

MMWCAS-DSP-EVM

Designator	Quantity	Value	Description	PackageReference	PartNumber	Manufacturer	Alternate PartNumber	Alternate Manufacturer
!PCB1	1		Printed Circuit Board		PROC055	Any		
C1, C2, C137, C624, C625	5	47uF	CAP, CERM, 47 uF, 10 V, +/- 10%, X7R, 1210	1210	GRM32ER71A476KE15L	MuRata		
C3, C6, C9, C12, C15, C18, C21, C28, C31, C34, C35, C38, C41, C44, C47, C50, C53, C56, C63, C66, C69, C70, C73, C76, C79, C82, C85, C88, C91, C94, C97, C100, C101, C104, C107, C110, C113, C116, C119, C122, C125, C128, C131, C132, C143, C248, C253, C364	197	0.1uF	CAP, CERM, 0.1 uF, 6.3 V, +/- 10%, X7R, 0402	0402	GRM155R70J104KA01D	MuRata		
C4, C7, C10, C13, C16, C19, C22, C29, C32, C36, C39, C42, C45, C48, C51, C54, C57, C64, C67, C71, C74, C77, C80, C83, C86, C89, C92, C95, C98, C102, C105, C108, C111, C114, C117, C120, C123, C126, C129, C133, C369, C375, C382, C390, C393, C400, C403	49	0.01uF	CAP, CERM, 0.01 uF, 25 V, +/- 10%, X7R, 0402	0402	GCM155R71E103KA37D	MuRata		
C5, C8, C11, C14, C17, C20, C23, C40, C43, C46, C49, C52, C55, C58, C75, C78, C81, C84, C87, C90, C93, C106, C109, C112, C115, C118, C121, C124	28	1000pF	CAP, CERM, 1000 pF, 16 V, +/- 10%, X7R, 0201	0201	GRM033R71C102KA01D	MuRata		
C24, C25, C26, C59, C60, C61, C426, C432, C439, C450, C471, C501, C502, C504, C505	15	4.7uF	CAP, CERM, 4.7 uF, 10 V, +/- 20%, X7R, 0603	0603	GRM188Z71A475ME15D	MuRata		

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C27, C62, C152, C154, C156, C158, C198, C202, C203, C204, C205, C206, C207, C208, C209, C210, C211, C212, C213, C214, C215	21	2.2uF	CAP, CERM, 2.2 uF, 16 V, +/- 10%, X5R, 0402	0402	GRM155R61C225KE11D	MuRata		
C30, C33, C37, C65, C68, C72, C96, C99, C103, C127, C130, C134, C142, C148, C351, C352, C353, C354, C357, C361, C362, C363, C370, C376, C383, C391, C392, C401, C402, C570, C571, C606, C610	33	1000pF	CAP, CERM, 1000 pF, 16 V,+/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402	AC0402KRX7R7BB102	Yageo		
C135	1		0.1µF ±10% 50V Ceramic Capacitor X8L 0603 (1608 Metric)	0603	GCM188L81H104KA57D	Murata Electronics North Ame		
C136, C141, C144, C145, C146, C150, C151, C153, C157, C266, C273, C280, C287, C294, C301, C319, C326, C333, C340, C349, C355, C359, C427, C522, C528, C534, C540, C545, C550, C559, C562, C575,	36	10uF	CAP, CERM, 10 uF, 10 V, +/- 20%, X7T, 0603	0603	GRM188D71A106MA73D	MuRata		
C138	1	4700pF	CAP, CERM, 4700 pF, 25 V,+/- 10%, X7R, 0402	0402	CC0402KRX7R8BB472	Yageo		
C139	1	12pF	CAP, CERM, 12 pF, 50 V, +/- 5%, COG/NP0, 0402	0402	CL05C120JB5NNNC	Samsung Electro-Mechanics		
C140	1	3300pF	CAP, CERM, 3300 pF, 50 V,+/- 10%, X7R, 0402	0402	CC0402KRX7R9BB332	Yageo		
C147, C149, C261, C262, C263, C264, C265, C315, C316, C317, C318	11	0.1uF	CAP, CERM, 0.1 uF, 10 V, +/- 10%, X7R, 0402	0402	CL05B104KP5NNNC	Samsung Electro-Mechanics		
C155, C159	2	560pF	CAP, CERM, 560 pF, 50 V,+/- 10%, X7R, 0402	0402	CL05B561KB5NNNC	Samsung Electro-Mechanics		
C160, C161, C469	3	0.1uF	CAP, CERM, 0.1 uF, 50 V,+/- 20%, X7R, 0402	0402	UMK105B7104MV-FR	Taiyo Yuden		
C162, C163, C468	3	1uF	CAP, CERM, 1 µF, 50 V,+/- 10%, X7R, AEC-Q200 Grade 1, 0805	0805	GCM21BR71H105KA03K	MuRata		
C164, C165, C466	3	10uF	CAP, CERM, 10 uF, 25 V, +/- 10%, X7S, 0805	0805	GRM21BC71E106KE11L	MuRata		
