

# Bill of Materials MCP331x1D-xx SAR ADC Eval. Board

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Quantity	Designator	Description	Manufacturer 1	Manufacturer Part Number 1	Supplier 1	Supplier Part Number 1
4	C1, C10, C15, C59	CAP CER 0.1uF 16V 10% X7R SMD 0603	AVX	9603YC104KA2A	Digi-Key	478-1239-1-ND
2	C2, C16, C20	CAP CER 1uF 16V 10% X7R SMD 0603	TDK	C1608X7R1C159K	Digi-Key	446-1604-1-ND
4	C3, C8, C9, C22	CAP CER 1uF 16V 20% Y5V SMD 0603	AVX	9603YG106KA2A	Digi-Key	478-1246-1-ND
1	C4	CAP CER 1uF 16V 20% Y5V SMD 0805	AVX	0805YG106KA2A	AVX	0805YG106KA2A
1	C5	CAP CER 2.2uF 16V 10% X5R SMD 0603	TDK	C1608X5R1C229K	Digi-Key	446-5157-1-ND
1	C6	CAP TANT 10uF 16V 20% 80hm SMD A	KEMET	T491A106M016A5	Digi-Key	399-3098-2-ND
2	C7, C23	CAP CER 100pF 25V 10% NP0 SMD 0603	AVX	96033A101KA2A	Digi-Key	96033A101KA2A-ND
1	C11	CAP CER 1uF 25V 10% X7R SMD 0603	TDK Corporation	CGA3E1X7R1E106K08	Digi-Key	446-6931-1-ND
4	C13, C18, C31, C43	10uF ±10% 25V X5R Cer Cap MLCC	Murata Electronics North	GRM21BR61E106KA73L	Murata Electro	50RM21BR61E106KA73L
4	C14, C25, C41, C11	CAP TANT 10uF 20V 10% 2.1Ohm SMD	AVX	TAJB106K020RNJ	Digi-Key	478-1674-1-ND
3	C17, C26, C42	CAP CER 2.2uF 50V 10% X7R SMD 1206	TDK Corporation	CGASL3X7R1H25K18	Digi-Key	446-6986-1-ND
3	C19, C32, C44	CAP CER 470pF 50V 10% X7R SMD 0603	Johanson Dielectrics	500R14W471K4V4T	Digi-Key	708-1164-1-ND
1	C21	CAP TANT 22uF 16V 10% 2.3Ohm SMD B	AVX	TAJB22226K016R	Digi-Key	478-1682-1-ND
2	C35, C37	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0603 1800eF 5volts COG 2%	Murata Electronics	GCM188SC1H82GA1H	Mouser	81-GCM188SC1H82GA1H
3	C45, C47, C52	CAP CER 4.7uF 25V 10% X7R SMD 0805	TDK Corporation	C2012X7R1E475K125A	Digi-Key	446-5972-1-ND
1	C46	CAP CER 0.1uF 50V 10% X7R SMD 0806	Yageo	CC0806KRX7R50B104	Digi-Key	311-1140-1-ND
1	C48	CAP CER 22uF 16V 20% X5R SMD 1206	Panasonic	EC-L3YB1C226M	Digi-Key	PCC233CCT-ND
2	C49, C50	CAP CER 22uF 25V 10% X7R SMD 1210	Samsung Electro-Mecha	CL32B226KAFNFE	Digi-Key	1276-3391-1-ND
1	C51	CAP CER 10uF 50V 20% X7S SMD 1210	TDK	C322EX7S1H106M	Digi-Key	446-4537-1-ND
1	C60	CAP CER 1uF 16V 10% X7R SMD 0603	Yageo	CC0603K0X7R70B105	Farnell	1468990
1	C64	CAP CER 1uF 25V 20% X5R SMD 0603	Panasonic	EC-L1V41E105M	Digi-Key	PCC234CCT-ND
1	D1	DIO LED RED V 30mA 2mod Clear SMD	Lite-On	L1ST-C190EKT	Digi-Key	160-1182-1-ND
1	D2	DIODE SCHOTTKY 30V 1A POWERDI323	Diodes Incorporated	PD3S130L-7	Digi-Key	PD3S130LDCCT-ND
1	D3	DIO RECT 1N4148 655mV 300mA 75V SMD3023	Diodes Incorporated	1N4148WS-7-F	Digi-Key	1N4148WS-FDCT-ND
1	D4	DIO RECTARR MMBD1503A 1.1V 200mA 200V SMD SOT-23-3	Fairchild Semiconductor	MMBD1503A	Digi-Key	MMBD1503ATR-ND
8	FB1, FB2, FB3, FB4, FB5, FB6, FB7, FB8	FERRITE BEAD 1 KOhm 0603 1LN	Würth Electronics Inc.	74272662	Digi-Key	732-6670-1-ND
4	GND1, GND2, GND3, GND4	CON TP LOOP Black TH	Keystone	5011	Digi-Key	5011K-ND
1	H1	CON TERMINAL 3.5mm 6A Female 1x2 TH R/A	Keystone	8722	Digi-Key	86-8722-ND
1	J1, J2	CON HDR-2.54 Male 1x2 Gold 5.84MM TH R/A	TE Connectivity AMP Co	5-1814A00-1	Digi-Key	A97593-ND
2	J3, J6	CON HDR-2.54 Male 1x2 Gold 5.84MM TH VERT	FCI	77311-118-02LF	Digi-Key	609-4434-ND
1	J5	CONN POWER JACK MALE 2.5MM CLSD	CUI Inc	PL-0028	Digi-Key	CP-0028-ND
