2, C6_Ch3, C6_Ch4, C6_Ch5, C6_Ch6, C6_Ch7, C6_Ch8	24	22uF	GRM32ER71E226KE15L	MuRata	CAP, CERM, 22 µF, 25 V, +/- 10%, X7R, 1210	1210
C7_Ch1, C7_Ch2, C7_Ch3, C7_Ch4, C7_Ch5, C7_Ch6, C7_Ch7, C7_Ch8, C11_Ch1, C11_Ch2, C11_Ch3, C11_Ch4, C11_Ch5, C11_Ch6, C11_Ch7, C11_Ch8, C20_Ch1, C20_Ch2, C20_Ch3, C20_Ch4, C20_Ch5, C20_Ch6, C20_Ch7, C20_Ch8, C23_Ch1, C23_Ch2, C23_Ch3, C23_Ch4, C23_Ch5, C23_Ch6, C23_Ch7,	178	0.1uF	06033C104JAT2A	AVX	CAP, CERM, 0.1 µF, 25 V, +/- 5%, X7R, 0603	0603
C8_Ch1, C8_Ch2, C8_Ch3, C8_Ch4, C8_Ch5, C8_Ch6, C8_Ch7, C8_Ch8, C58	9	1uF	C0603C105K3RACTU	Kemet	CAP, CERM, 1 µF, 25 V, +/- 10%, X7R, 0603	0603

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C9_Ch1, C9_Ch2, C9_Ch3, C9_Ch4, C9_Ch5, C9_Ch6, C9_Ch7, C9_Ch8, C10_Ch1, C10_Ch2, C10_Ch3, C10_Ch4, C10_Ch5, C10_Ch6, C10_Ch7, C10_Ch8	16	560uF	20SVF560M	Panasonic	560µF 20V Aluminum Polymer Capacitor Radial, Can - SMD 12mOhm 1000 Hrs @ 125°C	10x10.3
C12_Ch1, C12_Ch2, C12_Ch3, C12_Ch4, C12_Ch5, C12_Ch6, C12_Ch7, C12_Ch8, C13_Ch1, C13_Ch2, C13_Ch3, C13_Ch4, C13_Ch5, C13_Ch6, C13_Ch7, C13_Ch8	16	47uF	GRM32ER71A476ME15L	MuRata	CAP, CERM, 47 µF, 10 V, +/- 20%, X7R, 1210	1210
C15_Ch1, C15_Ch2, C15_Ch3, C15_Ch4, C15_Ch5, C15_Ch6, C15_Ch7, C15_Ch8	8	100pF	GRM1885C1H101JA01D	MuRata	CAP, CERM, 100 pF, 50 V, +/- 5%, COG/NP0, 0603	0603
C16_Ch1, C16_Ch2, C16_Ch3, C16_Ch4, C16_Ch5, C16_Ch6, C16_Ch7, C16_Ch8, C17_Ch1, C17_Ch2, C17_Ch3, C17_Ch4, C17_Ch5, C17_Ch6, C17_Ch7, C17_Ch8	16	0.01uF	GCM155R71E103KA37D	MuRata	CAP, CERM, 0.01 µF, 25 V, +/- 10%, X7R, 0402	0402
C18_Ch1, C18_Ch2, C18_Ch3, C18_Ch4, C18_Ch5, C18_Ch6, C18_Ch7, C18_Ch8, C24_Ch1, C24_Ch2, C24_Ch3, C24_Ch4, C24_Ch5, C24_Ch6, C24_Ch7, C24_Ch8, C31_Ch1, C31_Ch2, C31_Ch3, C31_Ch4, C31_Ch5, C31_Ch6, C31_Ch7, C31_Ch8, C39_Ch1, C39_Ch2, C39_Ch3, C39_Ch4, C39_Ch5, C39_Ch6, C39_Ch7,	52	1uF	GRM188R71E105KA12D	MuRata	CAP, CERM, 1 uF, 25 V, +/- 10%, X7R, 0603	0603
C19_Ch1, C19_Ch2, C19_Ch3, C19_Ch4, C19_Ch5, C19_Ch6, C19_Ch7, C19_Ch8, C32_Ch1, C32_Ch2, C32_Ch3, C32_Ch4, C32_Ch5, C32_Ch6, C32_Ch7, C32_Ch8	16	1000pF	GRM1885C1H102JA01D	MuRata	CAP, CERM, 1000 pF, 50 V, +/- 5%, COG/NP0, 0603	0603

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C21_Ch1, C21_Ch2, C21_Ch3, C21_Ch4, C21_Ch5, C21_Ch6, C21_Ch7, C21_Ch8, C22_Ch1, C22_Ch2, C22_Ch3, C22_Ch4, C22_Ch5, C22_Ch6, C22_Ch7, C22_Ch8, C35_Ch1, C35_Ch2, C35_Ch3, C35_Ch4, C35_Ch5, C35_Ch6, C35_Ch7, C35_Ch8, C36_Ch1, C36_Ch2, C36_Ch3, C36_Ch4, C36_Ch5, C36_Ch6, C36_Ch7,	32	DNP	GRM1885C1H101JA01D	MuRata	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C25_Ch1, C25_Ch2, C25_Ch3, C25_Ch4, C25_Ch5, C25_Ch6, C25_Ch7, C25_Ch8, C26_Ch1, C26_Ch2, C26_Ch3, C26_Ch4, C26_Ch5, C26_Ch6, C26_Ch7, C26_Ch8, C27_Ch1, C27_Ch2, C27_Ch3, C27_Ch4, C27_Ch5, C27_Ch6, C27_Ch7, C27_Ch8, C28_Ch1, C28_Ch2, C28_Ch3, C28_Ch4, C28_Ch5, C28_Ch6, C28_Ch7,	65	0.01uF	C0603C103J3GCECAUTO	Kemet	CAP, CERM, 0.01 uF, 25 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0603	0603