C166	1	0.22uF	CAP, CERM, 0.22 uF, 16 V, +/- 10%, X7R, 0805	0805	0805YC224KAT2A	AVX		
C167	1	2.2uF	CAP, CERM, 2.2 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206	GCM31CR71H225KA55L	MuRata		
C168, C170, C184	3	22uF	CAP, CERM, 22 uF, 25 V, +/- 10%, X7R, 1210	1210	GRM32ER71E226KE15L	MuRata		

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C169, C177	2	0.22uF	CAP, CERM, 0.22 uF, 16 V, +/- 10%, X7R, 0402	0402	CL05B224K05NNNC	Samsung Electro-Mechanics		
C171,	3	220uF	CAP, TA, 220 uF, 6.3 V, +/- 10%, 0.7 ohm, SMD	7343-31	T491D227K006AT	Kemet		
C172, C173								
C174, C200, C216, C217, C220, C222, C224, C226, C228, C230, C232, C583	12	4.7uF	CAP, CERM, 4.7 uF, 25 V, +/- 10%, X5R, 0603	0603	GRM188R61E475KE11D	MuRata		
C175, C180	2	0.01uF	CAP, CERM, 0.01 uF, 16 V, +/- 10%, X7R, 0402	0402	CC0402KRX7R7BB103	Yageo		
C176, C182	2	0.01uF	CAP, CERM, 0.01 uF, 50 V, +/- 10%, X7R, 0402	0402	CL05B103KB5NNNC	Samsung Electro-Mechanics		
C178, C193	2	100pF	CAP, CERM, 100 pF, 50 V, +/- 10%, X7R, 0402	0402	CC0402KRX7R9BB101	Yageo America		
C179	1		Cap Ceramic 56pF 50V COG 5% SMD 0402 125C Paper T/R	0402 (1005 Metric)	CL05C560JB5NNNC	Samsung		
C181	1	2700pF	CAP, CERM, 2700 pF, 50 V, +/- 10%, X7R, 0402	0402	CL05B272KB5NNNC	Samsung Electro-Mechanics		
C183	1	2200pF	CAP, CERM, 2200 pF, 16 V, +/- 10%, X7R, 0201	0201	GRM033R71C222KA88D	MuRata		
C185, C186, C187, C188, C189	5	100uF	CAP, TA, 100 uF, 16 V, +/- 20%, 0.1 ohm, SMD	7343-31	T495D107M016ATE100	Kemet		
C190, C247, C252, C350, C356, C360	6	0.01uF	CAP, CERM, 0.01 uF, 6.3 V, +/- 10%, X7R, 0402	0402	0402B103K6R3CT	Walsin		
C191, C192	2	0.033uF	CAP, CERM, 0.033 uF, 25 V, +/- 10%, X7R, 0402	0402	CC0402KRX7R8BB333	Yageo		
C194	1	22pF	CAP, CERM, 22 pF, 50 V, +/- 5%, COG/NP0, 0402	0402	CC0402JRNPO9BN220	Yageo		
C195	1	1000pF	CAP, CERM, 1000 pF, 50 V, +/- 10%, X7R, 0402	0402	CL05B102KB5NNNC	Samsung Electro-Mechanics		
C196, C197, C237, C238, C239, C240, C241, C242	8	18pF	CAP, CERM, 18 pF, 50 V, +/- 5%, COG/NP0, 0402	0402	CC0402JRNPO9BN180	Yageo		
C199, C201, C235, C236, C243, C244, C245, C249, C250, C358	10	0.1uF	CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, 0402	0402	CC0402KRX7R8BB104	Yageo		
C218, C219, C221, C223, C225, C227, C229, C231, C233	9	47uF	CAP, CERM, 47 uF, 6.3 V, +/- 10%, X7R, 1210	1210	C1210C476K9RAC7800	Kemet		
C234	1	220pF	CAP, CERM, 220 pF, 50 V, +/- 5%, COG/NP0, 0402	0402	885012005063	Wurth Elektronik		
C246, C251	2	1000pF	CAP, CERM, 1000 pF, 10 V, +/- 10%, X7R, 0402	0402	0402ZC102KAT2A	AVX		
C254, C255, C256, C257, C258, C259, C260, C267, C268, C269, C270, C271, C272, C274, C275, C276, C277, C278, C279, C281, C282, C283, C284, C285, C286, C288, C289, C290, C291, C292, C293, C295,	86	0.22uF	CAP, CERM, 0.22 uF, 10 V, +/- 10%, X7R, 0402	0402	GRM155R71A224KE01D	MuRata		
C347, C348	2	27pF	CAP, CERM, 27 pF, 25 V, +/- 5%, COG/NP0, 0402	0402	C0402C270J3GAC7867	Kemet		
C377, C378, C379, C380	4	0.1uF	CAP, CERM, 0.1 uF, 16 V, +/- 10%, X5R, 0201	0201	GRM033C71C104KE14D	MuRata		

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C388, C395, C398, C405, C423, C430, C448, C467, C473, C474, C491, C492, C507, C508, C509, C510, C511, C512, C513, C514, C515, C516, C517, C518, C519, C520, C521	27	1uF	CAP, CERM, 1 uF, 6.3 V,+/- 10%, X7R, 0402	0402	GRM155R70J105KA12D	MuRata		
