

PMP31161 REV C Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
!PCB	1		TIDA-010239	Any	Printed Circuit Board	
C1_P, C11_P	2	68pF	GRM21A5C2E680JW01D	MuRata	CAP, CERM, 68 pF, 250 V, +/- 5%, C0G/NP0, 0805	0805
C2_P, C3_P	2	3300pF	DE1E3KX332MN4AP01F	MuRata	CAP, CERM, 3300 pF, 300 V, +/- 20%, E, D10xT7mm	D10xT7mm
C4_P, C12_P	2	100uF	860010473007	Wuerth	CAP, AL, 100 uF, 25 V, +/- 20%, TH	D6.3xL11mm
C5_P, C10_P, C21_P, C22_P, C23_P, C24_P, C43_P, C54_P, C64_P, C74_P, C79_P, C80_P, C83_P, C84_P, C87_P	15	22uF	885012109015	Wuerth	CAP, CERM, 22 uF, 25 V, +/- 20%, X5R, 1210	1210
C6_P, C7_P	2	0.1uF	C1812C104KDRAC7800	Kemet	CAP, CERM, 0.1 uF, 1000 V, +/- 10%, X7R, 1812	1812
C8_P	1	1000pF	885342207008	Wuerth	CAP, CERM, 1000 pF, 250 V, +/- 10%, X7R, 0805	0805
C9_P, C15_P, C20_P	3	0.1uF	890493425009CS	Wuerth	CAP, Film, 0.1 uF, 1000 VDC, +/- 10%, TH	18x8.5mm
C13_P, C14_P, C16_P, C17_P	4	68uF	860021380017	Wuerth	CAP, AL, 68 uF, 400 V, +/- 20%, 410 mA @ 120 Hz, TH	D16xL25mm
C18_P, C29_P, C32_P, C37_P, C40_P, C41_P, C42_P, C51_P, C55_P, C63_P, C65_P, C70_P, C82_P, C85_P, C88_P, C92_P	16	0.1uF	885012206095	Wuerth	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, 0603	0603
C19_P	1	2.2uF	GRM188Z71C225KE43	MuRata	CAP, CERM, 2.2 uF, 16 V, +/- 10%, X7R, 0603	0603
C25_P, C26_P	2	680uF	860040475009	Wuerth	CAP, AL, 680 uF, 25 V, +/- 20%, TH	D10xL20mm
C27_P	1	100pF	GRM21A5C2E101JW01D	MuRata	CAP, CERM, 100 pF, 250 V, +/- 5%, C0G/NP0, 0805	0805
C28_P, C76_P	2	2200pF	885012206085	Wuerth	CAP, CERM, 2200 pF, 50 V, +/- 10%, X7R, 0603	0603
C30_P	1	10uF	885012108022	Wuerth	CAP, CERM, 10 uF, 50 V, +/- 10%, X5R, 1206	1206
C31_P	1	4.7uF	885012107018	Wuerth	CAP, CERM, 4.7 uF, 25 V, +/- 20%, X5R, 0805	0805
C33_P, C44_P, C47_P, C53_P, C61_P	5	10uF	885012108022	Wuerth	CAP, CERM, 10 uF, 50 V, +/- 10%, X7R, 1206	1206
C34_P, C36_P	2	100pF	885012006057	Wuerth	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C35_P	1	0.047uF	885012206093	Wuerth	CAP, CERM, 0.047 uF, 50 V, +/- 10%, X7R, 0603	0603
C38_P, C39_P	2	2.5F	PHVL-3R9V255-R	Cooper Bussmann	2.5 F (EDLC) Supercapacitor 3.9 V Radial 80mOhm 5000 Hrs @ 85°C	RADIAL
C45_P, C86_P	2	6.8pF	885012006050	Wuerth	CAP, CERM, 6.8 pF, 50 V, +/- 4%, C0G/NP0, 0603	0603
C46_P, C56_P, C58_P, C60_P, C71_P, C75_P, C93_P, C94_P	8	0.01uF	885012206089	Wuerth	CAP, CERM, 0.01 uF, 50 V, +/- 10%, X7R, 0603	0603
C48_P, C59_P, C69_P, C72_P, C73_P, C81_P	6	1uF	885012206076	Wuerth	CAP, CERM, 1 uF, 25 V, +/- 10%, X7R, 0603	0603
C49_P	1	0.22uF	885012206048	Wuerth	CAP, CERM, 0.22 uF, 16 V, +/- 10%, X7R, 0603	0603

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C50_P, C66_P, C67_P, C68_P, C89_P, C90_P	6	22uF	885012208019	Würth Elektronik	CAP, CERM, 22 uF, 10 V, +/- 10%, X7R, 1206	1206