C37_Ch1, C37_Ch2, C37_Ch3, C37_Ch4, C37_Ch5, C37_Ch6, C37_Ch7, C37_Ch8, C38_Ch1, C38_Ch2, C38_Ch3, C38_Ch4, C38_Ch5, C38_Ch6, C38_Ch7, C38_Ch8,	16	1000pF	885012205044	Wurth Elektronik	CAP, CERM, 1000 pF, 25 V, +/- 10%, X7R, 0402	0402
C41_Ch1, C41_Ch2, C41_Ch3, C41_Ch4, C41_Ch5, C41_Ch6, C41_Ch7, C41_Ch8,	8	1200pF	GRM155R71H122KA01D	MuRata	CAP, CERM, 1200 pF, 50 V, +/- 10%, X7R, 0402	0402
C42_Ch1, C42_Ch2, C42_Ch3, C42_Ch4, C42_Ch5, C42_Ch6, C42_Ch7, C42_Ch8,	8	7500pF	GRM2195C1H752JA01D	MuRata	CAP, CERM, 7500 pF, 50 V, +/- 5%, C0G/NP0, 0805	0805
C46_Ch1, C46_Ch2, C46_Ch3, C46_Ch4, C46_Ch5, C46_Ch6, C46_Ch7, C46_Ch8, C55_Ch1, C55_Ch2, C55_Ch3, C55_Ch4, C55_Ch5, C55_Ch6, C55_Ch7, C55_Ch8, C132	17	1000pF	0603C102JAT2A	AVX	CAP, CERM, 1000 pF, 100 V, +/- 5%, X7R, 0603	0603
C57, C59, C60, C61, C63, C65, C66, C67, C68, C71, C81, C82, C84, C86, C87, C88, C89, C92	2 16	0.01uF 10pF	GRM1885C1H103JA01D CGA2B2C0G1H100D050BA	MuRata TDK	CAP, CERM, 0.01 uF, 50 V, +/- 5%, C0G/NP0, 0603 CAP, CERM, 10 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0402	0603 0402
C72, C93	2	10pF	06035A100JAT2A	AVX	CAP, CERM, 10 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603

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C102, C103, C105, C108, C140, C141	6	1uF	C0603C105K3RACTU	Kemet	CAP. CERM, 1 uF, 25 V, +/- 10%, X7R, 0603	0603
C104, C106, C107	3	10uF	EMK212BB7106MG-T	Taiyo Yuden	CAP. CERM, 10 uF, 16 V, +/- 20%, X7R, 0805	0805
C109	1	22uF	EMVH101ADA220MJA0G	Chem-Con	CAP. AL, 22 uF, 100 V, +/- 20%, 0.55 ohm, SMD	JA0
C119	1	10uF	C5750X7S2A106M230KB	TDK	CAP. CERM, 10 uF, 100 V, +/- 20%, X7S	
C111, C121	2	0.1uF	C2012X7R2A104K125AA	TDK	CAP. CERM, 0.1 uF, 100 V, +/- 10%, X7R, 0805	0805
C112, C116	2	0.1uF	GRM188R72A104K36D	MuRata	CAP. CERM, 0.1 uF, 100 V, +/- 10%, X7R, 0603	0603
C113	1	180uF	APXA160ARA181MHCOG	Chem-Con	CAP. Aluminum Polymer, 180 uF, 16 V, +/- 20%, 0.016 ohm, HCO SMD	HCO
C114	1	2.2uF	C2012X7R1C225K125AB	TDK	CAP. CERM, 2.2 uF, 16 V, +/- 10%, X7R, 0805	0805
C115	1	1500pF	GRM188R2A152JAD1D	MuRata	CAP. CERM, 1500 pF, 100 V, +/- 5%, COG/NP0, 0603	0603
C117	1	330pF	C1608COG2A331J080AA	TDK	CAP. CERM, 330 pF, 100 V, +/- 5%, COG/NP0, 0603	0603
C118, C119, C133	3	1uF	GRM188R71E105KA12D	MuRata	CAP. CERM, 1 uF, 25 V, +/- 10%, X7R, 0603	0603
C120	1	0.056uF	GRM188R71H563KA93D	MuRata	CAP. CERM, 0.056 uF, 50 V, +/- 10%, X7R, 0603	0603
C129, C130	2	1uF	C2012X7S2A105K125AB	TDK	CAP. CERM, 1 uF, 100 V, +/- 10%, X7S, 0805	0805
C131, C134, C165	3	0.01uF	06031C103KAT2A	AVX	CAP. CERM, 0.01 uF, 100 V, +/- 10%, X7R, 0603	0603
C137	1	10uF	C3225X7R1H106M250AC	TDK	CAP. CERM, 10 uF, 50 V, +/- 20%, X7R, 1210	1210
C139, C163	2	10uF	GRM188R61E106MA73D	MuRata	CAP. CERM, 10 uF, 25 V, +/- 20%, X5R, 0603	0603