C422, C429, C438, C447, C465	5	0.47uF	CAP, CERM, 0.47 uF, 6.3 V,+/- 10%, X7R, 0603	0603	0603B474K6R3CT	Walsin		
C425, C431, C449, C470	4	2.2uF	CAP, CERM, 2.2 uF, 10 V, +/- 10%, X7R, 0603	0603	GRM188R71A225KE15D	MuRata		
C462, C464	2	330pF	CAP, CERM, 330 pF, 50 V, +/- 10%, X7R, 0603	0603	C0603C331K5RACTU	Kemet		
C472, C503, C506	3	22uF	CAP, CERM, 22 uF, 10 V,+/- 20%, X6S, 0805	0805	C2012X6S1A226M125AC	TDK		
C564, C566	2	220pF	CAP, CERM, 220 pF, 50 V,+/- 10%, X7R, 0402	0402	CC0402KRX7R9BB221	Yageo		
C584, C605, C609	3	0.01uF	CAP, CERM, 0.01 uF, 25 V,+/- 10%, X7R, 0402	0402	CL05B103KA5NNNC	Samsung Electro-Mechanics		
C585	1	3.3uF	CAP, CERM, 3.3 uF, 16 V,+/- 10%, X7R, 0805	0805	C2012X7R1C335K125AB	TDK		
C597, C598	2	6.2pF	CAP, CERM, 6.2 pF, 50 V,+4.032/-4.032%, COG/NP0, 0402	0402	GJM1555C1H6R2CB01D	MuRata		
C602, C607, C617, C618	4	0.1uF	CAP, CERM, 0.1 uF, 10 V,+/- 10%, X7S, 0201	0201	GRM033C71A104KE14D	MuRata		
D1, D2	2	28V	Diode, TVS, Uni, 28 V, SMC	SMC	SMCJ28A	Fairchild Semiconductor		
D3, D4, D5, D6, D7, D9, D10, D11, D13, D14, D15, D16, D17, D18, D19, D20, D21, D22, D23, D24, D25, D26, D27	23	Green	LED, Green, SMD	1.6x0.8x0.8mm	LTST-C190GKT	Lite-On		
D8	1		0.5pF Diode Array for USB3.0, uDFN-14	uDFN-14	SP3012-06UTG	Littelfuse		
D12	1	Green	LED, Green, SMD	LED 0603	150060GS75000	Würth Elektronik		
F1	1		Fuse, 8 A, 32VAC/VDC, SMD	1206	0440008.WR	Littelfuse		
FL1, FL2, FL3, FL4, FL5, FL6, FL7	7	0.47uF	Chip EMIFIL Chip 3-Terminal Capacitor for Large Current for General	2x1.25mm	NFM21PC474R1C3D	MuRata		
H1, H2, H3, H4	4			HEX STANDOFF 6-32 ALUMINUM 1 inch	8418	Keystone		
H5, H6, H7, H8, H9	4		MACHINE SCREW PAN PHILLIPS 6-32		PMSSS 632 0038 PH	B&F Fastener Supply		
J1, J18	2		MACHINE SCREW PAN PHILLIPS M2		MPMS 002 0005 PH	B&F Fastener Supply		
J3, J5, J7, J9	4		Receptacle, 120 Pos Signal, 4 Pos Power, SMT	Receptacle, 120 Pos Signal, 4 Pos Power, SMT	FX23-120S-0.5SV10	Hirose Electric Co. Ltd.		
J10	1		Header (shrouded), 100mil, 5x2, High-Temperature, Gold, TH	5x2 Shrouded header	N2510-6002-RB	3M		
J11	1		DC POWER JACK, R/A, TH	DC POWER JACK, R/A, TH	PJ-082BH	CUI Inc.		
J12	1		Conn Term Block, 2POS, 3.81mm, TH	2POS Terminal Block	1727010	Phoenix Contact		
J13	1		Connector, RJ45 with integrated magnetics, R/A, TH	RJ-45 Jack	JK0-0229NL	Pulse Engineering		
J14	1		Receptacle, HDMI, 0.5mm, 19 Pos, R/A, Gold, SMT	Receptacle, HDMI, 0.5mm, 19 Pos, R/A, SMT	47151-0001	Molex		
J15	1		PCI Express M.2 connector, 0.5mm, M Key, Gold, R/A, SMD	Edgeboard, M Key, 0.5mm, SMD	SM3ZS067U410AMR1000	JAE Electronics		
J16	1		MicroSD Card Connector, 1.1mm Pitch, R/A, Tin, SMT	MicroSD Card Connector, 1.1mm Pitch, R/A, SMT	47352-1001	Molex		
J17	1		Connector, Receptacle, USB Mini B 2.0, SMT	Connector, Receptacle, USB Mini B 2.0, 5 Position, SMT	65100516121	Würth Elektronik		
J19	1		Connector, Receptacle, USB 3.1 Type A, R/A, TH	Connector, Receptacle, USB 3.1 Type A, R/A, TH	GSB4111312HR	Amphenol Canada		
J20	1		Receptacle, 0.5 mm, 30x2, Gold, TH	Receptacle, 0.5 mm, 30x2, TH	QSH-030-01-L-D-A	Samtec		
	1		Connector, Micro High Speed Socket Strip, 0.8mm, 25x2, R/A, SMT	Conn Micro High Speed Socket Strip SKT 50 POS 0.8mm, RA	ERF8-025-01-L-D-RA-L-TR	Samtec		