C52_P	1	5.6pF	885012006092	Wuerth	CAP, CERM, 5.6 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C57_P, C62_P	2	4700pF	885012206087	Würth Elektronik	CAP, CERM, 4700 pF, 50 V, +/- 10%, X7R, 0603	0603
C77_P	1	3300pF	885012206111	Wuerth	CAP, CERM, 3300 pF, 50 V, +/- 10%, X7R, 0603	0603
C78_P	1	10uF	GRM188R61A106KE69D	MuRata	CAP, CERM, 10 µF, 10 V, +/- 10%, X5R, 0603	0603
C91_P	1	470pF	885012206081	Würth Elektronik	CAP, CERM, 470 pF, 50 V, +/- 10%, X7R, 0603	0603
C95	1	2200pF	GRM31BR73A222KW01L	MuRata	CAP, CERM, 2200 pF, 1000 V, +/- 10%, X7R, 1206	1206
C96	1	1uF	GCM188R71E105KA64D	MuRata	CAP, CERM, 1 uF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C97	1	1000pF	GRM188R71E102KA01D	MuRata	CAP, CERM, 1000 pF, 25 V, +/- 10%, X7R, 0603	0603
C98	1	220nF	CC0603KRX7R7BB224	Yageo	0603 0.22 uF 16 V ±10 % Tolerance X7R SMT Multilayer Ceramic Capacitor	0603
C99, C100, C109	3	0.1uF	GRM188R71E104KA01D	MuRata	CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, 0603	0603
C108	1	1uF	CGJ3E1X7R1E105K080AC	TDK	CAP, CERM, 1 µF, 25 V, +/- 10%, X7R, 0603	0603
C110, C111	2	47pF	CGA3E2NP01H470J080AA	TDK	CAP, CERM, 47 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 0, 0603	0603
C114, C115, C138, C139, C160, C161	6	22uF	CC1210KXX7R8BB226	Yageo	CAP, CERM, 22 µF, 25 V, +/- 10%, X7R, 1210	1210
C116, C140, C162, C167	4	0.1uF	TMK105B7104MV-FR	Taiyo Yuden	CAP, CERM, 0.1 uF, 25 V, +/- 20%, X7R, 0402	0402
C117, C118, C119, C120, C121, C122, C123, C124, C125, C126, C127, C128, C800	13				Multi-Layer Ceramic Capacitor 100nF 16V X5R ±10% 0201 Paper T/R GRT033R61C104KE01D	
C129, C130, C134	3				Chip Multilayer Ceramic Capacitors for General Purpose, 0402, 1.0uF, X5R, 15%, 20%, 35V GRM155R6YA105ME11D	
C131	1				Multilayer Ceramic Capacitors 47pF ±10% 50V C0G SMD 0201 C0603C0G1H470K030BA	
C132	1				Chip Multilayer Ceramic Capacitors for General Purpose, 0402, 2.2uF, X5R, 15%, 10%, 35V GRM155R6YA225KE11D	
C133	1	3.9uF	C1206C395K4PACTU	Kemet	CAP, CERM, 3.9 uF, 16 V, +/- 10%, X5R, 1206	1206
C141	1	10,000 pF		KEMET	CAP CER 10000PF 16V 10% X5R 0201 C0201C103K4PACTU	
C146	1	0.47uF	GRM155R61A474KE15D	MuRata	CAP, CERM, 0.47 uF, 10 V, +/- 10%, X5R, 0402	0402
C147, C148	2				Multilayer Ceramic Capacitors 6pF ±0.5pF 50V NP0 SMD 0603	
C149, C152, C154	3				Chip Multilayer Ceramic Capacitors for General Purpose, 0402, 10uF, X5R, 15%, 20%, 6.3V	
C150, C153, C155	3			AVX Interconnect / Elco	04026C104MAT2A	
C151	1	0.01uF	C0603C103K4RACTU	Kemet	CAP, CERM, 0.01 uF, 16 V, +/- 10%, X7R, 0603	0603
C156, C158, C163, C165	4	1000pF	CGA3E2X7R2A102K080AA	TDK	CAP, CERM, 1000 pF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C157, C164	2	0.1uF	C0603C104K4RACTU	Kemet	CAP, CERM, 0.1 uF, 16 V, +/- 10%, X7R, 0603	0603
C159, C166	2	470pF	Q07E1D471KN0B0S0N0	Songtian Electronic	470 pF ±10% 400V Ceramic Capacitor Y5U (E) Radial, Disc	RADIAL
