

Bill of Materials

ADM00506 - MCP37xxx Data Capture Card

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 Revision: 2
 Engineer: Youbok Lee
 Drawn By: Youbok Lee



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Quantity	Designator	Description	Manufacturer	Manufacturer Part Number	Supplier	Supplier Part Number
1	SW1	Switch Tactile SPST-NO 0.05A 12V	Panasonic ECG	EVQ-5PN04K	Digikey	P13595SCT-ND
1	U1	FPGA Spartan-6 LX Family 43661 Cells 45nm (CMOS) Technology 1.2V 484-pin FBGA	Xilinx	XC6SLX45-3FGG484I	Avnet	XC6SLX45-3FGG484I
1	U2	IC DDR2 SDRAM 512MBIT 84BGA	Micron	MT47H32M16HR-25E AAT:G	Digikey	MT47H32M16HR-25E AAT:G-ND
1	U3	IC MCU USB Peripheral High Speed 56VQFN	Cypress	CY7C68013A-56LFXI	Digikey	CY7C68013A-56LFXI-ND
1	Y3	Crystal 24MHz 9Pf SMD	Seiko Epson	TSX-3225_24.000MF20G-AC3	Digikey	SER3634CT-ND
1	U11	IC PROM SRL 1.8V 16M 48CSBGA	Xilinx	XCF16PFSG48C	Digikey	122-1455-ND
1	Y1	Crystal 125MHz	Crystek	CCHD-950x-50-125	Luiz Oricchio	Ph. 239-561-3311 ext.205
1	J5	USB Mini-B Connector 5POS SMD	Molex	0548190572	Digikey	WM17116CT-ND
1	J6	Header Connector 14POS Vertical 2MM SMD (JTAG)	Molex	0878321416	Digikey	WM8613-ND
1	J7	Power Jack Connector 2.1x5.5MM SMD	CUI Inc.	PJ-002A-SMT	Digikey	CP-002APJCT-ND
3	J1, J2, J3	Backplane Connector RCP 40POS 2.5mm Press Fit RA Thru-Hole	TYCO	1469028-1	Avnet	1469028-1
1	Q1	MOSFET 2N-CH 30V 250MA SOT-363	ON Semiconductor	NTJD4001NT1G	Digikey	NTJD4001NT1GOSCT-ND
1	FB1	Ferrite Chip 5 Ohm 300mA 0402	Murata	BLM15BA050SN1D	Digikey	490-5179-1-ND
10	D1, D2, D3, D4, D5, D6, D7, D8, D9, D10	LED Red/Clear 636NM 0402 SMD	Lumex Opto	SML-LX0402SIC-TR	Digikey	67-1878-1-ND
5	Underside of Board	Cylindrical Bumpers 0.375" Diameter Black	3M	SJ61A4	Digikey	SJ5750-0-ND
2	C28, C29	Ceramic Capacitor 12pF 50V 1% NP0 0402	Murata	GRM1555C1H120FA01D	Digikey	490-6196-2-ND
1	C50	Ceramic Capacitor 10pF 50V 1% NP0 0402	Murata	GRM1555C1H100FA01D	Digikey	490-6186-6-ND
1	C65	Ceramic Capacitor 15pF 50V 1% NP0 0402	Murata	GRM1555C1H150FA01D	Digikey	490-6200-1-ND
2	C17, C35	Ceramic Capacitor 39pF 50V 1% NP0 0402	Murata	GRM1555C1H390FA01D	Avnet	GRM1555C1H390FA01D
49	C36, C37, C39, C40, C41, C42, C51, C52, C53, C54, C55, C56, C66, C67, C68, C69, C70, C71, C80, C81, C82, C83, C84, C85, C94, C95, C96, C97, C98, C99, C100, C101, C102, C103, C104, C105, C106, C107, C108, C130, C131, C132, C133, C134, C135, C136, C137, C138, C139	Ceramic Capacitor 1000pF 50V 1% NP0 0402	Murata	GRM1555C1H102FA01D	Digikey	490-6189-6-ND
4	C155, C156, C157, C158	Ceramic Capacitor 1000pF 50V 5% X7R 0402	Samsung EM America	CL05B103JB5NNNC	Digikey	1276-1495-1-ND