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L1, L2, L3, L4, L5, L6, L8, L9, L10, L11, L12, L13, L15, L16, L17, L18, L19, L20, L21, L22, L23, L24, L25, L26	24	120 ohm	Ferrite Bead, 120 ohm @ 100 MHz, 3 A, 0603	0603	BLM18SG121TN1D	MuRata		
L7, L14	2	2.2uH	Inductor, Shielded, Powdered Iron, 2.2 uH, 2.2 A, 0.042 ohm, SMD	4x1.8x4 mm	NRS4018T2R2MDGJ	Taiyo Yuden		
L27	1	1.2uH	Inductor, Shielded, 1.2 uH, 3.5 A, 0.056 ohm, AEC-Q200 Grade 0, SMD	4.45x4.06mm	SRP4012TA-1R2M	Bourns		
L28	1	2.2uH	Inductor, Shielded, Powdered Iron, 2.2 uH, 16 A, 0.008 ohm, SMD	SMD, 2-Leads, Body 14x12.8m	SRP1238A-2R2M	Bourns		
L29	1	3.3uH	Inductor Power Shielded Wirewound 3.3uH 20% 100KHz 20Q-Factor Carbonyl Powder 12A 13.5mOhm DCR Automotive T/R	SMT_IND_13MM5_1 2MM5	SRP1238A-3R3M	Bourns		
L30, L31, L32, L33, L34, L35, L36, L37, L38	9	1uH	Inductor, Wirewound, 1 uH, 4 A, 0.047 ohm, SMD	4.45x4.06mm	SRP4012TA-1R0M	Bourns		
L39, L40, L42	3		Coupled inductor, 1.4 ohm, SMD	2x1mm	DLP2ADA900HL4L	MuRata		
L41	1	220 ohm	Ferrite Bead, 220 ohm @ 100 MHz, 2 A, 0805	0805	BLM21PG221SN1D	MuRata		
MD1	1		MicroSDHC EVO Memory Card 16GB	CARD_MICRO_SD	MB-MP16DA/AM	Samsung		
MD2	1		970 PRO NVMe M.2 SSD	NVMe SSD_CARD	MZ-V7P512BW	Samsung		
MP1	1		WURTH ELEKTRONIK Spacer, SMT, Swage Round, Steel, 4.35x2.5mm	SPACER_SMT_M2	9774025243R	Würth Electronics Inc.		
MP2	1		Heat Sink Passive Pin Array Adhesive 26.4C/W Black Anodized	HEAT_SINK	BDN10-3CB/A01	CTS Components		
Q1, Q2, Q3, Q4, Q5	5	40V	MOSFET, N-CH, 40 V, 100 A, DQJ0008A (VSONP-8)	DQJ0008A	CSD18513Q5A	Texas Instruments		None
Q6	1	-30V	MOSFET, 2-CH, N/P-CH, -30 V, -0.2 A, AEC-Q101, SOT-363	SOT-363	NX3008CBKS,115	Nexperia		None
Q7, Q8, Q10, Q11, Q12, Q13, Q14, Q15, Q16, Q17, Q18, Q19, Q20	13	100V	MOSFET, N-CH, 100 V, 0.17 A, SOT-23	SOT-23	BSS123	Fairchild Semiconductor		None
Q9	1	50V	MOSFET, N-CH, 50 V, 0.22 A, SOT-23	SOT-23	BSS138	Fairchild Semiconductor		None
R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R13, R18, R19, R20, R21, R24, R29, R30, R33, R38, R39, R42, R47, R48, R50, R57, R59, R64, R69, R72, R74, R76, R78, R80, R82, R84, R85, R86, R89, R90, R91, R95, R100, R104, R105, R114, R115, R116, R125, R126, R127, R128, R129, R130, R131,	188	0	RES, 0, 5%, 0.063 W, 0402	0402	CRCW04020000Z0ED	Vishay-Dale		

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R11, R12, R14, R15, R16, R17, R22, R23, R25, R26, R27, R28, R31, R32, R34, R35, R36, R37, R40, R41, R43, R44, R45, R46, R49, R51, R56, R58, R60, R61, R62, R63, R67, R68, R102, R103, R106, R107, R108, R113, R123, R124, R135, R136, R137, R138, R141, R142, R148,	101	10k	RES, 10 k, 5%, 0.063 W, 0402	0402	CRCW040210K0JNED	Vishay-Dale		
R52	1	11k	RES, 11 k, 5%, 0.063 W, 0402	0402	CRCW040211K0JNED	Vishay-Dale		
R53	1	86.6k	RES, 86.6 k, 1%, 0.063 W, 0402	0402	CRCW040286K6FKED	Vishay-Dale		
R54	1	12k	RES, 12 k, 5%, 0.063 W, 0402	0402	CRCW040212K0JNED	Vishay-Dale		
R55, R81, R97	3	16k	RES, 16 k, 5%, 0.063 W, 0402	0402	CRCW040216K0JNED	Vishay-Dale		
R65	1	1.27k	RES, 1.27 k, 1%, 0.063 W, 0402	0402	CRCW04021K27FKED	Vishay-Dale		
R66	1	4.99k	RES, 4.99 k, 1%, 0.063 W, 0402	0402	CRCW04024K99FKED	Vishay-Dale		
R70	1	3.57k	RES, 3.57 k, 1%, 0.063 W, 0402	0402	CRCW04023K57FKED	Vishay-Dale		
R71	1	1.69k	RES, 1.69 k, 1%, 0.063 W, 0402	0402	CRCW04021K69FKED	Vishay-Dale		
R73	1	1.50k	RES, 1.50 k, 1%, 0.063 W, 0402	0402	CRCW04021K50FKED	Vishay-Dale		
