

# Bill of Materials

# HV56020\_22 2X2-CH 225V AMP ARRAY DRV

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Engineer: Miguel Salcedo

Drawn By: Miguel Salcedo

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Quantity	Designator	Description_	Manufacturer 1	Manufacturer Part Number 1	Supplier 1	Supplier Part Number 1
6	C1, C2, C37, C43, C46, C51	CAP CER 2.2uF 16V 10% X5R SMD 0402	TDK	C1005X5R1C225K050B0	Digi-Key	445-9085-1-ND
1	C3	CAP CER 4.7uF 16V 10% X5R SMD 0603	TDK	C1608X5R1C475K080A0	Digi-Key	445-7478-1-ND
3	C4, C6, C23	CAP CER 10000pF 50V 10% X7R SMD 0402	Yageo	CC0402KRX7R9BB103	Digi-Key	311-1349-2-ND
3	C5, C8, C9	CAP CER 4.7uF 10V 10% X5R SMD 0402	TDK	C1005X5R1A475K050B0	Digi-Key	445-13820-1-ND
1	C7	CAP CER 4700pF 50V 10% X7R SMD 0402	Murata	GRM155R71H472KA01J	Digi-Key	490-8259-1-ND
3	C10, C16, C20	CAP CER 4.7uF 35V 10% X5R SMD 0603	Murata	GRM188R6YA475KE15D	Digi-Key	490-7205-1-ND
8	C11, C14, C17, C18, C19, C21, C35, C44	CAP CER 0.1uF 25V 10% X7R SMD 0402	TDK	C1005X7R1E104K050BE	Digi-Key	445-7348-1-ND
3	C12, C49, C53	CAP CER 1uF 35V 10% X5R SMD 0402	Murata	GRM155R6YA105KE11D	Digi-Key	490-10019-1-ND
2	C13, C15	CAP CER 6.8pF 50V 0.1pF NP0 SMD 0402	Murata	GRM155C1H6R8BA01D	Digi-Key	490-6252-1-ND
1	C22	CAP CER 10uF 25V 20% X5R SMD 0603	TDK	C1608X5R1E106M080A0	Farnell	2521968
1	C24	CAP CER 1uF 25V 20% X5R SMD 0603	Panasonic	ECJ-1V41E105M	Digi-Key	PCC2354CT-ND
4	C26, C27, C39, C41	CAP CER 10000pF 16V 10% X7R SMD 0402	KEMET	C0402C103K4RACTU	Digi-Key	399-1038-1-ND
2	C28, C29	CAP CER 100uF 16V 20% X5R SMD 1210	Yageo	CC1210MKX5R7BB107	Digi-Key	311-2052-2-ND

