

# Bill of Materials

**TI DESIGNS TIDA-00171**  
**Sigma Delta Modulator Board**  
**Isolated Current Shunt and Voltage Measureme**

Qty	Reference	Part Description	Manufacturer	Manufacturer Part Number	PCB Footprint	Note
6	C1, C2, C8, C9, C32, C64	CAP, AL, 22uF, 25V, +/-20%, 0.76 ohm, SMD	Nichicon	UUD1E220MCL1GS	5x5.8	Fitted
7	C3, C7, C13, C15, C112, C124, C136	CAP, CERM, 0.1uF, 25V, +/-5%, X7R, 0603	AVX	06033C104JAT2A	0603	Fitted
6	C4, C10, C17, C114, C126, C138	CAP, CERM, 3900pF, 25V, +/-5%, C0G/NP0, 0603	TDK	C1608C0G1E392J	0603	Fitted
62	C5, C6, C11, C12, C16, C18, C19, C20, C21, C26, C27, C29, C31, C34, C36, C41, C43, C44, C46, C53, C54, C59, C60, C68, C69, C70, C72, C74, C76, C78, C80, C85, C87, C88, C90, C97, C98, C104, C105, C106, C109, C110, C111, C116, C118, C119, C120, C121, C122, C123, C128, C130, C131, C132, C133, C134, C135, C140, C142, C143, C144, C145	CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0603	Kemet	C0603C104K5RACTU	0603	Fitted
5	C22, C23, C61, C62, C63	CAP, CERM, 1000pF, 2KV 10% X7R 1206	Johanson Dielectrics Inc	202R18W102KV4E	1206	Fitted
32	C24, C25, C28, C30, C33, C35, C37, C39, C47, C48, C55, C56, C57, C58, C65, C66, C67, C71, C73, C75, C77, C79, C81, C83, C91, C92, C99, C100, C101, C102, C107, C108	CAP, CERM, 10uF, 35V, +/-20%, X7R, 1210	Taiyo Yuden	GMK325AB7106MM-T	1210	Fitted
9	C38, C40, C51, C52, C82, C84, C95, C96, C42, C45, C49, C50, C86, C89, C93, C94	CAP, CERM, 4.7uF, 50V, +/-10%, X5R, 0805	TDK	C2012X5R1H475K125AB	0805	Fitted
8	C42, C45, C49, C50, C86, C89, C93, C94	CAP, CERM, 0.01uF, 100V, +/-5%, X7R, 0603	AVX	06031C103JAT2A	0603	Fitted
6	C113, C117, C125, C129, C137, C141	CAP, CERM, 4700pF, 100V, +/-10%, X7R, 0603	AVX	06031C472KAT2A	0603	Fitted
2	D1, D2	Diode, P-N, 70V, 0.2A, SOT-323	Diodes Inc	DESD1P0RFW-7	SOT-323	Fitted
10	D3, D4, D5, D6, D35, D36, D37, D38, D39, D40	Diode, P-N, 70V, 0.2A, SOT-323	Diodes Inc	DESD1P0RFW-7	SOT-323	Fitted
10	D7, D8, D9, D10, D19, D20, D21, D22, D23, D24	Diode, Schottky, 20V, 0.5A, SOD-123	ON Semiconductor	MBR0520LT1G	SOD-123	Fitted
9	D11, D12, D15, D16, D25, D26, D29, D30, D31	Diode, Zener, 6.2V, 1W, PowerDI123	Diodes Inc.	DFLZ6V2-7	PowerDI123	Fitted
9	D13, D14, D17, D18, D27, D28, D32, D33, FB1, FB2, FB3, FB4, FB5, FB6, FB7, FB8, FID4, FID5, FID6, FID7, FID8	LED SmartLED Green 570NM	OSRAM	LG L29K-G2J1-24-Z	0603	Fitted
9	FB1, FB2, FB3, FB4, FB5, FB6, FB7, FB8, FID4, FID5, FID6, FID7, FID8	FERRITE CHIP 1000 OHM 300MA 0603	TDK Corporation	MMZ1208B102C	0603	Fitted
5	FID4, FID5, FID6, FID7, FID8	Fiducial mark. There is nothing to buy or mount.	N/A	N/A	Fiducial	Fitted
1	J1	Connector, Right Angle 2x20 pin, 100mil spacing	WURTH ELEKTRONIK	61304021021		Fitted
4	J2, J4, J6, J8	Terminal Block, 4x1, 2.54mm, TH	TE Connectivity	5-1437657-7	TERM_BLK, 2pos, 2.54mm	Fitted
17	J3, J5, J7, J9, J10, J11, J12, J13, J14, J15, J16, J17, J18, J19, J20, J21, J22	Header, Male 2-pin, 100mil spacing, Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll	Sullins	PEC02SAAN	0.100 inch x 2	Fitted
1	LBL1		Brady	THT-14-423-10	PCB Label 0.650"H x 0.200"W	Fitted
4	MH1, MH2, MH3, MH4	Mountin hole, NPTH Drill 3.2mm			Screw	Fitted
6	R1, R4, R9, R12, R20, R29	RES, 100 ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-07100RL	0603	Fitted