R75, R523	2	0.005	RES, 0.005, 1%, 4 W, AEC-Q200 Grade 0, 2728	2728	CSSH2728FT5L00	Stackpole Electronics Inc		
R77, R93	2	49.9	RES, 49.9, 1%, 0.063 W, 0402	0402	CRCW040249R9FKED	Vishay-Dale		
R79	1	49.9k	RES, 49.9 k, 1%, 0.063 W, 0402	0402	CRCW040249K9FKED	Vishay-Dale		
R83	1	15.0k	RES, 15.0 k, 1%, 0.063 W, 0402	0402	CRCW040215K0FKED	Vishay-Dale		
R87, R94, R117, R118, R119, R120, R121, R122, R471	9	1.00k	RES, 1.00 k, 1%, 0.063 W, 0402	0402	CRCW04021K00FKED	Vishay-Dale		
R92, R396	2	100k	RES, 100 k, 5%, 0.063 W, 0402	0402	CRCW0402100KJNED	Vishay-Dale		
R96	1	84.5k	RES, 84.5 k, 1%, 0.063 W, 0402	0402	CRCW040284K5FKED	Vishay-Dale		
R98	1	39k	RES, 39 k, 5%, 0.063 W, 0402	0402	CRCW040239K0JNED	Vishay-Dale		
R101	1	100k	RES, 100 k, 0.5%, 0.063 W, 0402	0402	CRCW0402100KDHP	Vishay-Dale		
R109, R110	2	1.6k	RES, 1.6 k, 5%, 0.063 W, 0402	0402	CRCW04021K60JNED	Vishay-Dale		
R111, R112	2	2.00k	RES, 2.00 k, 1%, 0.063 W, 0402	0402	CRCW04022K00FKED	Vishay-Dale		
R150, R151, R152, R153, R154, R155, R156, R157, R158, R159, R160, R161, R162, R163, R164, R165, R166, R167, R168, R169, R170, R171, R172, R173, R174, R176, R178, R184, R185, R186, R187, R188,	54	36	RES, 36, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402	CRCW040236R0JNED	Vishay-Dale		

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R175, R179, R209, R214, R220, R221, R222, R223, R224, R504, R506, R508, R510, R511, R512	15	4.7k	RES, 4.7 k, 5%, 0.063 W, 0402	0402	CRCW04024K70JNED	Vishay-Dale		
R181, R182, R183, R215, R216	5	240	RES, 240, 5%, 0.063 W, 0402	0402	CRCW0402240RJNED	Vishay-Dale		
R219	1	11.0k	RES, 11.0 k, 1%, 0.063 W, 0402	0402	CRCW040211K0FKED	Vishay-Dale		
R226, R228	2	5.76k	RES, 5.76 k, 1%, 0.063 W, 0402	0402	CRCW04025K76FKED	Vishay-Dale		
R234, R236	2	2.49k	RES, 2.49 k, 1%, 0.063 W, 0402	0402	CRCW04022K49FKED	Vishay-Dale		
R242, R275, R276, R277, R278, R279, R280, R387, R388, R389, R391, R533, R537	13	10.0k	RES, 10.0 k, 0.5%, 0.063 W, 0402	0402	CRCW040210K0DHED P	Vishay-Dale		
R243, R244, R245, R378, R384, R385	6	220	RES, 220, 5%, 0.063 W, 0402	0402	CRCW0402220RJNED	Vishay-Dale		
R266, R267, R310, R311, R334, R335, R558, R559	8	2.20k	RES, 2.20 k, 1%, 0.063 W, 0402	0402	CRCW04022K20FKED	Vishay-Dale		
R268, R269, R270, R271, R272, R273	6	33	RES, 33, 5%, 0.063 W, 0402	0402	CRCW040233R0JNED	Vishay-Dale		
R281, R282, R283, R284, R285, R286, R412, R413, R414, R415, R416, R417, R418, R419, R420, R421, R422, R423, R424, R425, R426, R427, R428, R429, R430, R431, R432, R433, R434, R435, R436, R437,	35	10.0	RES, 10.0, 1%, 0.063 W, 0402	0402	CRCW040210R0FKED	Vishay-Dale		
R292, R304, R305, R306, R307	5	47k	RES, 47 k, 5%, 0.063 W, 0402	0402	CRCW040247K0JNED	Vishay-Dale		
R355, R356, R357, R358, R359, R360, R369, R382, R528, R530	10	1.0k	RES, 1.0 k, 5%, 0.063 W, 0402	0402	CRCW04021K00JNED	Vishay-Dale		
R383	1	12.0k	RES, 12.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402	CRCW040212K0FKED	Vishay-Dale		
R390	1	2.0k	RES, 2.0 k, 5%, 0.063 W, 0402	0402	CRCW04022K00JNED	Vishay-Dale		
R392, R393	2	0	RES, 0, 5%, 0.05 W, 0201	0201	CRCW02010000Z0JNED	Vishay-Dale		
R395	1	47	RES, 47, 5%, 0.063 W, 0402	0402	CRCW040247R0JNED	Vishay-Dale		
R398	1	680k	RES, 680 k, 5%, 0.063 W, 0402	0402	CRCW0402680KJNED	Vishay-Dale		