C200_P	1	220pF	C0603C221J5GACTU	Kemet	CAP, CERM, 220 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
D1_P, D3_P, D5_P, D8_P	4	MBR0540T 1G	MBR0540T1G	ON Semiconductor	Diode, Schottky, 40 V, 0.5 A, SOD-123	SOD-123
D2_P, D7_P, D15_P	3	SS1200-LTP	SS1200-LTP	Micro Commercial Component	Diode, Schottky, 200 V, 1 A, SMA	SMA

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D4_P, D10_P	2	TBS22M-TP	TBS22M-TP	Micro Commercial Component	Diode, Switching-Bridge, 1000 V, 2.2 A, 8.25x6.6mm	8.25x6.6mm
D6_P	1	130V	SMCJ130A-TR	STMicroelectronics	Diode, TVS, Uni, 130 V, 209 Vc, 1500 W, 7.5 A, SMC	SMC
D9_P	1	US1M-13-F	US1M-13-F	Diodes Inc.	Diode, Ultrafast, 1000 V, 1 A, SMA	SMA
D11_P, D30_P, D33_P	3	Green	150120GS75000	Würth Elektronik	LED, Green, SMD	3.2x1.6mm
D12_P	1	US1G-13-F	US1G-13-F	Diodes Inc.	Diode, Ultrafast, 400 V, 1 A, SMA	SMA
D13_P	1	BAT54SLT1G	BAT54SLT1G	ON Semiconductor	Diode, Schottky, 30 V, 0.2 A, SOT-23	SOT-23
D14_P, D17_P, D18_P, D23_P, D29_P	5	BAS20HT1G	BAS20HT1G	ON Semiconductor	Diode, Switching, 200 V, 0.2 A, AEC-Q101, SOD-323	SOD-323
D16_P	1	43V	BZX384C43-E3-08	Vishay General Semiconductor	Diode, Zener, 43 V, 200 mW, SOD-323	SOD-323
D19_P	1	Amber	150120AS75000	Würth Elektronik	LED, Amber, SMD	3.2x1.6mm
D20_P, D22_P	2	SS2040FL_R1_00001	SS2040FL_R1_00001	Panjit International Inc.	Diode, Schottky, 40 V, 2 A, SOD-123FL	SOD-123FL
D21_P, D24_P	2	SD103AWS-TP	SD103AWS-TP	Micro Commercial Component	Diode, Schottky, 40 V, 0.35 A, SOD-323	SOD-323
D25_P	1	16V	SZMM3Z16VST1G	ON Semiconductor	Diode, Zener, 16 V, 300 mW, AEC-Q101, SOD-323	SOD-323
D26_P	1	5.1V	BZT52C5V1S-7-F	Diodes Inc.	Diode, Zener, 5.1 V, 200 mW, SOD-323	SOD-323
D27_P, D31_P	2	Red	150120RS75000	Würth Elektronik	LED, Red, SMD	3.2x1.6mm
D28_P	1	15V	SMAJ15CA	Littelfuse	Diode, TVS, Bi, 15 V, 24.4 Vc, 400 W, 16.4 A, SMA (non-polarized)	SMA (non-polarized)
D32_P	1	40V	MBRS2040LT3G	ON Semiconductor	Diode, Schottky, 40 V, 2 A, SMB	SMB
D34	1	1000V	US1M-13-F	Diodes Inc.	Diode, Ultrafast, 1000 V, 1 A, SMA	SMA
D35	1		AQ4023-01FTG-C	Littelfuse	ESD Suppressor Diode TVS Bi-Dir 15V Automotive 2-Pin SOD-323 T/R	SOD323
D45, D46	2	4pF		ON Semiconductor	DIODE GEN PURP 75V 200MA SOD523F	
D47, D48, D49, D50	4	600V	MDB6S	Fairchild Semiconductor	Diode, Switching-Bridge, 600 V, 1 A, MICRODIP_4	MICRODIP_4
D51, D52, D53, D54, D55	5	Green	150060GS75000	Würth Elektronik	LED, Green, SMD	LED_0603
D200_P, D201_P	2	7.5V	MM3Z7V5ST1G	ON Semiconductor	Diode, Zener, 7.5 V, 300 mW, SOD-323	SOD-323
D800, D801, D802, D803	4	600V	UFM15PL-TP	Micro Commercial Component	Diode, Ultrafast, 600 V, 1 A, SOD-123FL	SOD-123FL
F1_P, F2_P, F3_P	3	1A	0443001.DR	Littelfuse	Fuse, 1 A, 250VAC/VDC, SMD	FUSE 10.1x3.12x3.13mm
