

## PROC176 REV A Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
IPCB	1		PROC176	Any	Printed Circuit Board	
C1, C64, C103	3	22uF	CGA5L1X7R0J226M160AC	TDK	CAP, CERM, 22 uF, 6.3 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
C2, C37, C38, C40, C41, C43, C94, C95, C99, C106, C113, C116, C125, C126, C139, C146	16	0.1uF	C0402C104K8RACTU	Kemet	CAP, CERM, 0.1 uF, 10 V,+/- 10%, X7R, 0402	402
C3, C18, C22, C78	4		GRT155R70J105KE01D	Murata	1uF ±10% 6.3V Ceramic Capacitor X7R 0402 (1005 Metric)	402
C4, C5, C7, C8, C10, C11, C12, C14, C16, C19, C21, C25, C26, C28, C29, C85, C101, C150, C151	19	0.22uF	GCM155R71C224KE02D	MuRata	CAP, CERM, 0.22 uF, 16 V,+/- 10%, X7R, AEC-Q200 Grade 1, 0402	402
C6	1	0.047uF	CGA2B3X7R1H473K050BB	TDK	CAP, CERM, 0.047 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	402
C9, C17, C20	3	2.2uF	GRT155C71A225KE13D	Murata	Multi-Layer Ceramic Capacitor 2.2uF 10V X7S ±10% 0402 Paper T/R	402
C13, C15, C23, C44	4		GCM188D70J106ME36D	Murata	Chip Multilayer Ceramic Capacitors for Automotive	603
C24, C27	2	4.7uF	GCJ21BR71C475KA01L	Murata	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0805 4.7uF 10%, 16VDC, X7R 15%	805
C30, C45, C88, C90, C102, C115, C118	7	0.01uF	GCM155R71E103KA37D	MuRata	CAP, CERM, 0.01 uF, 25 V, +/- 10%, X7R, 0402	402
C31	1	0.1uF	GRM033C71A104KE14D	MuRata	CAP, CERM, 0.1 uF, 10 V,+/- 10%, X7S, 0201	201
C32, C33	2	4.7pF	GJM1555C1H4R7BB01D	MuRata	CAP, CERM, 4.7 pF, 50 V, +/- 2%, C0G/NPO, 0402	402
C34, C36, C53, C57, C58, C59, C65, C75, C89, C91, C123, C133, C134, C138	14	0.1uF	GCM155R71H104KE02D	MuRata	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	402
C35	1	1uF	GCM188R71C105KA64D	MuRata	CAP, CERM, 1 uF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	603
C39, C140	2	4700pF	GCM155R71H472KA37D	MuRata	CAP, CERM, 4700 pF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	402
C42, C105, C124	3	2.2uF	C1005X7S1A225K050BC	TDK	CAP, CERM, 2.2 uF, 10 V, +/- 10%, X7S, 0402	402
C46, C47	2	10uF	GRM155R61A106ME11	MuRata	CAP, CERM, 10 uF, 10 V, +/- 20%, X5R, 0402	402
C48, C63	2	33uF	TPSD336M020R0200	AVX	CAP, TA, 33 uF, 20 V, +/- 20%, 0.2 ohm, SMD	7343-31
C49, C50, C52	3		GRM033R6YA104KE14D	Murata Electronics North Ame	Cap Ceramic 0.1uF 35V X5R 10% Pad SMD 0201 85C T/R	0201 (0603 Metric)
C51, C93, C108, C114, C127, C136, C137, C145	8	1uF	GRT155C81A105KE01D	TDK	CAP, CERM, 1 uF, 10 V, +/- 10%, X6S, 0402	402
C54, C61, C79	3	22uF	GRM31CR70J226ME19K	Murata	Chip Multilayer Ceramic Capacitors for General Purpose, 1206, 22uF, X7R, 15%, 20%, 6.3V	1206
C55	1	47uF	GRM31CR61A476KE15L	MuRata	CAP, CERM, 47 uF, 10 V, +/- 10%, X5R, 1206	1206

