

Design: TIDA-00223: Automotive Audio I2S over Coax Class D Amplifier  
 Project: SAT0085 E1.1  
 Variant: 001  
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LM5122 4 phase boost

Designator	Quantity	Value	Description	PackageReference	PartNumber	Manufacturer	Alternate PartNumber	Alternate Manufacturer
IPCB	1		Printed Circuit Board		SAT0085	Any	-	-
C1, C2, C19, C20, C33, C34, C50, C51, C62	9	330uF	CAP ALUM 330UF 35V 20% SMD	SMT Radial G	EEE-FP1V331AP	Panasonic	-	-
C3, C4, C5, C6, C21, C22, C23, C24, C35, C36, C37, C38, C52, C53, C54, C55	16	4.7uF	CAP, CERM, 4.7uF, 50V, +/-10%, X7R, 1206	1206	GRM31CR71H475KA12L	MuRata	-	-
C7, C25, C39, C56	4	10uF	CAP, CERM, 10uF, 35V, +/-10%, X7R, 1210	1210	GRM32ER7YA106KA12L	MuRata	-	-
C8, C10, C26, C28, C40, C43, C57, C59	8	0.47uF	CAP, CERM, 0.47uF, 25V, +/-10%, X7R, 0603	0603	GRM188R71E474KA12D	MuRata	-	-
C9, C16, C27, C41, C58	5	100pF	CAP, CERM, 100pF, 50V, +/-5%, C0G/NP0, 0603	0603	GRM1885C1H101JA01D	MuRata	-	-
C11, C29, C44, C60	4	1uF	CAP, CERM, 1uF, 25V, +/-10%, X7R, 0603	0603	GRM188R71E105KA12D	MuRata	-	-
C12, C30, C45, C46	4	470pF	CAP, CERM, 470pF, 100V, +/-5%, C0G/NP0, 0805	0805	GRM2165C2A471JA01D	MuRata	-	-
C13, C47, C49	3	0.1uF	CAP, CERM, 0.1uF, 25V, +/-10%, X7R, 0603	0603	GRM188R71E104KA01D	MuRata	-	-
C14	1	0.047uF	CAP, CERM, 0.047uF, 25V, +/-10%, X7R, 0603	0603	GRM188R71E473KA01D	MuRata	-	-
C18	1	4700pF	CAP, CERM, 4700pF, 25V, +/-5%, C0G/NP0, 0603	0603	C1608C0G1E472J	TDK	-	-
C31	1	0.1uF	CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0603	0603	GCM188R71H104KA57D	MuRata	-	-
C32	1	10uF	CAP, CERM, 10uF, 10V, +/-10%, X7R, 0805	0805	GRM21BR71A106KE51L	MuRata	-	-
C42	1	220pF	CAP, CERM, 220pF, 50V, +/-5%, C0G/NP0, 0603	0603	C1608C0G1H221J	TDK	-	-
D1, D2, D3, D5	4	0.57V	Diode, Schottky, 60V, 1A, SOD-123F	SOD-123F	PMEG6010CEH,115	NXP Semiconductor	-	-
FID1, FID2, FID3, FID4, FID5, FID6	6		Fiducial mark. There is nothing to buy or mount.	Fiducial	N/A	N/A	-	-
H1, H2, H3, H4	4		Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead	Screw	NY PMS 440 0025 PH	B&F Fastener Supply	-	-
H5, H6, H7, H8	4		Standoff, Hex, 0.5"L #4-40 Nylon	Standoff	1902C	Keystone	-	-
IN1, OUT1, Sync In 1, Sync In 2, Sync In 3, Sync In 4	6	White	Test Point, TH, Compact, White	Keystone5007	5007	Keystone	-	-
J1, J2, J3, J5	4	50A	Terminal 50A Lug	CB35-36-CY	CB35-36-CY	Panduit	-, -, [NoValue], [NoValue]	-, -, [NoValue], [NoValue]
J4	1		Header, TH, 100mil, 5x1, Gold plated, 230 mil above insulator	5x1 Header	TSW-105-07-G-S	Samtec	-	-
L1, L2, L3, L4	4	4uH	Inductor, Shielded E Core, Ferrite, 4uH, 25A, 0.00194 ohm, SMD	SER2014	SER2014-402MLB	Coilcraft	-	-
LBL1	1		Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll	PCB Label 0.650"H x 0.200"W	THT-14-423-10	Brady	-	-
Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8	8	40V	MOSFET, N-CH, 30V, 100A, SON 5x6mm	SON 5x6mm	CSD18501Q5A	Texas Instruments	-	-
Q9, Q10, Q11, Q12	4	60V	MOSFET, N-CH, 60V, 0.24A, SOT-23	SOT-23	2N7002E-T1-E3	Vishay-Siliconix	-	None