F4, F5	2		044001.5WR	Littelfuse	Fuse, 1.5 A, 50VAC/VDC, SMD	1206
FID1, FID2, FID3	3		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A
H1, H2, H3, H4, H5, H6	6		NY PMS 440 0025 PH	B&F Fastener Supply	Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead	Screw
J1_P	1		691214110002	Würth Elektronik	Terminal Block, 3.5mm, 2x1, Tin, TH	Receptacle, 3.5mm, 2x1, TH
J2	1		FTSH-120-01-L-D	Samtec		HDR40
J3	1		61301421121	Würth Elektronik	Header, 2.54mm, 7x2, Gold, TH	Header, 2.54mm, 7x2, TH
J4	1		691 101 710 003	Würth Elektronik	Terminal Block, 5 mm, 3x1, Tin, TH	Terminal Block, 5 mm, 3x1, TH
J15	1		691 101 710 002	Würth Elektronik	Terminal Block, 5 mm, 2x1, Tin, TH	Terminal Block, 5 mm, 2x1, TH
J16, J17	2			Würth Elektronik	Series 1377 - 5.00 mm Horizontal Entry with Pressure Clamp WR-TBL, 2 pin	
J19, J20, J21, J22, J23, J24, J25, J26	8		74650073R	Würth Elektronik	Power Element Bush, M3, TH	Power Element Bush, M3, TH

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K1	1		AHER4191	Panasonic	Power Her 40A 4NO 1NC 12VDC	PTH_RELAY_35MM058MM0
L1_P, L3_P	2	1 KOhm @ 100 MHz	74279205	Würth Elektronik	Ferrite Bead, 1000 ohm @ 100 MHz, 0.2 A, 0805	0805
L2_P, L4_P, L6_P	3	150uH	7447480151	Würth Elektronik	Inductor, Wirewound, Ferrite, 150 uH, 2 A, 0.16 ohm, TH	10.5x14.5mm
L5_P	1	6.8mH	7446121007	Würth Elektronik	Coupled inductor, 6.8 mH, 1 A, 0.3 ohm, TH	18.5x13.5
L7_P	1	DNP	DNP	DNP	DNP	4.5x3.2x4.0mm
L8_P, L10_P	2	10uH	744042100	Würth Elektronik	Inductor, Shielded Drum Core, Ferrite, 10 uH, 1 A, 0.12 ohm, SMD	WE-TPC-M1
L9_P, L12_P, L14_P	3	280 ohm @ 100 MHz	74279221281	Würth Elektronik	Ferrite Bead, 280 ohm @ 100 MHz, 3.5 A, 1206	1206
L11_P, L16_P	2	600 ohm @ 100 MHz	74279221601	Wuerth	Ferrite Bead, 600 ohm @ 100 MHz, 2.5 A, 1206	1206
L13_P, L17_P	2	4.7uH	744311470	Würth Elektronik	Inductor, Shielded Drum Core, Superflux, 4.7 uH, 6 A, 0.02 ohm, SMD	WE-HC4
L15_P	1	3.3uH	XEL4030-332MEB	Coilcraft	Inductor, Shielded, 3.3 uH, 5 A, 0.0286 ohm, SMD	4x4mm
L18	1	220uH	7447779222	Würth Elektronik	Inductor, Shielded Drum Core, Metal Composite, 220 uH, 0.44 A, 0.92 ohm, SMD	SMD
LBL1	1		THT-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
P1	1			Molex	Header, Pitch 2 mm, 2 x 7 Position, Height 6.4 mm, Tail Length 2.5 mm, -55 to 105 degC, RoHS, Tube	
Q1_P	1	BSC500N20NS3G	BSC500N20NS3G	Infineon	Mosfet, N-Ch, 200V, 24A, 150Deg C Rohs Compliant: Yes	TSON-8
Q2_P	1		IPD95R2K0P7ATMA1	Infineon Technologies	Trans MOSFET N-CH 600V 4A 3-Pin(2+Tab) DPAK T/R	DPAK
Q3_P	1	60V	IRFIZ24G	Vishay	MOSFET, N-CH, 60 V, 14 A, TO-220FP	TO-220FP
Q4_P	1	40 V	MMBT3904LT1G	ON Semiconductor	Transistor, NPN, 40 V, 0.2 A, SOT-23	SOT-23
Q5_P, Q6_P, Q7_P, Q8_P	4	BSS138	BSS138	Fairchild Semiconductor	MOSFET, N-CH, 50 V, 0.22 A, SOT-23	SOT-23