2	J10_A, J10_B	CON HDR-2.54 Male 1x8 Gold 5.84MM TH	FCI	68001-108HLF	Digi-Key	609-3273-ND
1	L5	FIXED IND 47uH 2A 135 MOHM SMD	Bourns Inc.	SRR1240-470M	Digi-Key	SRR1240-470MCT-ND
1	L6	FIXED IND 1mH 250mA 6 Ohm TH	Würth Electronics Inc	7447462102	Digi-Key	732-2576-ND
1	L8	FIXED IND 1uH 1A 50 MOHM SMD	Murata Electronics North	DR45321004133	Digi-Key	446-6616-1-ND
1	L9	Fixed Shielded Power Inductor 4.7uH	Mouser	1P53015-472AB-B	Digi-Key	994-LESS3015-472AB-B
5	PAD1, PAD2, PAD3, PAD4, PAD5	MECH HW RUBBER PAD CYLINDRICAL 07 0 HS 3 BLACK	3M	SJ61A11	Digi-Key	SJ6747-0-ND
2	R1, R9	RES TKF 20R 1% 1/16W SMD 0603	Stackpole Electronics In	RNCP0603FTD20R0	Digi-Key	RNCP0603FTD20R0CT-ND
2	R3, R8	RES TKF 24R 1% 1/16W SMD 0603	Yageo	RC0603FR-0724R	Digi-Key	311-24-09RCT-ND
2	R4, R6, R7, R37	RES TF 1k 0.1% 1/10W SMD 0603	Panasonic - ECG	ERA-3AEB102V	Digi-Key	P1-0K0BTR-ND
2	R10, R11	RES TF 10k 0.1% 1/10W SMD 0603	Panasonic	ERA-3AEB103V	Digi-Key	P1-10K0BTR-ND
1	R12	RES TF 10k 1% 1/16W SMD 0603	TE Connectivity	5-1879337-9	Digi-Key	A102293CCT-ND
1	R13	RES TKF 30k 5% 1/10W SMD 0603	Panasonic	ER-L3GEV303V	Digi-Key	P30K0CCT-ND
1	R14, R15, R16, R17	RES TKF 10k 5% 1/10W SMD 0603	Panasonic	ER-L3GEV103V	Digi-Key	P10K0CCT-ND
2	R18, R19	RES TKF 0R SMD 0402	Panasonic	ER-L2QE0R000V	Digi-Key	P0-0JCT-ND
2	R20, R39	RES TKF 0R 1/16W SMD 0402	Yageo	RC0402JR-0700R	Digi-Key	311-0-0JCT-ND
1	R25	RES TKF 7 15k 1% 1/10W SMD 0603	Panasonic Electronic Co	ER-L3EF7151V	Digi-Key	P7-15K0BTR-ND
1	R26, R32, R40	RES TKF 1R 1% 1/10W SMD 0603	Rohm Semiconductor	KTR03E2PF1R00	Digi-Key	RHM1-00AYCT-ND
1	R27	RES TKF 82k 1% 1/10W SMD 0603	Panasonic Electronic Co	ER-L3EKF8202V	Digi-Key	P82-0K0HCT-ND
1	R29	RES TKF 14k 1% 1/10W SMD 0603	Panasonic Electronic Co	ER-L3EKF1402V	Digi-Key	P14-0K0CCT-ND
1	R30	RES TKF 280k 1% 1/10W SMD 0603	Panasonic Electronic Co	ER-L3EKF2803V	Digi-Key	P280KHCT-ND
1	R31	RES TKF 56k 1% 1/10W SMD 0603	Vishay Dale	CRW-W80556K0FKEA	Digi-Key	541-56-0K0CCT-ND
11	R33, R38, R42, R48, R49, R50, R51, R56, R58, R59, R60	RES TKF 0R 1/10W SMD 0603	Panasonic	ER-L3GSY0R00V	Digi-Key	P0-0GTR-ND
1	R34	RES SMD 143k OHM 1% 1/10W 0603	Bourns Inc.	CR0603-FX-1433ELF	Digi-Key	CR0603-FX-1433ELCT-ND
1	R35	RES SMD 237k OHM 1% 1/10W 0603	Stackpole Electronics In	RMCF0603F237K	Digi-Key	RMCF0603F237KCT-ND
1	R36	RES TKF 10.5R 1% 1/10W SMD 0603	Vishay Dale	CRW-W80310R5FKEA	Digi-Key	541-10-5R0CT-ND
1	R41	RES TKF 300R 1/10W 1% SMD 0603	Stackpole Electronics In	RMCF0603F300K	Digi-Key	RMCF0603F300KCT-ND
1	R43	RES TKF 13.3k 1% 1/10W SMD 0603	Stackpole Electronics In	RMCF0603F133K	Digi-Key	RMCF0603F133KCT-ND
1	R44, R53, R54, R55	RES TKF 33R 1% 1/10W SMD 0603	Rohm	MC032ZPF33R00	Digi-Key	RHM33-04CT-ND
1	R46	RES TKF 150R 1% 1/10W SMD 0603	Yageo	RC0603FR-07150R	Digi-Key	311-150R0BCT-ND
1	R47	RES TKF 0R 1/16W SMD 0605	Panasonic	ER-L4GEV0R00V	Digi-Key	P0-0JTR-ND
1	R52	RES TKF 47k 1% 1/10W SMD 0603	Panasonic	ER-L3EKF4702V	Digi-Key	P47-0K0HCT-ND
1	R57	RES TKF 2k 1% 1/10W SMD 0603	Panasonic	ER-L3EKF2001V	Digi-Key	P2-0K0HTR-ND
1	SW1	SWITCH DIP 4-POS SLIDE SMD 6V	Cosel Electronics Inc	CHS-04TB	Digi-Key	863-1008-1-ND
7	TP1, TP4, TP5, TP6, TP8, TP9, TP10	CON HDR-2.54 Male 1x1 Gold 5.97MM TH VERT	Santec	TSW-101-07-L-S	Santec	TSW-101-074-L-S