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C56, C62, C70, C71, C72, C119, C120, C128, C129, C135, C144	11	10uF	GRM188Z71A106MA73D	MuRata	CAP, CERM, 10 uF, 10 V, +/- 20%, X7R, 0603	603
C60, C66, C73	3	0.47uF	GRM188R71C474KA88D	MuRata	CAP, CERM, 0.47 uF, 16 V, +/- 10%, X7R, 0603	603
C67, C69, C74	3	470pF	GRM1555C1H471JA01D	MuRata	CAP, CERM, 470 pF, 50 V, +/- 5%, C0G/NP0, 0402	402
C68	1	47uF	GRM31CR60J476ME19L	MuRata	CAP, CERM, 47 uF, 6.3 V, +/- 20%, X5R, 1206	1206
C76, C77, C84, C92	4	0.47uF	GCM155C71A474KE36D	MuRata	CAP, CERM, 0.47 uF, 10 V, +/- 10%, X7S, 0402	402
C80, C81, C82, C83, C104, C111	6	22µF	CGA4J1X7T0J226M125AC	TDK	22µF ±20% 6.3V Ceramic Capacitor X7T 0805 (2012 Metric)	805
C86, C96	2	10uF	GRT188R61A106KE13D	MuRata	CAP, CERM, 10 uF, 10 V, +/- 10%, X5R, 0603	603
C97, C98	2	8pF	CC0402DRNPO9BN8R0	Yageo	CAP, CERM, 8 pF, 50 V, +/- 6.25%, C0G/NP0, 0402	402
C100	1	10pF	CGA2B2C0G1H100D050BA	TDK	CAP, CERM, 10 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0402	402
C109, C110, C112	3	10uF	GCM21BR71A106KE22L	MuRata	CAP, CERM, 10 uF, 10 V, +/- 10%, X7R, 0805	805
C117	1	15pF	04025A150FAT2A	AVX	CAP, CERM, 15 pF, 50 V, +/- 1%, C0G/NP0, 0402	402
C132	1	220pF	8.85012E+11	Wurth Elektronik	CAP, CERM, 220 pF, 50 V, +/- 5%, C0G/NP0, 0402	402
C141, C142	2	8.2pF	0402N8R2C500CT	Walsin	CAP, CERM, 8.2 pF, 50 V, +/- 3%, C0G/NP0, 0402	402
C143	1	0.33uF	C0603C334K4RACTU	Kemet	CAP, CERM, 0.33 uF, 16 V, +/- 10%, X7R, 0603	603
C148	1	0.22uF	CGA3E3X7R1H224K080AB	TDK	CAP, CERM, 0.22 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	603
C149	1	100pF	04025A101FAT2A	AVX	CAP, CERM, 100 pF, 50 V, +/- 1%, C0G/NP0, 0402	402
C153, C155	2	10uF	CL21B106KOQNNNE	Samsung Electro-Mechanics	CAP, CERM, 10 uF, 16 V, +/- 10%, X7R, 0805	805
C154	1	22uF	GRM219R61C226ME15L	MuRata	CAP, CERM, 22 uF, 16 V, +/- 20%, X5R, 0805	805
D1, D2, D8	3	30V	PMEG3020EP,115	Nexperia	Diode, Schottky, 30 V, 2 A, AEC-Q101, SOD-128	SOD-128
D3	1	Yellow	TLMY1000-GS08	Vishay-Semiconductor	LED, Yellow, SMD	1.6x0.8mm
D4	1	12.8V	SM6T15A	STMicroelectronics	Diode, TVS, Uni, 12.8 V, 21.2 Vc, AEC-Q101, SMB	SMB
D5, D6, D7	3	Green	APHHS1005CGCK	Kingbright	LED, Green, SMD	402
D9	1	Red	APHHS1005SURCK	Kingbright	LED, Red, SMD	402
F1	1		0440005.WR	Littelfuse	Fuse, 5 A, 32VAC/VDC, SMD	1206
FB1	1	30 ohm	BLM21PG300SH1D	MuRata	Ferrite Bead, 30 ohm @ 100 MHz, 4 A, 0805	805
J1	1		61300311021	Wurth Elektronik	Header, 2.54 mm, 3x1, Gold, R/A, TH	Header, 2.54 mm, 3x1, R/A, TH
J2	1		PBC07SAAN	Sullins Connector Solutions	Header, 2.54 mm, 7x1, Gold, TH	Header, 2.54 mm, 7x1, TH