Q9	1	50V	BSS138	Fairchild Semiconductor	MOSFET, N-CH, 50 V, 0.22 A, SOT-23	SOT-23
Q10, Q11, Q12, Q13, Q14	5	30 V	BC848CLT1G	ON Semiconductor	Transistor, NPN, 30 V, 0.1 A, SOT-23	SOT-23
R1_P, R6_P	2	1.0k	ERJ-6GEYJ102V	Panasonic	RES, 1.0 k, 5%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R2_P, R4_P, R7_P, R9_P, R12_P, R16_P, R19_P	7	470k	CRCW1206470KJNEA	Vishay-Dale	RES, 470 k, 5%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
R3_P, R10_P, R15_P	3	10.0k	CRCW080510K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R5_P, R8_P, R13_P, R17_P	4	1.0Meg	CRCW12061M00JNEA	Vishay-Dale	RES, 1.0 M, 5%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
R11_P	1	10	CRCW120610R0JNEA	Vishay-Dale	RES, 10, 5%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
R14_P, R200_P	2	0	RC1206JR-070RL	Yageo America	RES, 0, 5%, 0.25 W, 1206	1206
R20_P, R36_P, R40_P, R45_P, R58_P, R64_P, R68_P, R79_P	8	4.70k	RC0603FR-074K7L	Yageo	RES, 4.70 k, 1%, 0.1 W, 0603	0603
R21_P	1	49.9	CRCW060349R9FKEA	Vishay-Dale	RES, 49.9, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R22_P	1	1.0k	CRCW12061K00JNEA	Vishay-Dale	RES, 1.0 k, 5%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
R23_P	1	20	CRCW080520R0JNEA	Vishay-Dale	RES, 20, 5%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R24_P	1	2.49k	CRCW06032K49FKEA	Vishay-Dale	RES, 2.49 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R25_P	1	6.81k	RC0603FR-076K81L	Yageo	RES, 6.81 k, 1%, 0.1 W, 0603	0603
R26_P, R28_P	2	60.4k	ERJ-6ENF6042V	Panasonic	RES, 60.4 k, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R27_P	1	38.3k	RC0603FR-0738K3L	Yageo	RES, 38.3 k, 1%, 0.1 W, 0603	0603
R29, R83	2	390k	CRCW1206390KJNEA	Vishay-Dale	RES, 390 k, 5%, 0.25 W, AEC-Q200 Grade 0, 1206	1206

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R29_P, R32_P, R34_P, R39_P, R41_P, R49_P, R53_P, R55_P, R65_P, R70_P, R77_P, R80_P	12	10.0k	RC0603FR-0710KL	Yageo	RES, 10.0 k, 1%, 0.1 W, 0603	0603
R30_P, R54_P, R57_P, R61_P, R74_P	5	100k	CRCW0603100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R31_P, R62_P	2	33.2k	RC0603FR-0733K2L	Yageo	RES, 33.2 k, 1%, 0.1 W, 0603	0603
R33_P, R43_P, R44_P	3	1.00k	CRCW06031K00FKEA	Vishay-Dale	RES, 1.00 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R35_P	1	0.5	CSRN2010FKR500	Stackpole Electronics Inc	RES, 0.5, 1%, 1 W, 2010	2010
R37_P	1	33.0k	RC0603FR-0733KL	Yageo	RES, 33.0 k, 1%, 0.1 W, 0603	0603
R38_P	1	4.99	CRCW06034R99FKEA	Vishay-Dale	RES, 4.99, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R42_P	1	11.8k	RC0603FR-0711K8L	Yageo	RES, 11.8 k, 1%, 0.1 W, 0603	0603
R46_P	1	91.0k	RC0603FR-0791KL	Yageo	RES, 91.0 k, 1%, 0.1 W, 0603	0603