R399	1	330k	RES, 330 k, 5%, 0.063 W, 0402	0402	CRCW0402330KJNED	Vishay-Dale		
R457, R466	2	10.0	RES, 10.0, 0.1%, 0.1 W, 0603	0603	RT0603BRD0710RL	Yageo America		

Designator	Quantity	Value	Description	PackageReference	PartNumber	Manufacturer	Alternate PartNumber	Alternate Manufacturer
R470, R472, R473, R474, R477, R478, R479, R480, R482, R484, R485, R486, R487, R491, R492, R493, R497, R498, R499	19	422	RES, 422, 1%, 0.063 W, 0402	0402	CRCW0402422RFKED	Vishay-Dale		
R475, R476, R481, R483, R488, R489, R490, R494, R495, R496, R500, R501, R502	13	510	RES, 510, 5%, 0.063 W, 0402	0402	CRCW0402510RJNED	Vishay-Dale		
R503	1	100	RES, 100, 1%, 0.063 W, 0402	0402	CRCW0402100RFKED	Vishay-Dale		
R538, R539	2	50	RES, 50, 1%, 0.125 W, AEC-Q200 Grade 1, 0402	0402	504L50R0FTNCFT	AT Ceramics		
R557	1	200k	RES, 200 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402	CRCW0402200KJNED	Vishay-Dale		
S1, S2, S3	3		Switch, SPST-NO, Off-Mom, 0.05 A, 12 VDC, TH	7.3x6.5mm	TL1105RF160Q	E-Switch		
S4	1		DIP Switch, SPST, 6Pos, Slide, SMT	8.75x6.2mm	TDA06H0SB1	C&K Components		
TP32, TP43, TP71, TP75	4		Test Point, Miniature, Black, TH	Black Miniature Testpoint	5001	Keystone		
U1, U5, U9, U11	4		CrossLink Automotive Family, FBGA-80	CTFBGA-80	LIA-MD6000-6JMG80E	Lattice		
U2, U6	2		Automotive 250mA Ultralow-Noise Low-IQ LDO, DBV0005A (SOT-23-5)	DBV0005A	LP5907QMF-2.5Q1	Texas Instruments		Texas Instruments
U3, U7	2		Buck Step Down Regulator with 2 to 6 V Input and 1.2 V Output, -40 to 85 degC, 6-Pin SON (DRV), Green (RoHS & no Sb/Br)	DRV0006A	TPS62262DRVR	Texas Instruments		
U4, U8, U10, U12	4		3V 128M-BIT [x 1/x 2/x 4] CMOS MXSMIO (SERIAL MULTI I/O) FLASH MEMORY, SOP-8	SOP-8	MX25L12835FM2I-10G	Macronix International Co., LT	MX25L12845G	Macronix International Co., LT
U13	1		Automotive 2.95V to 6V Input, 2A, 2MHz Synchronous Step-Down SWIFT(TM) DCDC Converter, RTE0016F (WQFN-16)	RTE0016F	TPS57112QRTERQ1	Texas Instruments		Texas Instruments
U14	1		Sink and Source DDR Termination Regulator, DRC0010J (VSON-10)	DRC0010J	TPS51200AQDRCRQ1	Texas Instruments	TPS51200QDRCRQ1	Texas Instruments
U15, U16	2		Automotive Catalog Single Output LDO, 1.5A, Adj. (0.8 to 3.6V), Programmable Soft-Start, RGW0020A (VQFN-20)	RGW0020A	TPS74801QRGWRQ1	Texas Instruments		Texas Instruments
U17	1		Zero Iq Reverse Polarity Protection Smart Diode Controller, DGK0008A (VSSOP-8)	DGK0008A	LM74610QDGRKQ1	Texas Instruments		Texas Instruments
U18	1		Automotive Low Iq Dual Synchronous Buck Controller with Frequency Spread Spectrum, DAP0038B (TSSOP-38)	DAP0038B	TPS43351QDAPRQ1	Texas Instruments		Texas Instruments
U19	1		Pushbutton On/Off Controller, SOT-23-8	SOT23, 8-Leads, Body 2.9x1.625mm, Pitch 0.65mm	LTC2950ITS8-1#TRMPBF	Linear Technology		
U20	1		Automotive 3.15V to 5.5V, 7 Buck & 6 LDO Power Management IC (PMIC) for ARM Cortex A15 Processors, ZWS0169A (NFBGA-169)	ZWS0169A	O9039A387IZWSRQ1	Texas Instruments		Texas Instruments
U21	1		5.5V, 4A, 16mΩ Automotive Load Switch With Adjustable Rise Time and Optional Quick Output Discharge, DSG0008B (WSON-8)	DSG0008B	TPS22965TDSGRQ1	Texas Instruments	TPS22965TDSGTQ1	Texas Instruments
U22	1		ADAS Applications Processor, ABC0760A (FCBGA-760)	ABC0760A	X5777BXGABC	Texas Instruments		Texas Instruments