J3	1		M50-3930342	Harwin	CONN HEADER R/A 3POS 1.27MM	HDR3
J4, J10	2		M50-3930442	Harwin Inc.	CONN HDR 1.27MM R/A AU 4POS	HDR4
J5	1		105017-0001	Molex	Connector, Receptacle, Micro-USB Type B, R/A, Bottom Mount SMT	Micro USB receptacle
J6	1		QSH-030-01-L-D-A	Samtec	Receptacle, 0.5 mm, 30x2, Gold, TH	Receptacle, 0.5 mm, 30x2, TH
J7	1		PJ-002AH	CUI Inc.	DC POWER JACK, R/A, TH	DC POWER JACK, R/A, TH
J8, J9	2		SSM-110-S-DV	Samtec	Receptacle, 2.54mm, 10x2, Gold with Tin tail, SMT	Receptacle, 2.54mm, 10x2, SMT
L1, L4, L5, L6	4	0.1uH	LQM2MPZR10MJHL	Murata	100nH Shielded Multilayer Inductor 4A 19mOhm Max 0806 (2016 Metric)	0806 (2016)
L2	1	2.2uH	XEL4030-222MEC	Coilcraft	Inductor, Shielded, Composite, 2.2 uH, 6.1 A, 0.0201 ohm, AEC-Q200 Grade 1, SMD	4x4mm
L9, L11	2		BLM15PD300SZ1D	MuRata	Inductor, Ferrite Bead, Ferrite, 2.2 A, 0.035 ohm, AEC-Q200 Grade 1, SMD	402
L13, L14, L15	3	0.47uH	DFE201210U-R47M=P2	Murata	470nH Shielded Wirewound Inductor 3A 42mOhm Max 0805 (2012 Metric)	0805 (2012)

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
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
Q1, Q2, Q3, Q4	4	100V	BSS123W-7-F	Diodes Inc.	MOSFET, N-CH, 100 V, 0.17 A, SOT-323	SOT-323
R1, R9, R31, R129, R130	5	0	MCT06030Z0000ZP500	Vishay/Beyschlag	RES, 0, 5%, 0.125 W, 0603	603
R3, R18, R19, R78, R80, R88, R156, R170, R181, R184, R185, R187, R188, R189, R209, R210, R211, R212, R216, R241	20	0	ERJ-2GE0R00X	Panasonic	RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0402	402
R4, R5, R7, R8, R17, R20, R22, R23, R27, R44, R49, R54, R67, R71, R72, R75, R76, R81, R82, R90, R91, R94, R101, R102, R103, R104, R105, R106, R112, R115, R117, R123, R131, R136, R138, R142, R148, R158, R162, R165, R203, R206, R231, R240, R243, R245, R253	47	10.0k	CRCW040210K0FKED	Vishay-Dale	RES, 10.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R6, R33, R254	3	4.7k	CRCW04024K70JNED	Vishay-Dale	RES, 4.7 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R10	1	49.9k	CRCW040249K9FKED	Vishay-Dale	RES, 49.9 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R11, R73, R74, R95, R96, R99, R242	7	100k	CRCW0402100KFKED	Vishay-Dale	RES, 100 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R12	1	30.0k	CRCW040230K0FKED	Vishay-Dale	RES, 30.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R13, R16	2	750	CRCW0402750RFBED	Vishay-Dale	RES, 750, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R21, R70, R86, R89, R191, R194, R195, R196, R233	9	1.00k	CRCW04021K00FKED	Vishay-Dale	RES, 1.00 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	402