6	R56, R66, R80, R90, R104, R114	RES, 56.0 ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-0756RL	0603	Fitted
3	R3, R11, R24	RES METAL .005 OHM 5W 1% RADIAL	TT Electronics/IRC	OAR5R005FLF	Radial	Fitted
17	R6, R14, R19, R26, R31, R57, R60, R65, R72, R81, R84, R89, R96, R105, R108, R113, R120	RES, 0 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06030000Z0EA	0603	Fitted
7	R7, R15, R27, R32, R73, R97, R121	RES, 10.0 ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060310R0FKEA	0603	Fitted
11	R17, R18, R52, R55, R70, R76, R79, R94, R100, R103, R118	RES 2.2M OHM 1/3W 1% 1210	Rohm Semiconductor	KTR25JZPF2204	1210	Fitted
7	R21, R61, R68, R87, R92, R111, R116	RES 2K OHM 1/3W 1% 1210	Rohm Semiconductor	KTR25JZPF2001	1210	Fitted
1	R22	RES, 2.00k ohm, 0.5%, 0.1W, 0603	Yageo America	RT0603DR0E072KL	0603	Fitted
9	R34, R35, R40, R41, R42, R43, R48, R49, R50	RES, 3.9k ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06033K90JNEA	0603	Fitted
4	R36, R37, R44, R45	RES, 37.0k ohm, 0.1%, 0.1W, 0603	Yageo America	RT0603BRD0737KL	0603	Fitted
4	R38, R39, R46, R47	RES, 11.5k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060311K5FKEA	0603	Fitted
6	R53, R71, R77, R95, R101, R119	RES 15.0K OHM 1/10W .1% SMD 0603	Yageo America	RT0603BRD0715KL-ND	0603	Fitted
6	R62, R64, R86, R88, R110, R112	RES, 4.70k ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-074K7L	0603	Fitted
5	T1, T2, T3, T4, T5	Transformer 475uH SMD	Wurth Electronics Midcom	750342271	10.05mm L x 6.73mm W	Fitted
12	TP1, TP2, TP3, TP4, TP5, TP6, TP7, TP8, TP9, TP10, TP11, TP12	Test Point, 0.040 Hole	STD	STD		Fitted
4	U3, U21, U24, U27	20 MHz, Isolated Delta-Sigma Modulator, LVDS interface:	Texas Instruments	AMC1304M25	DW0016A	Fitted
3	U1, U2, U4	20 MHz, Isolated Delta-Sigma Modulator, LVDS interface:	Texas Instruments	AMC1304M05	DW0016A	Fitted
5	U5, U6, U11, U12, U13	Transformer Driver for Isolated Power Supplies, DBV0005A	Texas Instruments	SN6501DBV	DBV0005A	Fitted
4	U7, U8, U14, U15	-36V, -200mA, Ultralow-Noise, Negative Linear Regulator	Texas Instruments	TPS7A3001DGNR	MSOP-PowerPAD (DGN)   8	Fitted
5	U9, U10, U16, U17, U18	Regulator, LDO, 5V, 0.15A, SOT23-5	Texas Instruments	TLV704500DBV	DBV0005A	Fitted
3	U19, U22, U25	IC, Precision, 200uA, 36V Supply Instrument Amplifier.	TI	INA826IADGK	MSOP-8	Fitted
3	U20, U23, U26	IC, 1.1nV/VHz Noise, Low Power, Precision OpAmp	TI	OPA211AID	SO	Fitted
0	C14, C115, C127, C139	CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0603	Kemet	C0603C104K5RACTU	0603	Not Fitted
0	FID1, FID2, FID3	Fiducial mark. There is nothing to buy or mount.	N/A	N/A	Fiducial	Not Fitted
0	R2, R10, R23	RES 50mOHM 3W .5% TO-247 TH	ISOTEK	PBH-R050-F1-0.5	TO-247	Not Fitted
0	R5, R13, R25, R30, R54, R59, R63, R67, R69, R78, R83, R85, R91, R93, R102, R107, R109, R115, R117	RES, 0 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06030000Z0EA	0603	Not Fitted
0	R8, R16, R28, R33, R74, R98, R122	RES, 10.0 ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060310R0FKEA	0603	Not Fitted
0	R51, R75, R99	RES 2.2M OHM 1/3W 1% 1210	Rohm Semiconductor	KTR25JZPF2204	1210	Not Fitted
0	R58, R82, R106	RES, 1.00k ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-071KL	0603	Not Fitted