R47_P	1	976k	CRCW0603976KFKEA	Vishay-Dale	RES, 976 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R48_P	1	93.1k	CRCW060393K1FKEA	Vishay-Dale	RES, 93.1 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R50_P	1	68.0k	RC0603FR-0768KL	Yageo	RES, 68.0 k, 1%, 0.1 W, 0603	0603
R51_P	1	787k	RC0603FR-07787KL	Yageo	RES, 787 k, 1%, 0.1 W, 0603	0603
R52_P, R69_P	2	100	CRCW0603100RFKEA	Vishay-Dale	RES, 100, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R56_P	1	100	CRCW0805100RFKEA	Vishay-Dale	RES, 100, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R60_P	1	475k	CRCW0603475KFKEA	Vishay-Dale	RES, 475 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R63_P	1	11.0k	RMCF0603FT11K0	Stackpole Electronics Inc	RES, 11.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R66_P	1	750	CRCW0603750RFKEA	Vishay-Dale	RES, 750, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R67_P, R75_P, R191	3	47.0k	RC0603FR-0747KL	Yageo	RES, 47.0 k, 1%, 0.1 W, 0603	0603
R71_P	1	100k	RC0603FR-07100KL	Yageo	RES, 100 k, 1%, 0.1 W, 0603	0603
R72_P	1	510k	RC0603FR-07510KL	Yageo	RES, 510 k, 1%, 0.1 W, 0603	0603
R76_P	1	54.9k	RC0603FR-0754K9L	Yageo	RES, 54.9 k, 1%, 0.1 W, 0603	0603
R78_P	1	46.4k	RT0603DRE0746K4L	Yageo America	RES, 46.4 k, 0.5%, 0.1 W, 0603	0603
R82	1	100	CRCW0603100RJNEA	Vishay-Dale	RES, 100, 5%, 0.1 W, 0603	0603
R84	1	39k	RC0603JR-0739KL	Yageo	RES, 39 k, 5%, 0.1 W, 0603	0603
R85	1	220	CRCW0603220RJNEA	Vishay-Dale	RES, 220, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R86, R88, R89, R94, R96	5	200k	RC0603FR-07200KL	Yageo	RES, 200 k, 1%, 0.1 W, 0603	0603
R87	1	1.0k	RC0603JR-071KL	Yageo	RES, 1.0 k, 5%, 0.1 W, 0603	0603
R90	1	56k	RC0603JR-0756KL	Yageo	RES, 56 k, 5%, 0.1 W, 0603	0603
R91	1	66.5k	RC0603FR-0766K5L	Yageo	RES, 66.5 k, 1%, 0.1 W, 0603	0603
R92, R95	2	1.00k	RC0603FR-071KL	Yageo	RES, 1.00 k, 1%, 0.1 W, 0603	0603
R93	1	150	CRCW0805150RFKEA	Vishay-Dale	RES, 150, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R97	1	330	CRCW0805330RFKEAC	Vishay-Dale	RES, 330, 1%, 0.125 W, 0805	0805
R99, R175, R178, R179, R180, R184, R187, R189, R190	9			Yageo	RC0402JR-100RL	
R125, R206, R209	3	0	RCS06030000Z0EA	Vishay-Dale	RES, 0, 0%, 0.25 W, AEC-Q200 Grade 0, 0603	0603
R126, R210, R218	3	10k	RC0603JR-0710KL	Yageo	RES, 10 k, 5%, 0.1 W, 0603	0603

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R127, R130, R131, R134, R157	5			Vishay	CRCW0201100KFNE D	
R129	1				Automotive Metal Thin Film Chip Resistor, 0402, 56kΩ, 0.1%, 25ppm/°C, 0.0625W, 75V	
R133	1			Vishay Dale	CRCW020110K0FKED	
R135, R139, R141, R145, R148	5			TE Connectivity / AMP		
R136	1			Vishay Dale	CRCW02011K30FNE D	
R137, R138, R147, R151, R152, R154	6			Vishay Dale	CRCW02011K00FKED	
R140, R142, R146	3			Vishay Dale	CRCW0201750RFKED	
R143	1	1.0k	ERJ-1TYJ102U	Panasonic	RES, 1.0 k, 5%, 1 W, 2512	2512
R144	1				RESISTOR 0402 JUMPER ZERO OHM	
R153	1				RES Thick Film, 3Ω, 5%, 0.25W, 200ppm/°C, 1206	