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R25, R29, R34, R35, R36, R37, R38, R39, R40, R41, R42, R52, R53, R55, R56, R58, R61, R62, R63, R69, R83, R100, R108, R109, R110, R111, R133, R137, R139, R140, R143, R144, R145, R146, R149, R153, R154, R155, R159, R160, R163, R164, R190, R219, R220, R221, R222, R223, R224, R225, R226, R227, R228, R229, R230	55	0	CRCW02010000Z0ED	Vishay-Dale	RES, 0, 5%, 0.05 W, 0201	201
R28, R66, R141, R171, R174	5	510	RC0201JR-07510RL	Yageo America	RES, 510, 5%, 0.05 W, 0201	201
R43, R178, R180	3	18.0k	CRCW040218K0FKED	Vishay-Dale	RES, 18.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R45, R46, R47, R48, R51, R93, R122, R124, R125, R126	10	33.2	CRCW020133R2FNED	Vishay-Dale	RES, 33.2, 1%, 0.05 W, 0201	201
R50	1	47.5k	AC0402FR-0747K5L	Yageo	Res Thick Film 0402 47.5K Ohm 1% 1/16W ±100ppm/°C Molded SMD Paper T/R	402
R64, R213	2	220	RC0201JR-07220RL	Yageo America	RES, 220, 5%, 0.05 W, 0201	201
R68, R79, R167, R168	4	61.9	CRCW040261R9FKED	Vishay-Dale	RES, 61.9, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R92, R182, R183	3	0	HCJ0603ZT0R00	Stackpole Electronics	RES 0 OHM JUMPER 1/4W 0603	603
R119, R121	2	68k	RMCF0402FT68K0	Stackpole Electronics	68kΩ ±1% 0.063W 0402 Thick Film Chip Resistor AEC-Q200 compliant	402
R120, R201, R215	3	100k	CRCW0201100KFKED	Vishay-Dale	RES, 100 k, 1%, 0.05 W, 0201	201
R134	1	20m	WSL1206R0200FEB	Vishay Dale	Res Metal Strip 1206 0.02 Ohm 1% 1/4W ±75ppm/°C Molded SMD SMD T/R	1206
R151	1	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R169	1	100	ERJ-2GEJ101X	Panasonic	RES, 100, 5%, 0.1 W, AEC-Q200 Grade 0, 0402	402
R172, R179	2	510	ERJ-2GEJ511X	Panasonic	RES, 510, 5%, 0.1 W, AEC-Q200 Grade 0, 0402	402
R173, R198, R214	3		RC0201JR-070RL	Yageo	RES SMD 0 OHM JUMPER 1/20W 0201	0201 (0603 Metric)
R175, R177, R232, R238, R244	5	100k	CRCW0402100KFKEDC	Vishay	100 kOhms ±1% 0.063W, 1/16W Chip Resistor 0402 (1005 Metric) Thick Film	402
R192, R193, R200	3	40m	WSL1206R0400FEB	Vishay	40 mOhms ±1% 0.25W, 1/4W Chip Resistor Automotive AEC-Q200, Current Sense, Moisture Resistant, Pulse Withstanding Metal Element	1206
R202	1	49.9	CRCW040249R9FKED	Vishay-Dale	RES, 49.9, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	402

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R204, R207	2	7.87k	CRCW04027K87FKED	Vishay-Dale	RES, 7.87 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R205, R208	2	82.5k	CRCW040282K5FKED	Vishay-Dale	RES, 82.5 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R234	1	4.87k	CRCW04024K87FKED	Vishay-Dale	RES, 4.87 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R236, R239	2	330k	CRCW0402330KFKED	Vishay-Dale	RES, 330 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R237	1	7.50k	CRCW04027K50FKED	Vishay-Dale	RES, 7.50 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R247	1	33k	CRCW040233K0JNED	Vishay-Dale	RES, 33 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R248	1	3.00k	CRCW04023K00FKED	Vishay-Dale	RES, 3.00 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	402