U23, U24	2		Single 2-Input Positive-AND Gate, DCK0005A, SMALL T&R	DCK0005A	SN74LVC1G08DCKT	Texas Instruments		
U25, U26, U27, U28, U29	5		SDRAM - DDR3L Memory IC 8Gb (512M x 16) Parallel 800MHz 13.75ns 96-FBGA (14x9)	FBGA96	AS4C512M16D3L-12BIN	Alliance Memory	MT41K512M16HA-125 A	Micron Technology
U30	1		Gigabit Ethernet PHY Customized for Harsh Industrial Environments, RGZ0048B (VQFN-48)	RGZ0048B	DP83867IRRGZR	Texas Instruments	DP83867IRRGZT	Texas Instruments
U31	1		Single 2-Input Positive-AND Gate, DBV0005A, LARGE T&R	DBV0005A	SN74LVC1G08DBVR	Texas Instruments		Texas Instruments
U32, U33	2		Automotive 4-Channel ESD Protection Solution for SuperSpeed (up to 5 Gbps) Interface, DQA0010A (USON-10)	DQA0010A	TPD4E05U06QDQARQ1	Texas Instruments		Texas Instruments
U34	1		Value-Line HDMI Companion Chip for Portable Applications, 12 Channels, -40 to +85 degC, 24-pin TSSOP (PW), Green (RoHS & no Sb/Br)	PW0024A	TPD12S016PWR	Texas Instruments		
U35	1		5.5V, 4A, 16mΩ Automotive Load Switch With Adjustable Rise Time and Optional Quick Output Discharge, DSG0008B (WSON-8)	DSG0008B	TPS22965NQWDSGRQ1	Texas Instruments		Texas Instruments
U36, U37, U46	3		Automotive Catalog Dual 4-Channel Analog Multiplexer/Demultiplexer, PW0016A (TSSOP-16)	PW0016A	SN74LV4052AQPWRQ1	Texas Instruments		Texas Instruments
U38	1		3V, Multiple I/O, 4KB, 32KB, 64KB Sector Erase, SOIC-16	SOIC, 16-Leads, Body 10.3x7.5mm, Pitch 1.27mm	MT25QL01GBBB8ESF-0SIT	Micron Technology		
U39, U40	2		Low Quiescent Current, Programmable-Delay Supervisory Circuit, 1 Supply Monitored, -40 to 125 degC, 6-pin SOT-23 (DBV), Green (RoHS & no Sb/Br)	DBV0006A	TPS3808G09DBVR	Texas Instruments		
U41, U42, U43, U44	4		Automotive Catalog Low-Capacitance +/- 15 kV ESD-Protection Array for High-Speed Data Inter, 2 Channels, -40 to +85 degC, 5-pin SOT (DRL), Green (RoHS & no Sb/Br)	DRL0005A	TPD2E001IDRLRQ1	Texas Instruments		
U45	1		Automotive Low-Voltage 16-Bit I2C and SMBus Low-Power I/O Expander, PW0024A (TSSOP-24)	PW0024A	TCA9539QPWRQ1	Texas Instruments		Texas Instruments

Designator	Quantity	Value	Description	PackageReference	PartNumber	Manufacturer	Alternate PartNumber	Alternate Manufacturer
U47	1		Dual High Speed USB To Multipurpose UART/FIFO IC, LQFP-64	LQFP_10x10mm	FT2232HL-REEL	FTDI		
U48	1		Enhanced Product Cap-Free, Nmos, 400-Ma Low-Dropout Regulator W/ Reverse Current Protection, DBV0005A (SOT-23-5)	DBV0005A	TPS73633MDBVREP	Texas Instruments		
U49	1		Automotive USB 2-Ch Data Line Short-to-Battery, Short-to-VBUS, and IEC ESD protection, DGS0010A (VSSOP-10)	DGS0010A	TPD2S701QDGSRQ1	Texas Instruments		Texas Instruments
U50	1		4-Bit Dual-Supply Bus Transceiver with Configurable Voltage-Level Shifting and 3-State Outputs, RSV0016A (UQFN-16)	RSV0016A	SN74AVC4T245RSVR	Texas Instruments		Texas Instruments
U51	1		1K Microwire Compatible Serial EEPROM, SOT-23-6	SOT-23-6	93LC46BT-I/OT	Microchip		
U52	1		Current-Limited, Power-Distribution Switches, DBV0005A (SOT-23-5)	DBV0005A	TPS2065DDBVR	Texas Instruments	TPS2065DDBVT	Texas Instruments
U53	1		Single Power Supply BUFFER Logic Level Shifter (no enable), DBV0005A, LARGE T&R	DBV0005A	SN74LV1T34DBVR	Texas Instruments		Texas Instruments
U54	1		Single Inverter, DBV0005A, LARGE T&R	DBV0005A	SN74LVC1G04DBVR	Texas Instruments		Texas Instruments