C152, C153, C154	3	22uF	EMK316BB7226ML-T	Taiyo Yuden	CAP. CERM, 22 uF, 16 V, +/- 20%, X7R, 1206, 190	1206, 190
C155	1	2.2uF	EMK107BB7225KA-T	Taiyo Yuden	CAP. CERM, 2.2 uF, 16 V, +/- 10%, X7R, 0603	0603
C156	1	47uF	F351C47M8A4Q2	AVX	CAP. TA, 47 uF, 16 V, +/- 20%, 0.8 ohm, SMD	3528
C157, C158	2	4.7uF	GRM319R61E475KA12D	MuRata	CAP. CERM, 4.7 uF, 25 V, +/- 10%, X5R, 1206	1206
C159	1	1uF	C1005X5R1C105K050BC	TDK	CAP. CERM, 1 uF, 16 V, +/- 10%, X5R, 0402	0402
C160, C161, C182	3	22uF	C2012X7S1A226M125AC	TDK	CAP. CERM, 22 uF, 10 V, +/- 20%, X7S, 0805	0805
C184	1	0.22uF	GRM155R71C224KA12D	MuRata	CAP. CERM, 0.22 uF, 16 V, +/- 10%, X7R, 0402	0402
D1, Ch1, D1, Ch2, D1, Ch3, D1, Ch4, D1, Ch5, D1, Ch6, D1, Ch7, D1, Ch8, D3, Ch1, D3, Ch2, D3, Ch3, D3, Ch4, D3, Ch5, D3, Ch6, D3, Ch7, D3, Ch8, D4, Ch1, D4, Ch2, D4, Ch3, D4, Ch4, D4, Ch5, D4, Ch6, D4, Ch7, D4, Ch8, D7	25	40V	NSR0240V21G	ON Semiconductor	Diode, Schottky, 40V, 0.25A, SOD-523	SOD-523
D2, Ch1, D2, Ch2, D2, Ch3, D2, Ch4, D2, Ch5, D2, Ch6, D2, Ch7, D2, Ch8	8	45V	FERD20H100SB-TR	STMicroelectronics	Diode FERD (Field Effect Rectifier Diode) 100V 20A Surface Mount DPAK	DPAK
D5, D6	2	100V	1N4148W-7-F	Diodes Inc.	Diode, Ultrafast, 100 V, 0.15 A, SOD-123	SOD-123
D8	1	18V	SMAJ18A	Littelfuse	Diode, TVS, Uni, 18 V, 29.2 Vc, SMA	SMA
D9	1	30V	B530C-13-F	Diodes Inc.	Diode, Schottky, 30 V, 5 A, SMC	SMC
D10	1	100V	CDBC5100-G	Comchip Technology	Diode, Schottky, 100 V, 5 A, SMC	SMC
D11, D13, D14, D16, D17, D18, D33	7	Green	150060VS75000	Würth Elektronik	LED, Green, SMD	LED_0603
F1, Ch1, F1, Ch2, F1, Ch3, F1, Ch4, F1, Ch5, F1, Ch6, F1, Ch7, F1, Ch8	8		6125FA15A	Cooper Bussman	Fuse, 15 A, SMD	6125FA
H1, H2, H3, H4, H5, H6, H13, H14, H17	9		NY PMS 440 0025 PH	B&F Fastener Supply	Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead	Screw
H7, H8, H9, H10, H11, H12, H15, H16, H18	9		2205	Keystone	Standoff, Hex, 1" L #4-40 Aluminum	1" Aluminum Hex Standoff
J1, Ch1, J1, Ch2, J1, Ch3, J1, Ch4, J1, Ch5, J1, Ch6, J1, Ch7, J1, Ch8, J3, Ch1, J3, Ch2, J3, Ch3, J3, Ch4, J3, Ch5, J3, Ch6, J3, Ch7, J3, Ch8	16		CB25-18-CY	Panduit	Terminal Connector Rectangular Lug, Grounding 10-14 AWG 1/8 Stud	CONN_TERM_LUG_25MM4_7MM9
J2, Ch1, J2, Ch2, J2, Ch3, J2, Ch4, J2, Ch5, J2, Ch6, J2, Ch7, J2, Ch8	8		B2B-EH-A(LF)(SN)	JST Manufacturing	Header (Shrouded), 2.5mm, 2x1, Tin, TH	Header (Shrouded), 2.5mm, 2x1, TH
J4	1		0022284033	Molex	Header, 2.54mm, 3x1, Tin, TH	Header, 2.54mm, 3x1, TH
J5	1		HSEC8-160-01-L-DV-A-BL	Samtec	C2000 controlCARD-120HSEC connector, SMT	C2000 pin numbering
J6	1		HSEC8-130-01-L-DV-A	Samtec	C2000 controlCARD-190HSEC (60-pin active) connector, SMT	C2000 pin numbering
L1, Ch1, L1, Ch2, L1, Ch3, L1, Ch4, L1, Ch5, L1, Ch6, L1, Ch7, L1, Ch8, L2, Ch1, L2, Ch2, L2, Ch3, L2, Ch4, L2, Ch5, L2, Ch6, L2, Ch7, L2, Ch8	8	1uH	74437324010	Würth Elektronik	Inductor, Shielded Drum Core, Powdered Iron, 1 uH, 5 A, 0.022 ohm, SMD	4.45x1.6x4.06mm