S1	1		218-6LPST	CTS Electrocomponents	Switch, SPST, Slide, Off-On, 6 Pos, 0.025A, 24V, SMD	5.8x8.79mm
S2, S3, S6	3		KMR243GLFG	C&K Components	Switch, SPST-NO, Off-Mom, 0.01 A, 32 VDC, SMD	4.2x2.8mm
S4	1		218-4LPST	CTS Electrocomponents	Switch, Slide, SPST 4 poles, SMT	SW, SMT Half Pitch 4SPST, 5.8x2.7x6.25 mm
S5	1		218-2LPST	CTS Electrocomponents	Switch, SPST, 2 Pos, 25mA, 24VDC, SMD	3.71x5.8mm
U1	1		AWRL1432BGAMFQ1	Texas Instruments	AWRL1432BGAMFQ1	FCCSP102
U2	1		MX25V1635FZNQ03	Macronix	NOR Flash 16Mbit 16M x 1/8M x 2/4M x 4 Serial-SPI 3.3V 8-Pin WSON	WSON8
U3	1		TMP112AQDRLRQ1	Texas Instruments	Automotive Grade, 1.4V-Capable +/-0.5degC Temperature Sensor with Alert Function and I2C/SMBus, DRL0006A (SOT-OTHER-6)	DRL0006A
U4, U24, U28	3		TS3A5018RSVR	Texas Instruments	10-Ohm Quad SPDT Analog Switch, RSV0016A (UQFN-16)	RSV0016A
U5	1		TCAN1042HGVDQ1	Texas Instruments	Automotive Fault Protected CAN Transceiver With Flexible Data-Rate, D0008A (SOIC-8)	D0008A
U6, U7, U8, U25	4		INA228AIDGST	Texas Instruments	Current Sense Amplifier 1 Circuit 10-VSSOP	VSSOP10
U9	1		TPD4E004DRYR	Texas Instruments	4-Channel ESD Protection Array for High-Speed Data Interfaces, DRY0006A (USON-6)	DRY0006A
U10, U14	2		SN65LVDS31MDREP	Texas Instruments	400 Mbps Enhanced Product Quad LVDS Transmitter with LVTTTL Input and Output, 4 Tx and 0 Rx, -55 to +125 degC, 16-pin SOIC (D), Green (RoHS & no Sb/Br)	D0016A
U11	1		CAT24C08WI-GT3	ON Semiconductor	IC, EEPROM, 8KBIT, 400KHZ, 8SOIC	SOIC-8
U12	1		TS3A44159PWR	Texas Instruments	0.45-Ohm Quad SPDT Analog Switch Quad-Channel 2:1 Multiplexer/Demultiplexer with Two Controls, PW0016A (TSSOP-16)	PW0016A
U13	1		TPS79601DRBR	Texas Instruments	Single Output High PSRR LDO, 1 A, Adjustable 1.2 to 5.5 V Output, 2.7 to 5.5 V Input, 8-pin SON (DRB), -40 to 125 degC, Green (RoHS & no Sb/Br)	DRB0008B
U15	1		TS3A27518EPWR	Texas Instruments	3.3-V, 2:1 (SPDT), 6-channel analog multiplexer with 1.8-V compatible control inputs 24-TSSOP -40 to 85	TSSOP24
U16	1		TPS2116DRLR	Texas Instruments	1.6 V to 5 V, 2.5-A Low IQ Power Mux With Manual and Automatic Switchover	FCSOT8
U17	1		SN74LVC1G11DSFR	Texas Instruments	Single 3-Input Positive-AND Gate, DSF0006A, LARGE T&R	DSF0006A
