

**Class-D Shim Amplifier Prototype BOM - August 6, 2023**

Reference	Qty	Value	Footprint	Manufacturer	Part Number
C1, C2, C3, C5, C11, C32, C34, C35, C46, C48, C49, C59, C60, C65, C66, C77, C78, C83, C84, C87, C88, C89, C90, C91, C92, C101, C111, C114	28	100n	Capacitor_SMD:C_0603_1608Metric_Pad1.08x0.95mm_HandSolder	Samsung Electro-Mechanics	CL10B104KB8NNWC
C4, C7, C8, C18, C21, C23, C24, C25, C26, C27, C28, C37, C38, C39, C40, C41, C42, C53, C54, C55, C56, C57, C71, C72, C73, C74, C75	27	22u	Capacitor_SMD:C_1210_3225Metric_Pad1.33x2.70mm_HandSolder	Samsung Electro-Mechanics	CL32B226KAJNNNE
C6, C13, C14	3	330u	Capacitor_SMD:CP_Elec_10x12.6	Würth Elektronik	875075661010
C9, C10, C15, C17, C19, C20, C29, C43, C58, C76	10	4.7u	Capacitor_SMD:C_0805_2012Metric_Pad1.18x1.45mm_HandSolder	Samsung Electro-Mechanics	CL21A475KLCQLNC
C12, C22, C31, C45, C61, C62, C67, C68, C79, C80, C85, C86	12	4.7n	Capacitor_SMD:C_0402_1005Metric_Pad0.74x0.62mm_HandSolder	Samsung Electro-Mechanics	CL05B472KB5NNN
C16, C30, C33, C44, C47, C63, C64, C81, C82, C97, C106	11	1u	Capacitor_SMD:C_0805_2012Metric_Pad1.18x1.45mm_HandSolder	Samsung Electro-Mechanics	CL21B105KBFNNNG
C36, C50, C102	3	150p	Capacitor_SMD:C_0603_1608Metric_Pad1.08x0.95mm_HandSolder	Murata Electronics	GCM1885C2A151JA16D
C51, C52, C69, C70	4	220u	Capacitor_SMD:CP_Elec_10x12.5	Würth Elektronik	875075561008
C93, C94, C98, C99, C100, C103, C107, C108, C109, C110, C112, C113, C115	13	1n	Capacitor_SMD:C_0603_1608Metric_Pad1.08x0.95mm_HandSolder	Murata Electronics	GCM1885C2A102FA16D
C95, C96	2	470p	Capacitor_SMD:C_0603_1608Metric_Pad1.08x0.95mm_HandSolder	Murata Electronics	GCM1885C2A471FA16D
C104, C105	2	33p	Capacitor_SMD:C_0603_1608Metric_Pad1.08x0.95mm_HandSolder	Murata Electronics	GCM1885C2A330JA16D
D1	1	RGB	Custom-DiscreteSemi:LED_RGB_5050-6-WURTH	Würth Elektronik	150505M173300
D2	1	20V	Diode_SMD:D_SMC	SMC Diode Solutions	SMCJ20CA
D3, D5	2	10V	Diode_SMD:D_SOD-323_HandSoldering	onsemi	MM3Z10VC
D4, D6, D7	3	NSR0340HT1G	Diode_SMD:D_SOD-323_HandSoldering	SMC Diode Solutions	D5S16U
F1	1	25A	Fuse:Fuse_1206_3216Metric_Pad1.42x1.75mm_HandSolder	Bel Fuse Inc.	0685H9250-01
F2	1	12A	Fuse:Fuse_1206_3216Metric_Pad1.42x1.75mm_HandSolder	Bel Fuse Inc.	0685H9120-01
J7, J8, J11, J12	4	6095	Custom-Electromechanical:Keystone 6095	Keystone Electronics	6095
J10	1	2604-3104	Custom-Connector:Wago_2604-3104	WAGO Corporation	2604-3104
L1, L2, L3, L6, L7	5	257n	Custom-RLC:COILCRAFT_2014	Coilcraft	2014VS-251MED
L4, L8	2	90n	Custom-RLC:COILCRAFT_1212	Coilcraft	2014VS-251MED
L5, L9	2	22n	Custom-RLC:WURTH_3168	Würth Elektronik	744914122
PAD1	1	173-7-220P	-	Wakefield-Vette	173-7-220P
Q1, Q2	2	SIRA60DP	Package_DFN_QFN:PQFN-8-EP_6x5mm_P1.27mm_Generic	Vishay Siliconix	SIRA60DP-T1-GE3