3	C32, C40, C52	CAP CER 0.22uF 450V 10% X7T SMD 1210	TDK	C3225X7T2W224K200A	Digi-Key	445-7765-1-ND
1	C33	CAP CER 0.01uF 450V 10% X7T SMD 0805 AEC-Q200	TDK	CGA4F4X7T2W103M085	Digi-Key	445-7966-1-ND
1	C34	CAP CER 100pF 25V 10% NP0 SMD 0603	AVX	06033A101KAT2A	Digi-Key	06033A101KAT2A-ND
2	C36, C45	CAP CER 10UF 25V 20% X5R SMD 0603	Murata	GRM188R61E106MA73D	Digi-Key	490-7202-1-ND
2	C38, C42	CAP CER 22uF 10V 20% X5R SMD 0603	Samsung	CL10A226MPCNUBE	Digi-Key	1276-6504-1-ND
4	C47, C48, C54, C55	CAP CER 3300pF 16V 10% X7R SMD 0402	Murata	GRM15XR71C332KA86L	Digi-Key	490-8263-1-ND
1	C50	CAP CER 0.033uF 16V 10% X7R SMD 0402	TDK	CGA2B2X7R1C333K050	Digi-Key	445-12238-1-ND
1	D1	DIO TVS PRTR5V0U2X 5.5V SMD SOT-143	Nexperia	PRTR5V0U2X,215	Digi-Key	1727-3884-1-ND
1	D2	DIO SCTKY SMD24 500mV 2A 40V SOD-123FL	MCC	SMD24PL-TP	Digi-Key	SMD24PL-TPMSCT-ND
1	D3	DIO RECT BYM07-300 0.5A 300V DO213-AA AEC-Q101	Vishay Semiconductors	BYM07-300-E3/98	Digi-Key	BYM07-300-E3/98GICT-ND
1	D4	DIO ZENER DZ2W39000L 39V 1W SMD SOD-123FL	Panasonic	DZ2W39000L	Digi-Key	DZ2W39000LCT-ND
1	D5	DIO RECT SBRT4U10LP-7 0.5V 4A 10V SMD U-DFN2020-2 AEC-Q101	Diodes	SBRT4U10LP-7	Digi-Key	SBRT4U10LP-7DICT-ND
1	D6	DIO SCTKY BAT54XV2T1G 30V 200mA 40V SOD-523	ON Semiconductor	BAT54XV2T1G	Digi-Key	BAT54XV2T1GOSCT-ND
1	FB1	FERRITE 470R@100MHz 1A SMD 0603	Murata	BLM18PG471SN1D	Digi-Key	490-5223-1-ND
1	J1	CON HDR-2 Male 1x2 SHROUD 2MM MH THT R/A	JST	S2B-PH-K-S(LF)(SN)	Digi-Key	455-1719-ND
1	J2	CON USB2.0 MICRO-B FEMALE TH/SMD R/A	Amphenol ICC / FCI	10118194-0001LF	Digi-Key	609-4618-1-ND
1	J4	CON HDR 1.5 Female Gold 1x6 RA SMD	Molex	5040500691	Digi-Key	WM10143CT-ND
1	J5	CON FFC/FPC 1mm 6P Female 2005290060 SMD R/A	Molex	2005290060	Digi-Key	WM20763CT-ND
1	J6	CON HDR-1.5 Male 1x3 GOLD SMD R/A	Molex	5040500391	Digi-Key	WM25694CT-ND
1	L1	FIXED IND 10UH 1.2A 240 MOHM SMD	Murata	LQH3NPN100MJRL	Digi-Key	490-9581-1-ND
1	L2	IND 0.906uH:95.303uH 1:10 10.7A SMD UA8164-CE	Coilcraft	UA8164-CE	Coilcraft	UA8164-CE
2	LD1, LD2	DIO LED GREEN 1.7V 20mA 3.92mcd Diffuse SMD 0603	Osram Opto	LGL29K-G2J1-24-Z	Digi-Key	475-2709-1-ND
1	R1	RES TKF 100k 1% 1/10W SMD 0603	Panasonic	ERJ3EKF1003V	Digi-Key	P100KHTR-ND
4	R2, R3, R15, R20	RES TKF 10k 5% 1/16W SMD 0402	Vishay Dale	CRCW040210K0JNED	Digi-Key	541-10KJCT-ND
1	R4	RES TKF 49.9k 1% 1/10W SMD 0603	Panasonic	ERJ-3EKF4992V	Digi-Key	P49.9KHTR-ND
1	R6	RES TF 1k 0.1% 1/16W SMD 0402	Yageo	RT0402BRD071KL	Digi-Key	YAG1386CT-ND
1	R7	RES TKF 2k 1% 1/10W SMD 0402	Panasonic	ERJ-2RKF2001X	Digi-Key	P2.00KLCT-ND
4	R8, R10, R18, R19	RES TKF 5.1k 1% 1/10W SMD 0402	Panasonic	ERJ-2RKF5101X	Digi-Key	P5.10KLCT-ND
1	R9	RES TKF 7.5M 1% 1/10W SMD 0603	Rohm	KTR03EZPF7504	Digi-Key	RHM7.5MAYCT-ND
1	R11	RES TKF 39.2k 1% 1/10W SMD 0603	Stackpole Electronics	RMCF0603FT39K2	Digi-Key	RMCF0603FT39K2CT-ND
1	R12	RES TKF 0R 1/10W SMD 0603	Panasonic	ERJ-3GEY0R00V	Digi-Key	P0.0GTR-ND
1	R13	RES TKF 3.3k 5% 1/10W SMD 0603	Panasonic	ERJ-3GEYJ332V	Digi-Key	P3.3KGCT-ND