L3	1	47uH	74437529203470	Würth Elektronik	Inductor, Shielded, Mn-Zn, 47 uH, 13 A, 0.00968 ohm, SMD	SMT High Current Inductor
L3	1	47uH	MSS1278-473MLB	Coilcraft	Inductor, Shielded Drum Core, Ferrite, 47 uH, 2.9 A, 0.07 ohm, SMD	MSS1278
L4	1	1000 ohm	BLM41PG102SN1L	MuRata	Ferrite Bead, 1000 ohm @ 100 MHz, 1.5 A, 1806	1806
L5	1	4.7uH	MAKK2016T4R7M	Taiyo Yuden	Inductor, Wirewound, 4.7 uH, 0.95 A, 0.38 ohm, SMD	2.0x1x1.6mm
L6	1	4.7uH	XFL4020-472MEB	Coilcraft	Inductor, Shielded, Composite, 4.7 uH, 2.7 A, 0.05 ohm, SMD	4x2x4mm
LBL1	1		TH1-14-423-10	Brady	Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll	PCB Label 0.650 x 0.200 inch

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Q1_Ch1, Q1_Ch2, Q1_Ch3, Q1_Ch4, Q1_Ch5, Q1_Ch6, Q1_Ch7, Q1_Ch8, Q7_Ch1, Q7_Ch2, Q7_Ch3, Q7_Ch4, Q7_Ch5, Q7_Ch6, Q7_Ch7, Q7_Ch8	16	40V	CSD18504Q5A	Texas Instruments	MOSFET, N-CH, 40 V, 15 A, DQJ0008A (VSONP-8)	DQJ0008A
Q2_Q3	2	25V	CSD16570Q5B	Texas Instruments	MOSFET, N-CH, 25 V, 100 A, DNK0008A (VSON-CLIP-8)	DNK0008A
Q4	1	80 V	MM5TA06-7-F	Diodes Inc.	Transistor, NPN, 80 V, 0.5 A, SOT-23	SOT-23
Q5_Q6	2	100V	SI7454DDP-T1-GE3	Vishay-Siliconix	MOSFET, N-CH, 100 V, 21 A, PowerPAK SO-8	PowerPAK SO-8
R1_Ch1, R1_Ch2, R1_Ch3, R1_Ch4, R1_Ch5, R1_Ch6, R1_Ch7, R1_Ch8, R5_Ch1, R5_Ch2, R5_Ch3, R5_Ch4, R5_Ch5, R5_Ch6, R5_Ch7, R5_Ch8, R18_Ch1, R18_Ch2, R18_Ch3, R18_Ch4, R18_Ch5, R18_Ch6, R18_Ch7, R18_Ch8, R24_Ch1, R24_Ch2, R24_Ch3, R24_Ch4, R24_Ch5, R24_Ch6, R24_Ch7	55	10.0k	RC0603FR-0710KL	Yageo, Yageo America	RES, 10.0 k, 1%, 0.1 W, 0603	0603
R2_Ch1, R2_Ch2, R2_Ch3, R2_Ch4, R2_Ch5, R2_Ch6, R2_Ch7, R2_Ch8, R3_Ch1, R3_Ch2, R3_Ch3, R3_Ch4, R3_Ch5, R3_Ch6, R3_Ch7, R3_Ch8, R8_Ch1, R8_Ch2, R8_Ch3, R8_Ch4, R8_Ch5, R8_Ch6, R8_Ch7, R8_Ch8, R172_Ch1, R172_Ch2, R172_Ch3, R172_Ch4, R172_Ch5, R172_Ch6, R172_Ch7	56	0	RC0603JR-070RL	Yageo America	RES, 0, 5%, 0.1 W, 0603	0603
R6_Ch1, R6_Ch2, R6_Ch3, R6_Ch4, R6_Ch5, R6_Ch6, R6_Ch7, R6_Ch8, R7_Ch1, R7_Ch2, R7_Ch3, R7_Ch4, R7_Ch5, R7_Ch6, R7_Ch7, R7_Ch8	16	5mOhm	Y14880R00500B9R	Vishay Foil Resistors	Current Sense Resistors - SMD 0.005ohms 0.1% 3w	9.398x9.144mm
R9_Ch1, R9_Ch2, R9_Ch3, R9_Ch4, R9_Ch5, R9_Ch6, R9_Ch7, R9_Ch8	8	10.0	RC1206FR-0710RL	Yageo America	RES, 10.0, 1%, 0.25 W, 1206	1206

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R10_Ch1, R10_Ch2, R10_Ch3, R10_Ch4, R10_Ch5, R10_Ch6, R10_Ch7, R10_Ch8, R12_Ch1, R12_Ch2, R12_Ch3, R12_Ch4, R12_Ch5, R12_Ch6, R12_Ch7, R12_Ch8, R13_Ch1, R13_Ch2, R13_Ch3, R13_Ch4, R13_Ch5, R13_Ch6, R13_Ch7, R13_Ch8, R20_Ch1, R20_Ch2, R20_Ch3, R20_Ch4, R20_Ch5, R20_Ch6, R20_Ch7,	227	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, 0402	0402