R1, R2, R3, R13, R58, R59	6	750R	Resistor_SMD:R_0603_1608Metric_Pad0.98x0.95mm_HandSolder	Stackpole Electronics Inc	RMCF0603FT750R
R4, R14, R27, R31, R33, R35, R46, R47, R56, R57	10	4.7k	Resistor_SMD:R_0603_1608Metric_Pad0.98x0.95mm_HandSolder	Stackpole Electronics Inc	RMCF0603FT4K70
R5, R8	2	100k	Resistor_SMD:R_0603_1608Metric_Pad0.98x0.95mm_HandSolder	Stackpole Electronics Inc	RMCF0603FT100K
R6, R7	2	1k 1/2W	Resistor_SMD:R_1210_3225Metric_Pad1.30x2.65mm_HandSolder	Stackpole Electronics Inc	RMCF1210JT1K00
R9, R15, R16	3	22R	Resistor_SMD:R_0603_1608Metric_Pad0.98x0.95mm_HandSolder	Stackpole Electronics Inc	RMCF0603FT22R0
R10, R11	2	50mR	Resistor_SMD:R_2512_6332Metric_Pad1.40x3.35mm_HandSolder	Stackpole Electronics Inc	CSRN2512FK50L0
R12	1	500m	Resistor_SMD:R_1206_3216Metric_Pad1.30x1.75mm_HandSolder	Stackpole Electronics Inc	CSR1206FKR500
R17, R20, R21, R24	4	2.2R	Resistor_SMD:R_0805_2012Metric_Pad1.20x1.40mm_HandSolder	Stackpole Electronics Inc	RMCF0603FT100K
R25, R26	2	120m	Resistor_SMD:R_1206_3216Metric_Pad1.30x1.75mm_HandSolder	Eaton - Electronics Division	MFHA1206R1200FC
R28, R32, R34, R36	4	10k NTC	Resistor_SMD:R_0603_1608Metric_Pad0.98x0.95mm_HandSolder	EPCOS - TDK Electronics	B57330V2103F260
R29, R38, R39, R48, R49, R50, R51, R52, R53	9	2.2k 0.1%	Resistor_SMD:R_1206_3216Metric_Pad1.30x1.75mm_HandSolder	KOA Speer Electronics, Inc.	RN73R2BTTD2201B25
R30, R40, R41, R42, R43	5	220R 0.1%	Resistor_SMD:R_0603_1608Metric_Pad0.98x0.95mm_HandSolder	KOA Speer Electronics, Inc.	RN73R1JTDD2200B25
R37	1	10mR 4W	Custom-RLC:R_2512_6332_CURRENT_SHUNT	Isabellenhuette USA	VMS-R010-1.0-U
R44, R45, R54, R55	4	75R 0.1%	Resistor_SMD:R_0603_1608Metric_Pad0.98x0.95mm_HandSolder	KOA Speer Electronics, Inc.	RN73R1JTDD75R0B25
U1	1	MC7805ACTG	Package_TO_SOT_THT:TO-220-3_Horizontal_TabDown	onsemi	MC7805ACTG
U2	1	MCP1501T-20E/CHY	Package_TO_SOT_SMD:SOT-23-6	Microchip Technology	MCP1501T-20E/CHY
U3	1	SPX1117M3-L-3-3/TR	Package_TO_SOT_SMD:SOT-223-3_TabPin2	MaxLinear, Inc.	SPX1117M3-L-3-3/TR
U4, U5	2	CSD95372AQ5M	Custom-IC:LSON-12-1EP_5x6mm	Texas Instruments	CSD95372AQ5M
U6, U7	2	LTC6362	Package_SO:MSOP-8_3x3mm_P0.65mm	Analog Devices Inc.	LTC6362CMS8#TRPBF
U8	1	INA241A4	Package_TO_SOT_SMD:SOT-23-8_Handsoldering	Texas Instruments	INA241A4IDDFR
U9	1	INA241A1	Package_TO_SOT_SMD:SOT-23-8_Handsoldering	Texas Instruments	INA241A1IDDFR
W1	1	INSULATING WASHER	-	Assmann WSW Components	V5359

J1, J2	2 DNP	Connector_PinHeader_2.54mm:PinHeader_1x08_P2.54mm_Vertical	-	-
J3, J4, J5, J6	4 DNP	Connector_PinHeader_2.54mm:PinHeader_1x03_P2.54mm_Vertical	-	-
J9	1 DNP	Connector_PinHeader_2.54mm:PinHeader_1x04_P2.54mm_Vertical	-	-
R18, R19, R22, R23	4 DNP	Custom-RLC:DNP_R_0603_1608Metric_Pad0.98x0.95mm_HandSolder	-	-