64	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C18, C38, C43, C44, C45, C46, C47, C57, C58, C59, C60, C61, C62, C72, C73, C74, C75, C76, C77, C86, C87, C88, C89, C90, C91, C112, C113, C114, C115, C116, C117, C118, C119, C120, C121, C123, C124, C125, C126, C143, C144, C145, C146, C147, C148, C149, C150, C151	Ceramic Capacitor 0.047uF 16V 5% X7R 0402	Kemet	C0402C473J4RACTU	Digikey	399-8969-2-ND
26	C20, C21, C22, C23, C24, C25, C26, C27, C30, C31, C32, C33, C34, C163, C164, C166, C167, C169, C170, C172, C173, C175, C176, C178, C179, C186	Ceramic Capacitor 0.1uF 25V 10% X5R 0402	Taiyo Yuden	TMK105BJ104KV-F	Digikey	587-1456-1-ND
14	C48, C63, C78, C92, C109, C110, C111, C140, C141, C142, C159, C160, C161, C162	Ceramic Capacitor 0.47uF 10V 20% X5R 0603	TDK Corporation	CGA3E2X5R1A474M080AA	Digikey	445-12437-1-ND
2	C197, C205	Ceramic Capacitor 1uF 25V 10% JB 0402	TDK Corporation	CGB2A1JB1E105K033BC	Digikey	445-12015-6-ND
2	C181, C187	Ceramic Capacitor 4.7uF 10V 20% X5R 0402	TDK Corporation	C1005X5R1A475M050BC	Digikey	445-8023-1-ND
12	C49, C64, C79, C93, C127, C128, C129, C152, C153, C154, C182, C198	Ceramic Capacitor 10uF 10V 10% X5R 0603	TDK Corporation	C1608X5R1A106K080AC	Digikey	445-7486-1-ND
2	C190, C206	Ceramic Capacitor 47uF 10V 20% X5R 1210	Samsung EM America	CL32A476MPJNNNE	Digikey	1276-3380-6-ND
6	C165, C168, C171, C174, C177, C180	Ceramic Capacitor 100uF 10V 20% X5R 1210	Samsung EM America	CL32A107MPVNNNE	Digikey	1276-3364-2-ND
32	R1, R3, R6, R7, R8, R9, R10, R11, R12, R13, R14, R16, R18, R19, R20, R23, R24, R41, R71, R78, R90, R93, R105, R112, R113, R118, R122, R124, R130, R135, R137, R146	Resistor 0.0 Ohm 1/10W Jump 0402 SMD	Panasonic	ERJ-2GE0R00X	Digikey	P0.0JCT-ND
2	R110, R111	Resistor 10 Ohm 1/10W 1% 0402 SMD	Panasonic	ERJ-2RKF10R0X	Digikey	P10.0LCT-ND
1	R121	Resistor 57.6 Ohm 1/10W 1% 0402 SMD	Panasonic	ERJ-2RKF57R6X	Digikey	P57.6LCT-ND
3	R119, R120, R123	Resistor 68 Ohm 1/10W 1% 0402 SMD	Panasonic	ERJ-2RKF68R0X	Digikey	P68.0LCT-ND
4	R77, R79, R80, R84	Resistor 100 Ohm 1/10W 1% 0402 SMD	Panasonic	ERJ-2RKF1000X	Digikey	P100LCT-ND
1	R117	Resistor 150 Ohm 1/10W 1% 0402 SMD	Panasonic	ERJ-2RKF1500X	Digikey	P150LCT-ND
13	R95, R96, R97, R98, R99, R100, R101, R108, R109, R116, R126, R128, R129	Resistor 330 Ohm 1/10W 1% 0402 SMD	Panasonic	ERJ-2RKF3300X	Digikey	P330LCT-ND
2	R82, R83	Resistor 2.2K Ohm 1/10W 1% 0402 SMD	Panasonic	ERJ-2RKF2201X	Digikey	P2.20KLCT-ND
3	R69, R114, R115	Resistor 4.7K Ohm 1/10W 1% 0402 SMD	Panasonic	ERJ-2RKF4701X	Digikey	P4.70KLCT-ND
2	R21, R92	Resistor 10K Ohm 1/10W 1% 0402 SMD	Panasonic	ERJ-2RKF1002X	Digikey	P10.0KLCT-ND
4	R81, R89, R139, R141	Resistor 20K Ohm 1/10W 1% 0402 SMD	Panasonic	ERJ-2RKF2002X	Digikey	P20.0KLCT-ND
1	R88	Resistor 40K Ohm 0402 SMD	<generic>		Digikey	
1	R85	Resistor 69.8K Ohm 1/10W 1% 0402 SMD	Panasonic	ERJ-2RKF6982X	Digikey	P69.8KLCT-ND
2	R136, R140	Resistor 144K Ohm 0402 SMD	<generic>		Digikey	