R11_Ch1, R11_Ch2, R11_Ch3, R11_Ch4, R11_Ch5, R11_Ch6, R11_Ch7, R11_Ch8, R21_Ch1, R21_Ch2, R21_Ch3, R21_Ch4, R21_Ch5, R21_Ch6, R21_Ch7, R21_Ch8,	16	2.00	CRCW06032R00FKEA	Vishay-Dale	RES, 2.00, 1%, 0.1 W, 0603	0603
R19_Ch1, R19_Ch2, R19_Ch3, R19_Ch4, R19_Ch5, R19_Ch6, R19_Ch7, R19_Ch8, R25_Ch1, R25_Ch2, R25_Ch3, R25_Ch4, R25_Ch5, R25_Ch6, R25_Ch7, R25_Ch8,	16	1.00	RC0603FR-071RL	Yageo	RES, 1.00, 1%, 0.1 W, 0603	0603
R22_Ch1, R22_Ch2, R22_Ch3, R22_Ch4, R22_Ch5, R22_Ch6, R22_Ch7, R22_Ch8, R23_Ch1, R23_Ch2, R23_Ch3, R23_Ch4, R23_Ch5, R23_Ch6, R23_Ch7, R23_Ch8, R26_Ch1, R26_Ch2, R26_Ch3, R26_Ch4, R26_Ch5, R26_Ch6, R26_Ch7, R26_Ch8, R27_Ch1, R27_Ch2, R27_Ch3, R27_Ch4, R27_Ch5, R27_Ch6, R27_Ch7,	105	10.0k	CRCW040210K0FKED	Vishay-Dale	RES, 10.0 k, 1%, 0.063 W, 0402	0402
R30_Ch1, R30_Ch2, R30_Ch3, R30_Ch4, R30_Ch5, R30_Ch6, R30_Ch7, R30_Ch8,	8	2.15k	RT0603BRD072K15L	Yageo America	RES, 2.15 k, 0.1%, 0.1 W, 0603	0603

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R33_Ch1, R33_Ch2, R33_Ch3, R33_Ch4, R33_Ch5, R33_Ch6, R33_Ch7, R33_Ch8, R34_Ch1, R34_Ch2, R34_Ch3, R34_Ch4, R34_Ch5, R34_Ch6, R34_Ch7, R34_Ch8, R35_Ch1, R35_Ch2, R35_Ch3, R35_Ch4, R35_Ch5, R35_Ch6, R35_Ch7, R35_Ch8, R36_Ch1, R36_Ch2, R36_Ch3, R36_Ch4, R36_Ch5, R36_Ch6, R36_Ch7,	128	500	PNM0402E5000BST1	Vishay Thin Film	RES, 500, 0.1%, 0.05 W, 0402	0402
R44_Ch1, R44_Ch2, R44_Ch3, R44_Ch4, R44_Ch5, R44_Ch6, R44_Ch7, R44_Ch8,	8	2.00k	RT0603BRD072KL	Yageo America	RES, 2.00 k, 0.1%, 0.1 W, 0603	0603
R46_Ch1, R46_Ch2, R46_Ch3, R46_Ch4, R46_Ch5, R46_Ch6, R46_Ch7, R46_Ch8,	8	7.96k	RT0603BRD077K96L	Yageo America	RES, 7.96 k, 0.1%, 0.1 W, 0603	0603
R50_Ch1, R50_Ch2, R50_Ch3, R50_Ch4, R50_Ch5, R50_Ch6, R50_Ch7, R50_Ch8,	8	2.7k	CRCW04022K70JNED	Vishay-Dale	RES, 2.7 k, 5%, 0.063 W, 0402	0402
R51_Ch1, R51_Ch2, R51_Ch3, R51_Ch4, R51_Ch5, R51_Ch6, R51_Ch7, R51_Ch8,	8	5.1k	CRCW04025K10JNED	Vishay-Dale	RES, 5.1 k, 5%, 0.063 W, 0402	0402
R52_Ch1, R52_Ch2, R52_Ch3, R52_Ch4, R52_Ch5, R52_Ch6, R52_Ch7, R52_Ch8,	8	7.50k	CRCW04027K50FKED	Vishay-Dale	RES, 7.50 k, 1%, 0.063 W, 0402	0402
R53_Ch1, R53_Ch2, R53_Ch3, R53_Ch4, R53_Ch5, R53_Ch6, R53_Ch7, R53_Ch8,	8	11.0k	CRCW040211K0FKED	Vishay-Dale	RES, 11.0 k, 1%, 0.063 W, 0402	0402
R59, R178, R179, R180, R182, R183, R209	7	4.99k	CRCW06034K99FKEA	Vishay-Dale	RES, 4.99 k, 1%, 0.1 W, 0603	0603
R63_Ch1, R63_Ch2, R63_Ch3, R63_Ch4, R63_Ch5, R63_Ch6, R63_Ch7, R63_Ch8, R77_Ch1, R77_Ch2, R77_Ch3, R77_Ch4, R77_Ch5, R77_Ch6, R77_Ch7, R77_Ch8,	16	24.0k	RT0603BRD0724KL	Yageo America	RES, 24.0 k, 0.1%, 0.1 W, 0603	0603
R64_Ch1, R64_Ch2, R64_Ch3, R64_Ch4, R64_Ch5, R64_Ch6, R64_Ch7, R64_Ch8, R70_Ch1, R70_Ch2, R70_Ch3, R70_Ch4, R70_Ch5, R70_Ch6, R70_Ch7, R70_Ch8,	16	100k	RT0603BRD07100KL	Yageo America	RES, 100 k, 0.1%, 0.1 W, 0603	0603

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R69_Ch1, R69_Ch2, R69_Ch3, R69_Ch4, R69_Ch5, R69_Ch6, R69_Ch7, R69_Ch8	8	3.32k	CRCW06033K32FKEA	Vishay-Dale	RES, 3.32 k, 1%, 0.1 W, 0603	0603