U18	1		TPS6285021HQDRLRQ1	Texas Instruments	2.7-V to 6-V, 2-A Automotive Step-Down Converter in SOT583 Package	SOT583
U19	1		TPS628502QDRLRQ1	Texas Instruments	2.7-V to 6-V Adjustable-Frequency Step-Down Converter in SOT583 Package	FCSOT8
U20	1		TPS6285020MQDRLRQ1	Texas Instruments	2.7-V to 6-V Adjustable-Frequency Step-Down Converter in SOT583 Package	FCSOT8
U21	1		TM4C1294NCPDTT3	Texas Instruments	Tiva C Series Microcontroller, 1024 KB Flash, 256 KB SRAM, 12 Bit, 20 Channels, -40 to 105 degC, 128-Pin TQFP (PDT), Green (RoHS & no Sb/Br), Tray	PDT0128A
U22	1		LM4040C25QDBZR	Texas Instruments	Precision Micropower Shunt Voltage Reference, 0.5% accuracy, 2.5 V, 15 ppm / degC, 15 mA, -40 to 125 degC, 3-pin SOT-23 (DBZ), Green (RoHS & no Sb/Br)	DBZ0003A
U23	1		TLIN1039DDFRQ1	Texas Instruments	Local Interconnect Network (LIN) Transceiver with Dominant State Timeout	SOT23-8
U26	1		TCAN4550RGYRQ1	Texas Instruments	CAN-FD Controller with Integrated Transceiver, RGY0020A (VQFN-20)	RGY0020A
U27	1		LM63635DQDRRRQ1	Texas Instruments	Buck Switching Regulator IC Positive Adjustable 1V 1 Output 3.25A 12-WFDFN Exposed Pad	WSON12

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
Y1	1		FW4000044Q	Diodes	40MHz ±10ppm Crystal 8pF 50 Ohms 4-SMD, No Lead	4-SMD-2.0x1.6mm
Y2	1		ECS-160-8-33Q-RES-TR	ECS	16 MHz ±15ppm Crystal 8pF 80 Ohms 4-SMD, No Lead	SMT4_3MM2_2MM5
Y3	1		NX2016SA-40M-STD-CZS-3	NDK	Crystal, 40 MHz, 10 ppm, 8 pF, AEC-Q200 Grade 0, SMD	2.0x0.45x1.6mm
C87, C107, C121, C122, C130, C131	0	22µF	GRM31CR70J226ME19K	Murata	Chip Multilayer Ceramic Capacitors for General Purpose, 1206, 22uF, X7R, 15%, 20%, 6.3V	1206
FB2	0	30 ohm	BLM21PG300SH1D	MuRata	Ferrite Bead, 30 ohm @ 100 MHz, 4 A, 0805	805
FID1, FID2, FID3, FID4, FID6	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A
R2, R14, R65, R97, R98, R107, R113, R114, R116, R135, R150, R152, R157, R161, R235, R249, R250, R251, R252	0	10.0k	CRCW040210K0FKED	Vishay-Dale	RES, 10.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R15, R24, R26, R127, R128, R186, R197, R199, R217, R246	0	0	ERJ-2GE0R00X	Panasonic	RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0402	402
R30, R32, R87, R132	0	0	MCT06030Z0000ZP500	Vishay/Beyschlag	RES, 0, 5%, 0.125 W, 0603	603
R57	0	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R59, R60, R77, R84, R85, R118, R147, R166	0	0	CRCW02010000Z0ED	Vishay-Dale	RES, 0, 5%, 0.05 W, 0201	201
R176	0		RC0201JR-070RL	Yageo	RES SMD 0 OHM JUMPER 1/20W 0201	0201 (0603 Metric)
TP10	0		5001	Keystone Electronics	Test Point, Miniature, Black, TH	Black Miniature Testpoint

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