R155	1			Vishay Dale	CRCW0201499KFNE D	
R156	1			Vishay Dale	CRCW02011M00FKED	
R188	1				RES SMD 1K OHM 0.1% 1/10W 0603	
R192, R193, R195, R196, R200, R201, R203, R204	8	30k	CRCW120630K0JNEA	Vishay-Dale	RES, 30 k, 5%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
R194, R198, R202, R207	4	560	RC0603JR-07560RL	Yageo	RES, 560, 5%, 0.1 W, 0603	0603
R197, R199, R205, R208	4	15k	CRCW060315K0JNEA	Vishay-Dale	RES, 15 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R201_P	1	2.70k	RC0603FR-072K7L	Yageo	RES, 2.70 k, 1%, 0.1 W, 0603	0603
R202_P	1	0.47	ERJ-3RQFR47V	Panasonic	RES, 0.47, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R211, R212, R213, R214, R215, R217	6	620	RC0603FR-07620RL	Yageo	RES, 620, 1%, 0.1 W, 0603	0603
R216, R219, R220, R221, R222	5	20.0k	ERJ-3EKF2002V	Panasonic	RES, 20.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R800, R801, R802, R803	4	0	RC0805FR-070RL	Yageo	RES SMD 0 OHM JUMPER 1/8W 0805	0805
RT1_P, RT2_P, RT3_P	3	4.7	B57153S0479M051	TDK	Thermistor NTC, 4.70 ohm, 20%, 8.5mm Disc	8.5mm Disc
T1_P	1	700μH	750320029	Würth	Transformer, Flyback, 30W, THT	PTH14_32MM25_27 MM05
TP1_P, TP2_P, TP3_P, TP5_P	4		5012	Keystone Electronics	Test Point, Multipurpose, White, TH	White Multipurpose Testpoint
TP4_P, TP14_P, TP16_P, TP19_P	4		5010	Keystone Electronics	Test Point, Multipurpose, Red, TH	Red Multipurpose Testpoint
TP6_P, TP11_P	2		5000	Keystone Electronics	Test Point, Miniature, Red, TH	Red Miniature Testpoint
TP7_P	1		5011	Keystone Electronics	Test Point, Multipurpose, Black, TH	Black Multipurpose Testpoint

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
TP8_P, TP24, TP25, TP26, TP27, TP28	6		5003	Keystone Electronics, Keyston	Test Point, Miniature, Orange, TH	Orange Miniature Testpoint
TP9_P, TP12_P	2		5001	Keystone Electronics	Test Point, Miniature, Black, TH	Black Miniature Testpoint
U1_P	1	UCC24612- 1DBVR	UCC24612-1DBVR	Texas Instruments	High-Frequency Multi-Mode Synchronous Rectifier Controller, DBV0005A (SOT-23-5)	DBV0005A
U2_P	1	FOD817A3 SD	FOD817A3SD	Fairchild Semiconductor	Optocoupler, 5 kV, 80-160% CTR, SMT	DIP-4L Gullwing
U3_P	1	UCC28742 DBVR	UCC28742DBVR	Texas Instruments	High-Efficiency Low-Cost Flyback Controller with Secondary-Side Regulation, DBV0006A (SOT-23-6)	DBV0006A
U4_P	1	TL431AIDB ZT	TL431AIDBZT	Texas Instruments	Adjustable Precision Shunt Regulator, 34 ppm / degC, 100 mA, -40 to 85 degC, 3-pin SOT-23 (DBZ), Green (RoHS & no Sb/Br)	DBZ0003A
U5_P	1		TL7705AIDR	Texas Instruments	Single Supply Voltage Supervisor for 5 V Systems with Programmable Time Delay, 1 Supply Monitored, -40 to 85 degC, 8-pin SOIC (D), Green (RoHS & no Sb/Br)	D0008A
U6_P	1	ATL431AQ DBZR	ATL431AQDBZR	Texas Instruments	2.5V Low Iq Adjustable Precision Shunt Regulator, DBZ0003A (SOT-23-3)	DBZ0003A