R75_Ch1, R75_Ch2, R75_Ch3, R75_Ch4, R75_Ch5, R75_Ch6, R75_Ch7, R75_Ch8, R78_Ch1, R78_Ch2, R78_Ch3, R78_Ch4, R78_Ch5, R78_Ch6, R78_Ch7, R78_Ch8	16	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, 0603	0603
R80	1	2.00k	CRCW06032K00FKEA	Vishay-Dale	RES, 2.00 k, 1%, 0.1 W, 0603	0603
R81	1	330k	RC0603FR-07330K	Yageo America	RES, 330 k, 1%, 0.1 W, 0603	0603
R83	1	20.5k	CRCW060320K5FKEA	Vishay-Dale	RES, 20.5 k, 1%, 0.1 W, 0603	0603
R84	1	54.9k	RC0603FR-07549K	Yageo America	RES, 54.9 k, 1%, 0.1 W, 0603	0603
R85	1	62.0k	RC0603FR-0762K	Yageo America	RES, 62.0 k, 1%, 0.1 W, 0603	0603
R87	1	1.00Meg	CRCW06031M00FKEA	Vishay-Dale	RES, 1.00 M, 1%, 0.1 W, 0603	0603
R88, R108, R109, R129, R139, R140, R177, R181, R207	9	100k	RC0603FR-07100K	Yageo, Yageo America	RES, 100 k, 1%, 0.1 W, 0603	0603
R152, R153	2	0	5108	Keystone	RES, 0, 1%, 0.5 W, 1206	1206
R163, R176	4	0	ERJ-3GEYOR00V	Panasonic	RES, 0, 5%, 0.1 W, 0603	0603
R201, R205						
R184, R202	2	100k	CRCW0603100K0FKEA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, 0603	0603
R196	1	49.9	CRCW040249R9FKED	Vishay-Dale	RES, 49.9, 1%, 0.063 W, 0402	0402
R197	1	130k	CRCW0402130KFKED	Vishay-Dale	RES, 130 k, 1%, 0.063 W, 0402	0402
R198, R200	2	100k	CRCW0402100KHEDP	Vishay-Dale	RES, 100 k, 0.5%, 0.063 W, 0402	0402
R199	1	24k	CRCW040224K0JNED	Vishay-Dale	RES, 24 k, 5%, 0.063 W, 0402	0402
R206	1	20.0k	CRCW060320K0FKEA	Vishay-Dale	RES, 20.0 k, 1%, 0.1 W, 0603	0603
R208	1	49.9k	CRCW060349R9FKEA	Vishay-Dale	RES, 49.9 k, 1%, 0.1 W, 0603	0603
R210	1	18.2k	CRCW060318K2FKEA	Vishay-Dale	RES, 18.2 k, 1%, 0.1 W, 0603	0603
R211	1	0.068	PRL1632-R068-F-T1	Susumu Co Ltd	RES, 0.068, 1%, 1 W, 0612	0612
R212	1	24.0k	RC0603FR-0724K	Yageo America	RES, 24.0 k, 1%, 0.1 W, 0603	0603
R213	1	7.32k	RC0603FR-077K32L	Yageo America	RES, 7.32 k, 1%, 0.1 W, 0603	0603
R214	1	52.3k	RC0603FR-0752K3L	Yageo America	RES, 52.3 k, 1%, 0.1 W, 0603	0603
R215	1	10.0	CRCW060310R0FKEA	Vishay-Dale	RES, 10.0, 1%, 0.1 W, 0603	0603
R277, R279, R280, R282, R284, R285, R286, R288, R298	9	50	FC0402E50R0BST1	Vishay-Dale	RES, 50, 0.1%, 0.05 W, 0402	0402
S1, S2, S6	3		TL1015AF160OG	E-Switch	Switch, Tactile, SPST-NO, 0.05A, 12V, SMT	Switch, 4.4x2x2.9 mm
S3	1		L101011MS02Q	C&K Components	SWITCH SLIDE SPST 4A PCB, TH	Slide Switch, TH, SPST
S4, S5	2		218-8LPST	CTS Electrocomponents	Switch, SPST, 8 Pos, 25mA, 24VDC, SMD	11.33x5.8mm
SH-J4	1		60900213421	Würth Elektronik	Shunt, 2.54mm, Gold, Black	Shunt, 2.54mm, Black
T1, T2	2		CB35-36-CY	Panduit	Terminal 50A Lug	CB35-36-CY
TP1_Ch1, TP1_Ch2, TP1_Ch3, TP1_Ch4, TP1_Ch5, TP1_Ch6, TP1_Ch7, TP1_Ch8, TP3_Ch1, TP3_Ch2, TP3_Ch3, TP3_Ch4, TP3_Ch5, TP3_Ch6, TP3_Ch7, TP3_Ch8, TP7_Ch1, TP7_Ch2, TP7_Ch3, TP7_Ch4, TP7_Ch5, TP7_Ch6, TP7_Ch7, TP7_Ch8, TP8_Ch1, TP8_Ch2, TP8_Ch3, TP8_Ch4, TP8_Ch5, TP8_Ch6, TP8_Ch7	61		5002	Keystone	Test Point, Miniature, White, TH	White Miniature Testpoint