1	R14	RES TKF 10M 1% 1/10W SMD 0603 HV AEC-Q200	Rohm	KTR03EZPF1005	Digi-Key	RHM10.0MAYCT-ND
1	R16	RES SHUNT 0.003R 1% 1/2W 0805 AEC-Q200	Rohm	PMR10EZPFV3L00	Digi-Key	RHM.003AJCT-ND
1	R17	RES TKF 499k 1% 1/10W SMD 0603	Panasonic	ERJ-3EKF4993V	Digi-Key	P499KHCT-ND
2	R21, R24	RES TKF 200k 1% 1/10W SMD 0402	Panasonic	ERJ-2RKF2003X	Digi-Key	P200KLCT-ND
2	R22, R25	RES TKF 150k 1% 1/10W SMD 0402	Panasonic	ERJ-2RKF1503X	Digi-Key	P150KLCT-ND
1	R23	RES TKF 225k 1% 1/16W SMD 0402	Stackpole Electronics	RMCF0402FT255K	Digi-Key	RMCF0402FT255KCT-N
1	R26	RES TKF 4.7k 5% 1/10W SMD 0603	Panasonic	ERJ-3GEYJ472V	Digi-Key	P4.7KGCT-ND
3	R27, R28, R29	RES TKF 10k 5% 1/10W SMD 0402	Panasonic	ERJ-2GEJ103X	Digi-Key	P10KJCT-ND
1	R30	RES TKF 330R 1% 1/10W SMD 0402	KOA Speer	RK73H1ETTP3300F	Mouser	660-RK73H1ETTP3300F
1	R31	RES TKF 100R 1% 1/10W SMD 0402	Panasonic	ERJ-2RKF1000X	Digi-Key	P100LCT-ND
1	S1	SWITCH SLIDE SPDT 4V 0.3A MLL1200S	TE Connectivity Alcoswit	MLL1200S	Digi-Key	450-1577-ND
1	XC1	CRYSTAL 32.768kHz 7pF SMD CM7V-T1A	Micro Crystal	CM7V-T1A 32.768 kHz 7	Micro Crystal	CM7V-T1A 32.768 kHz 7

**Microchip Parts listed below**

1	B1	MCHP RF BLUETOOTH RN4871-I/RM130	Microchip	RN4871IRM130	Digi-Key	RN4871-I/RM130-ND
2	M1, M2	MCHP ANALOG MOSFET N-CH TN2106 60V 280mA 360mW 2.5R SOT23-3	Microchip Technology	TN2106K1-G	Microchip Tech	TN2106K1-G
1	U1	MCHP ANALOG LDO 3.3V 300mA MCP1812AT-033/OT SOT23-5	Microchip	MCP1812AT-033/OT	Digi-Key	MCP1812AT-033/OTCT-
1	U2	MCHP ANALOG LDO ADJ MIC94325YMT-TR TDFN-6	Microchip	MIC94325YMT-TR	Digi-Key	576-4164-1-ND
1	U3	MCHP ANALOG BATTERY CHARGER MCP73830T-2AAI/MYY TDFN-6	Microchip	MCP73830T-2AAI/MYY	Digi-Key	MCP73830T-2AAI/MYY-N
1	U4	MCHP MCU 32-BIT 48MHz 256kB 32kB ATSAML21J18B-MNT QFN-64	Microchip Technology	ATSAML21J18B-MNT	Microchip Tech	ATSAML21J18B-MNT
1	U5	MCHP MEMORY SERIAL FLASH 4Mb 40MHz SST25PF040CT-40I/NP 8-UDFN (2x3)	Microchip	SST25PF040CT-40I/NP	Digi-Key	SST25PF040CT-40I/NPC
2	U6, U7	MCHP ANALOG DAC 2-Ch 12-Bit MCP48FEB22-E/UN MSOP-10	Microchip Technology	MCP48FEB22-E/UN	Microchip Tech	MCP48FEB22-E/UN
1	U8	MCHP ANALOG HV DRIVER 2-Ch HV56020-V/KXX QFN-43	Microchip Technology Inc	HV56020-V/KXX	Microchip Tech	HV56020-V/KXX
1	U9	MCHP ANALOG HV DRIVER 2-Ch HV56022-V/KNX QFN-20	Microchip Technology Inc	HV56022-V/KNX	Microchip Tech	HV56022-V/KNX

**Mechanical Parts to be added in the package**

1	LABEL1	LABEL, ASSY W/REV LEVEL (SMALL MODULES) PER MTS-0002				

PCB						
1	PCB1	Printed Circuit Board		04-11215-R1		

Do Not Populate Parts listed below						
0	C56, C57, C58, C59	CAP CER 0.01uF 450V 10% X7T SMD 0805 AEC-Q200	TDK	CGA4F4X7T2W103M084	Digi-Key	445-7966-1-ND
1	J3	CON TAG 10P TC2050 SMT NO LEGS	Tag-Connect	TC2050-IDC-NL	Digi-Key	TC2050-IDC-NL-ND
0	R5	RES TKF 10k 5% 1/16W SMD 0402	Vishay Dale	CRCW040210K0JNED	Digi-Key	541-10KJCT-ND
0	R32	RES TF 1k 0.1% 1/10W SMD 0603	Panasonic	ERA-3AEB102V	Digi-Key	P1.0KDBTR-ND

Approved	Notes	Description