U7_P	1	TPS65130R GER	TPS65130RGER	Texas Instruments	Postive and Negative Output DC-DC Converter, 2.7 to 5.5 V, -40 to 85 degC, 24-pin QFN (RGE24), Green (RoHS & no Sb/Br)	RGE0024B
U8_P	1	TPS7A3901 DSCR	TPS7A3901DSCR	Texas Instruments	Dual, 150mA, Wide-Vin, Positive and Negative Low-Dropout (LDO) Voltage Regulator, DSC0010J (WSON-10)	DSC0010J
U9_P, U13_P	2	TPS563210 ADDFR	TPS563210ADDFR	Texas Instruments	17V Input, 3A Synchronous Step-Down Regulator in SOT-23 w/ Advanced Eco-mode™, PG, Soft Start, DDF0008A (SOT-23-THN-8)	DDF0008A
U10_P	1	TPS259470 ARPWR	TPS259470ARPWR	Texas Instruments	2.7 - 23 V, 5.5 A, 28 mΩ True Reverse Current Blocking eFuse with Input Reverse Polarity Protection	VQFN-HR10
U11_P	1		TPS76318DBVR	Texas Instruments	Single Output LDO, 150 mA, Fixed 1.8 V Output, 2.7 to 10 V Input, with Low IQ, 5-pin SOT-23 (DBV), -40 to 125 degC, Green (RoHS & no Sb/Br)	DBV0005A
U12_P	1		TPS55330RTER	Texas Instruments	Integrated 5-A 24-V Wide Input Range Boost/SEPIC/Flyback DC-DC Regulator, RTE0016C (WQFN-16)	RTE0016C
U14	1		FOD817AS	Fairchild Semiconductor	Optocoupler, 5 kV, 80-160% CTR, SMT	DIP-4L Gullwing
U18	1		TLV1805DBVR	Texas Instruments	40 V, microPower, Push-Pull Comparator with Shutdown, DBV0006A (SOT-23-6)	DBV0006A
U19	1		ADC122S051QIMMX/NOPB	Texas Instruments	2 Channel, 200 ksp/s to 500 ksp/s 12-Bit A/D Converter, DGK0008A (VSSOP-8)	DGK0008A
U20	1		DRV8220DSG	Texas Instruments	1.6A H-bridge motor driver, PWM, PH/EN, ½ bridge control, with low power sleep mode	WSON8
U21, U22	2				IC OPAMP GP 1 CIRCUIT SOT23-5	
U23, U24	2		OPA189IDBVR	Texas Instruments	14MHz, MUX-friendly, low-noise, zero-drift, RRO, CMOS precision operational amplifier, DBV0005A (SOT-23-5)	DBV0005A
U26	1		DRV8220DSG	Texas Instruments	Low-Voltage H-Bridge Driver	WSON8
U27	1			Texas Instruments	IC FF D-TYPE SNGL 1BIT US8	
U28	1		INA293A1IDBVR	Texas Instruments	INA293 High-Voltage, High Bandwidth, Unidirectional, 110-V Common-Mode, Current-Sense Amplifier, DBV0005A (SOT-23-5)	DBV0005A
U29, U30	2		TLV7011DCKR	Texas Instruments	Low power, small size comparator with push-pull output, DCK0005A (SOT-SC70-5)	DCK0005A
U32	1		MSP430F5131IRSBT	Texas Instruments	MSP430F51x2 Mixed Signal Microcontroller, RSB0040B (WQFN-40)	RSB0040B
U33, U34	2		ISO1212DBQR	Texas Instruments	ISO1212DBQR, DBQ00016A, DBQ0016A (SSOP-16)	DBQ0016A
U35	1		DRV8220DRL	Texas Instruments	18V, 1A H-bridge motor driver, PWM, PH/EN, ½ bridge control, with low power sleep mode	SOT563
U36	1		SN74AUP1G08DBVT	Texas Instruments	Low-Power Single 2-Input Positive-AND Gate, DBV0005A (SOT-23-5)	DBV0005A
Y1	1				CRYSTAL 32.7680KHZ 12.5PF SMD	

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
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