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
TP2_Ch1, TP2_Ch2, TP2_Ch3, TP2_Ch4, TP2_Ch5, TP2_Ch6, TP2_Ch7, TP2_Ch8, TP4_Ch1, TP4_Ch2, TP4_Ch3, TP4_Ch4, TP4_Ch5, TP4_Ch6, TP4_Ch7, TP4_Ch8, TP5_Ch1, TP5_Ch2, TP5_Ch3, TP5_Ch4, TP5_Ch5, TP5_Ch6, TP5_Ch7, TP5_Ch8, TP24, TP25, TP26, TP27, TP28, TP29, TP30, TP31, TP32, TP33	34		5000	Keystone	Test Point, Miniature, Red, TH	Red Miniature Testpoint
TP6_Ch1, TP6_Ch2, TP6_Ch3, TP6_Ch4, TP6_Ch5, TP6_Ch6, TP6_Ch7, TP6_Ch8, TP34, TP35, TP36, TP37, TP38, TP39, TP40, TP41	16		5001	Keystone	Test Point, Miniature, Black, TH	Black Miniature Testpoint
U1_Ch1, U1_Ch2, U1_Ch3, U1_Ch4, U1_Ch5, U1_Ch6, U1_Ch7, U1_Ch8	8		LM5109BMAX/NOPB	Texas Instruments	High Voltage 1A Peak Half Bridge Gate Driver, 8-pin Narrow SOIC, Pb-Free	D0008A
U3_Ch1, U3_Ch2, U3_Ch3, U3_Ch4, U3_Ch5, U3_Ch6, U3_Ch7, U3_Ch8	8		INA821ID	Texas Instruments	4.7MHz, 35µV offset, 7nV/√Hz noise, low-power, super beta precision instrumentation amplifier, D0008A (SOIC-8)	D0008A
U7	1		LP5907MFX-2.5/NOPB	Texas Instruments	250-mA Ultra-Low-Noise, Low-IO LDO, DBV0005A (SOT-23-5)	DBV0005A
U8	1		TPS7325DBVT	Texas Instruments	Single Output High PSRR LDO, 200 mA, Fixed -2.5 V Output, -10 to -2.7 V Input, 5-pin SOT-23 (DBV), -40 to 125 degC, Green (RoHS & no Sb/Br)	DBV0005A
U10_Ch1, U10_Ch2, U10_Ch3, U10_Ch4, U10_Ch5, U10_Ch6, U10_Ch7, U10_Ch8	8		TLV171IDBVR	Texas Instruments	36V, Low-Power, RRO, General-Purpose Operational Amplifier, DBV0005A (SOT-23-5)	DBV0005A
U12, U16	2		ADS131M08IPBSR	Texas Instruments	8-Channel, 24-Bit, Simultaneously-Sampling, Delta-Sigma ADC, PBS0032A (TQFP-32)	PBS0032A
U15, U19	2		REF2025DBV	Texas Instruments	DUAL OUTPUT VOLTAGE REFERENCE 2.5V, DBV0005A (SOT-5)	DBV0005A
U20	1		LP5907MFX-3.3/NOPB	Texas Instruments	250-mA Ultra-Low-Noise, Low-IO LDO, DBV0005A (SOT-23-5)	DBV0005A
U21	1		TPS6371QDRR	Texas Instruments	Synchronous Inverting Buck Converter, DRR0112C	DRR0112C
U22, U31	2		LP38693MP-5.0/NOPB	Texas Instruments	500mA Low Dropout CMOS Linear Regulators Stable with Ceramic Output Capacitors, 5-pin SOT-223, Pb-Free, 1000 Reel	NDC0005A
U23	1		LM5118MH/NOPB	Texas Instruments	Wide Voltage Range Buck-Boost Controller, 20-pin TSSOP-EP, Pb-Free	MXA20A
U25	1		TPS73633DBVR	Texas Instruments	Single Output Low Noise LDO, 400 mA, Fixed 3.3 V Output, 1.7 to 5.5 V Input, with Reverse Current Protection, 5-pin SOT-23 (DBV), -40 to 85 degC, Green (RoHS & no Sb/Br)	DBV0005A
Y1, Y2	2		SIT8924BA-22-33E-8.192000G	SiTime	Oscillator, 8.192 MHz, 15 pF, AEC-Q200 Grade 1, SMD	3.2x2.5mm
C2_Ch1, C2_Ch2, C2_Ch3, C2_Ch4, C2_Ch5, C2_Ch6, C2_Ch7, C2_Ch8	0	100pF	GRM1885C1H101JA01D	MuRata	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