Q13, Q14, Q15	3	0.2V	Transistor, NPN, 40V, 0.2A, SOT-23	SOT-23	MMBT3904	Fairchild Semiconductor	-	-
R1, R20, R31, R44	4	0.003	RES 0.003 OHM 3W 1% 3015 WIDE	3015	KRL7638-C-R003-F-T1	Susumu Co Ltd	-	-
R2, R4, R5, R9, R10, R21, R22, R23, R27, R28, R32, R33, R34, R39, R41, R45, R46, R47, R51, R52	20	0	RES, 0 ohm, 5%, 0.1W, 0603	0603	ERJ-3GEY0R00V	Panasonic	-	-
R6, R59, R64, R66	4	49.9k	RES, 49.9k ohm, 1%, 0.1W, 0603	0603	CRCW060349K9FKEA	Vishay-Dale	-, [NoValue], [NoValue]	-, [NoValue], [NoValue], [NoValue]
R7, R25, R36, R49	4	3.3	RES, 3.3 ohm, 5%, 0.1W, 0603	0603	CRCW06033R30JNEA	Vishay-Dale	-	-
R8	1	15.0k	RES, 15.0k ohm, 1%, 0.1W, 0603	0603	RC0603FR-0715KL	Yageo America	-	-
R11, R24, R26, R29	4	0	RES, 0 ohm, 5%, 0.1W, 0603	0603	CRCW06030000Z0EA	Vishay-Dale	-	-
R12, R30, R43, R54	4	10.0k	RES, 10.0k ohm, 1%, 0.1W, 0603	0603	CRCW060310K0FKEA	Vishay-Dale	-	-
R15	1	121k	RES, 121k ohm, 1%, 0.1W, 0603	0603	CRCW0603121KFKEA	Vishay-Dale	-	-
R16	1	2.67k	RES, 2.67k ohm, 1%, 0.1W, 0603	0603	CRCW06032K67FKEA	Vishay-Dale	-	-
R17	1	49.9k	RES, 49.9k ohm, 1%, 0.125W, 0805	0805	ERJ-6ENF4992V	Panasonic	-	-
R18	1	604	RES, 604 ohm, 1%, 0.125W, 0805	0805	CRCW0805604RFKEA	Vishay-Dale	-	-
R35	1	1.0	RES, 1.0 ohm, 5%, 0.1W, 0603	0603	CRCW06031R00JNEA	Vishay-Dale	-	-
R37	1	8.66	RES, 8.66 ohm, 1%, 0.1W, 0603	0603	CRCW06038R66FKEA	Vishay-Dale	-	-
R38, R42, R53, R71	4	100k	RES, 100k ohm, 1%, 0.1W, 0603	0603	CRCW0603100KFKEA	Vishay-Dale	-	-
R40	1	1.50k	RES, 1.50k ohm, 1%, 0.1W, 0603	0603	CRCW06031K50FKEA	Vishay-Dale	-	-
R48, R50, R55, R56	4	7.5	RESISTOR 7.5 OHM 3/4W 5% 2010	2010	ERJ-12ZYJ7R5U	Panasonic	-	-
R58	1	158k	RES, 158k ohm, 1%, 0.1W, 0603	0603	CRCW0603158KFKEA	Vishay-Dale	-	-
R60, R65, R67	3	15.0k	RES, 15.0k ohm, 1%, 0.1W, 0603	0603	CRCW060315K0FKEA	Vishay-Dale	-	-
R61, R62, R63	3	10Meg	RES, 10Meg ohm, 5%, 0.1W, 0603	0603	CRCW060310M0JNEA	Vishay-Dale	-	-
R68, R69, R70	3	4.7k	RES, 4.7k ohm, 5%, 0.1W, 0603	0603	CRCW06034K70JNEA	Vishay-Dale	-	-
SW1, SW2, SW3, SW4	4	White	Test Point, TH, Miniature, White	Keystone5002	5002	Keystone	-	-
TP2	1	Black	Test Point, Compact, Black, TH	Black Compact Testpoint	5006	Keystone	-	-
U1, U3, U4, U7	4			eg: 0603, used in PnP report	LM5122MH	TI	-	-
U5	1		IC OSC MONO TIMING 3MHZ 8-SOIC		LMC555CMX	National Semiconductor	-	-
U6	1		IC 10-OUT DECADE COUNTER 16-SOIC	D (R-PDSO-G16)	CD4017BM96		-	-
U8	1		Ultra-Low Quiescent Current LDO Voltage Regulator, 4-pin SOT-223, Pb-Free	MP04A	LM2936MP-3.3/NOPB	National Semiconductor	-	-
Vin Gnd, Vout Gnd	2	Black	Test Point, TH, Miniature, Black	Keystone5001	5001	Keystone	-	-
Vin, Vout	2	Red	Test Point, TH, Miniature, Red	Keystone5000	5000	Keystone	-	-
R3, R13, R14, R19	0	10.0k	RES, 10.0k ohm, 1%, 0.1W, 0603	0603	CRCW060310K0FKEA	Vishay-Dale	-	-
R57	0	100k	RES, 100k ohm, 1%, 0.1W, 0603	0603	CRCW0603100KFKEA	Vishay-Dale	-	-

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

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