Microchip Parts listed below

1	U4	IC EEPROM 128KBIT 400KHz 8SOIC	Microchip	24LC128-I/SN	Digikey	24LC128-I/SN-ND
4	U5, U6, U7, U8	IC LDO Regulator Adjustable 1.5A 8DFN	Microchip	MCP1727-ADJE/MF	Digikey	MCP1727-ADJE/MF-ND

Mechanical Parts to be added in the package

1	Included in packaged box	USB A Male to Mini USB B 5 pin Cable - 3ft		10UM-02103BK	Katerno.com	10UM-02103BK
1	Included in packaged box	Wall Mount AC Adapters 5W 5V 1.0A 2 pole USA plug	Mean Well	GS06U-1P1J	Mouser	709-GS06U-1P1J

Do Not Populate Parts listed below

1	C19	5pF Capacitor (0603)	<generic>		Digikey	
1	C202	68pF Capacitor (0402)	<generic>		Digikey	
1	C203	0.33uF Capacitor (0402)	<generic>		Digikey	
1	C210	6.8nF Capacitor (0402)	<generic>		Digikey	
1	C211	1uF Capacitor (0402)	<generic>		Digikey	
1	C214	4.7uF Capacitor (0603)	<generic>		Digikey	
2	C212, C213	22uF Capacitor (0603)	<generic>		Digikey	
14	C122, C184, C185, C188, C189, C192, C193, C195, C200, C201, C204, C207, C208, C209	100uF Capacitor (1210)	<generic>		Digikey	
4	C183, C191, C194, C199	3.3uF Capacitor (0805)	<generic>		Digikey	
1	C196	1.2nF Capacitor (0402)	<generic>		Digikey	
1	R102	5k Resistor (0402)	<generic>		Digikey	
1	R103	8.2k Resistor (0402)	<generic>		Digikey	
1	R104	10k Resistor (0402)	<generic>		Digikey	
1	R94	750 Ohm Resistor (0402)	<generic>		Digikey	
46	R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R73, R74, R75	49.9 Ohm Resistor (0402)	<generic>		Digikey	
5	R70, R72, R76, R106, R107	4.7k Resistor (0402)	<generic>		Digikey	
8	R2, R4, R15, R22, R86, R87, R91, R125, R127	0 Ohm Resistor (0402)	<generic>		Digikey	
1	R5	20k Resistor (0402)	<generic>		Digikey	
1	R17	10k Resistor (0402)	<generic>		Digikey	
5	M1, M2, M3, M4, M5	4-40 Mounthole				
1	L1	Fixed Inductors WE-HCC Choke 1.50uH 19.5A 2.1mOhm	Wurth Electronics	7443320150	Mouser	710-7443320150
1	J4	Conn Card Edge SKT 100 POS 0.8mm Solder ST Edge Mount	Samtec	MEC8-150-02-L-D-EM2	Avnet	MEC8-150-02-L-D-EM2
1	Y2	200 MHz Crystal Oscillator	Crystek	CCPD-034-50-200.000	Digikey	744-1041-ND
4	TP1, TP2, TP3, TP5	SIP-1P Test Point				
1	U9	MCP19035			Digikey	
1	M6	MCP87050			Digikey	
1	M7	MCP87022			Digikey	

Approved	Notes