Microchip Parts listed below						
1	U1	MICHP ANALOG OPAMP MCP6D11-MG16 08T16	Microchip	MCP6D11-MG16	Microchip	MCP6D11-MG16
1	U2	MICHP ANALOG VREF 4.096V MCP1501T-40E-CHY SOT-23-6	Microchip Technology	MCP1501T-40E-CHY	Digi-Key	MCP1501T-40E-CHYCT-ND
1	U3	MCP3313D-10-4MS	Microchip Technology In	MCP3313D-10-4MS	Microchip Tech	MCP3313D-10-4MS
1	U4, U6, U9	MICHP ANALOG LDO 2.5V-5V MIC5219YMM MSOP-8	Microchip Technology	MIC5219YMM	Digi-Key	578-3437-ND
1	U5	IC OPAMP GP 3.5MHz RRO SOT23-5	Microchip Technology	MCP6286T-E-OT	Digi-Key	MCP6286T-E-OTCT-ND
1	U10	MICHP ANALOG SWITCHER Buck 2V to 15V MCP16301T-4-CHY SOT-23-6	Microchip	MCP16301T-4-CHY	Microchip	MCP16301T-4-CHY

Mechanical Parts to be added in the package						
1	JP1	MECH HW JUMPER 2.54mm 1x2 w Handle	TE Connectivity AMP Co	880584-4	Digi-Key	A122487-ND
1	PS1	AC/DC WALL MOUNT ADAPTER 9V 12W 1.2A 2.5mm I.D	CUI Inc.	SW112-9-24-RP	Digi-Key	102-4954-ND
1	SCR1	MECH HW MACHINE SCREW PAN PHILLIPS 4-40 NYLON	Digkey	H544-ND	Digikey	H544-ND
1	STANDOFF1	MECH HW STANDOFF #4-40 x 3/4" F/F HEX NYLON	Keystone Electronics	1902D	Digikey	36-1902D-ND

PCB						
1	PCB1	Printed Circuit Board		04-10726-R1		

Do Not Populate Parts listed below						
0	C12	CAP CER 0.1uF 16V 10% X7R SMD 0603	AVX	9603YC104KA2A	Digi-Key	478-1239-1-ND
0	C33	0.062uF 1206 CER 50V 5% COG	Murata Electronics	GRM31C5C1H823JA01	Mouser	81-GRM31C5C1H823JA01
0	C34	0.062uF 1206 CER 50V 5% COG	Murata Electronics	GRM31C5C1H823JA01	Mouser	81-GRM31C5C1H823JA01
0	INT+, INT-, TP7	CON HDR-2.54 Male 1x1 Gold 5.97MM TH VERT	Santec	TSW-101-074-L-S	Santec	TSW-101-074-L-S
0	J4, J8	CONN HDR 1.27MM TH AU 3POS	Digikey	952-3599-ND	Digikey	952-3599-ND
0	R2, R61	CONN HDR-1.27 Male 1x2 Gold TH VERT	Digikey	952-3599-ND	Digikey	952-3599-ND
0	R21, R45	RES TKF 0R 1/16W SMD 0402	Yageo	RC0402JR-0700R	Digi-Key	311-0-0JCT-ND
0	R22, R23, R24	RES TKF 0R SMD 0402	Panasonic	ER-L4GEV0R00V	Digi-Key	P0-0JCT-ND
0	R28	RES TFK 35.7k OHM 1% 1/10W SMD 0603	Vishay Dale	CRW-W80335K7FKEA	Digi-Key	541-35-7K0HCT-ND

Approved	Notes	Description