U55, U57, U62, U64	4		24-Bit Bus-Exchange Switch with -2V Undershoot Protection, TVSOP-56, DGV0056A (TVSOP-56)	DGV0056A	SN74CBT16212CDGVR	Texas Instruments		Texas Instruments
U56, U63	2		Single Inverter, DCK0005A, LARGE T&R	DCK0005A	SN74LVC1G04DCKR	Texas Instruments		Texas Instruments
U58, U65	2		Single Bus Buffer Gate With 3-State Outputs, DBV0005A, SMALL T&R	DBV0005A	SN74LVC1G125DBVT	Texas Instruments		Texas Instruments
U59, U66, U67	3		Low-Voltage 4-Bit 1-Of-2 FET Multiplexer/Demultiplexer, DGV0016A (TVSOP-16)	DGV0016A	SN74CBTLV3257DGV	Texas Instruments		Texas Instruments
U60, U61	2		Octal Bus Transceiver With 3-State Outputs, RGY0020A, LARGE T&R	RGY0020A	SN74LVC245ARGYR	Texas Instruments		
U68	1		Automotive Dual Bidirectional I2C Bus and SMBus Voltage-Level Translator, DCU0008A (VSSOP-8)	DCU0008A	PCA9306IDCURQ1	Texas Instruments		
U69	1		Single Buffer/Driver With Open-Drain Output, DCK0005A, LARGE T&R	DCK0005A	SN74LVC1G07DCKR	Texas Instruments		
U70	1		256 kb I2C CMOS Serial EEPROM, SOIC-8	SOIC-8	CAT24C256WI-GT3	ON Semiconductor		
Y1	1		Crystal, 16.384 MHz, 12 pF, AEC-Q200 Grade 1, SMD	3.2x2.5mm	ABM8AIG-16.384MHZ-12-2Z-T3	Abracon Corporation		
Y2, Y3	2		Crystal, 20 MHz, 18pF, SMD	Crystal, 3.2x1.1x5.x mm	ABM3B-20.000MHZ-B2-T	Abracon Corporation		
Y4	1		CRYSTAL, 32.768KHZ, 12.5PF, SMD	3.2x0.9x1.5mm	ABS07-32.768KHZ-T	Abracon Corporation		
Y5	1		Crystal, 25 MHz, 12pF, AEC-Q200 Grade 1, SMD	3.2x2.5mm	ABM8AIG-25.000MHZ-12-2Z-T3	Abracon Corporation		
Y6	1		Crystal, 12 MHz, 8 pF, AEC-Q200 Grade 1, SMD	3.2x2.5mm	CX3225CA12000D0HS SCC	Kyocera		
C384	0	0.1uF	CAP, CERM, 0.1 uF, 6.3 V, +/- 10%, X7R, 0402	0402	GRM155R70J104KA01D	MuRata		
FID1, FID2, FID3, FID4, FID5, FID6	0		Fiducial mark. There is nothing to buy or mount.	N/A	N/A	N/A		
J2, J4, J6, J8	0		Header, 100mil, 2x1, Tin, TH	Header 2x1	90120-0122	Molex		
R88, R144, R261, R262, R301, R340, R342, R344, R346, R509, R555	0	0	RES, 0, 5%, 0.063 W, 0402	0402	CRCW04020000Z0ED	Vishay-Dale		
R99	0	9.1k	RES, 9.1 k, 5%, 0.063 W, 0402	0402	CRCW04029K10JNED	Vishay-Dale		
R227, R229, R230, R231, R232, R233	0	5.76k	RES, 5.76 k, 1%, 0.063 W, 0402	0402	CRCW04025K76FKED	Vishay-Dale		
R235, R237, R238, R239, R240, R241	0	2.49k	RES, 2.49 k, 1%, 0.063 W, 0402	0402	CRCW04022K49FKED	Vishay-Dale		
R337, R338, R534	0	10k	RES, 10 k, 5%, 0.063 W, 0402	0402	CRCW040210K0JNED	Vishay-Dale		
R529	0	1.0k	RES, 1.0 k, 5%, 0.063 W, 0402	0402	CRCW04021K00JNED	Vishay-Dale		
SH-J1, SH-J2, SH-J3, SH-J4	0	1x2	Shunt, 100mil, Gold plated, Black	Shunt	969102-0000-DA	3M	SNT-100-BK-G	Samtec
TP28, TP35, TP41, TP56, TP58, TP60, TP62, TP64, TP66, TP68, TP70, TP72, TP74, TP78, TP80, TP86, TP88, TP91, TP93, TP95	0		Test Point, Miniature, Red, TH	Red Miniature Testpoint	5000	Keystone		

Designator	Quantity	Value	Description	PackageReference	PartNumber	Manufacturer	Alternate PartNumber	Alternate Manufacturer
TP29, TP30, TP31, TP33, TP34, TP37, TP57, TP59, TP61, TP63, TP65, TP67, TP69, TP73, TP79, TP81, TP87, TP89, TP92, TP94, TP96	0		Test Point, Miniature, Black, TH	Black Miniature Testpoint	5001	Keystone		

Notes:

Unless otherwise noted in the Alternate PartNumber and/or Alternate Manufacturer columns, all parts may be substituted with equivalents.

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