D12, D16, D19, D20, D21, D22, D23, D24, D25, D26, D27, D28, D29, D30, D31, D32	0	4.7V	MMSZ5230B-7-F	Diodes Inc.	Diode, Zener, 4.7 V, 500 mW, SOD-123	SOD-123
FID1, FID2, FID3, FID4, FID5, FID6	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	Fiducial
R4_Ch1, R4_Ch2, R4_Ch3, R4_Ch4, R4_Ch5, R4_Ch6, R4_Ch7, R4_Ch8	0	10.0	RC1206FR-0710RL	Yageo America	RES, 10.0, 1%, 0.25 W, 1206	1206

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R14_Ch1, R14_Ch2, R14_Ch3, R14_Ch4, R14_Ch5, R14_Ch6, R14_Ch7, R14_Ch8, R15_Ch1, R15_Ch2, R15_Ch3, R15_Ch4, R15_Ch5, R15_Ch6, R15_Ch7, R15_Ch8, R16_Ch1, R16_Ch2, R16_Ch3, R16_Ch4, R16_Ch5, R16_Ch6, R16_Ch7, R16_Ch8, R17_Ch1, R17_Ch2, R17_Ch3, R17_Ch4, R17_Ch5, R17_Ch6, R17_Ch7,	0	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, 0402	0402
R203	0	0	ERJ-3GEY0R00V	Panasonic	RES, 0, 5%, 0.1 W, 0603	0603
R292	0	50	FC0402E50R0BST1	Vishay-Dale	RES, 50, 0.1%, 0.05 W, 0402	0402
U2_Ch1, U2_Ch2, U2_Ch3, U2_Ch4, U2_Ch5, U2_Ch6, U2_Ch7, U2_Ch8, U24_Ch1, U24_Ch2, U24_Ch3, U24_Ch4, U24_Ch5, U24_Ch6, U24_Ch7, U24_Ch8	0		SN74LVC1G11DCKR	Texas Instruments	Single 3-Input Positive-AND Gate, DCK0006A, LARGE T&R	DCK0006A
U4_Ch1, U4_Ch2, U4_Ch3, U4_Ch4, U4_Ch5, U4_Ch6, U4_Ch7, U4_Ch8	0		INA190A1DCK	Texas Instruments	Low Supply, Voltage Output, Low- or High-Side Measurement, Bidirectional, Zero-Drift Series, Current-Shunt Monitor, DCK0006A (SOT-SC70-6)	DCK0006A
U5_Ch1, U5_Ch2, U5_Ch3, U5_Ch4, U5_Ch5, U5_Ch6, U5_Ch7, U5_Ch8, U32_Ch1, U32_Ch2, U32_Ch3, U32_Ch4, U32_Ch5, U32_Ch6, U32_Ch7, U32_Ch8	0		TLV1711DBVR	Texas Instruments	36V, Low-Power, RRO, General-Purpose Operational Amplifier, DBV0005A (SOT-23-5)	DBV0005A
U6_Ch1, U6_Ch2, U6_Ch3, U6_Ch4, U6_Ch5, U6_Ch6, U6_Ch7, U6_Ch8	0		TLV2171IDR	Texas Instruments	36V, Low Power, RRO, General Purpose Operational Amplifier, D0008A (SOIC-8)	D0008A
U9_Ch1, U9_Ch2, U9_Ch3, U9_Ch4, U9_Ch5, U9_Ch6, U9_Ch7, U9_Ch8	0		LM393AD	Texas Instruments	Dual Comparator, D0008A	D0008A
U11	0		LM5060MMNOPB	Texas Instruments	High-Side Protection Controller with Low Quiescent Current, 10-pin MSOP, Pb-Free	MUB10A
U13, U14, U17, U18	0		ESDS304DBVR	Texas Instruments	3.6V Data-Line Surge and 30kV ESD Protection Diode Array, DBV0005A (SOT-23-5)	DBV0005A
U26, U27	0		SN74HC148DR	Texas Instruments	Priority Encoder 1 x 8:3 16-SOIC	SOIC16
U28	0		SN74LV163ADGVR	Texas Instruments	4-BIT SYNCHRONOUS BINARY COUNTER, DGV0016A (TVSOP-16)	DGV0016A
U29_Ch1, U29_Ch2, U29_Ch3, U29_Ch4, U29_Ch5, U29_Ch6, U29_Ch7, U29_Ch8	0		CD4053BPWR	Texas Instruments	CMOS Triple 2-Channel Analog Multiplexer/Demultiplexer with Logic-Level Conversion, FW0016A (TSSOP-16)	PW0016A
U30_Ch1, U30_Ch2, U30_Ch3, U30_Ch4, U30_Ch5, U30_Ch6, U30_Ch7, U30_Ch8	0		TLV1701AIDBVR	Texas Instruments	2.2-V to 36-V, microPower Comparator, DBV0005A (SOT-23-5)	DBV0005A

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