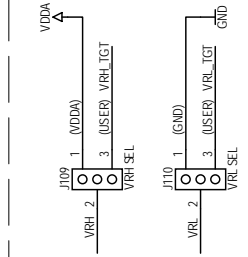
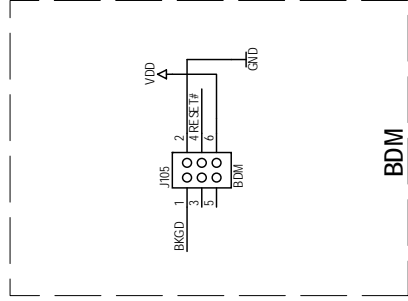


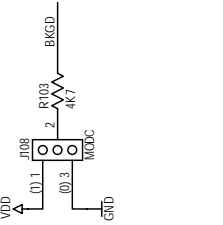
# **EVB9S12XEP100**

## **Schematic and Bill of Material**

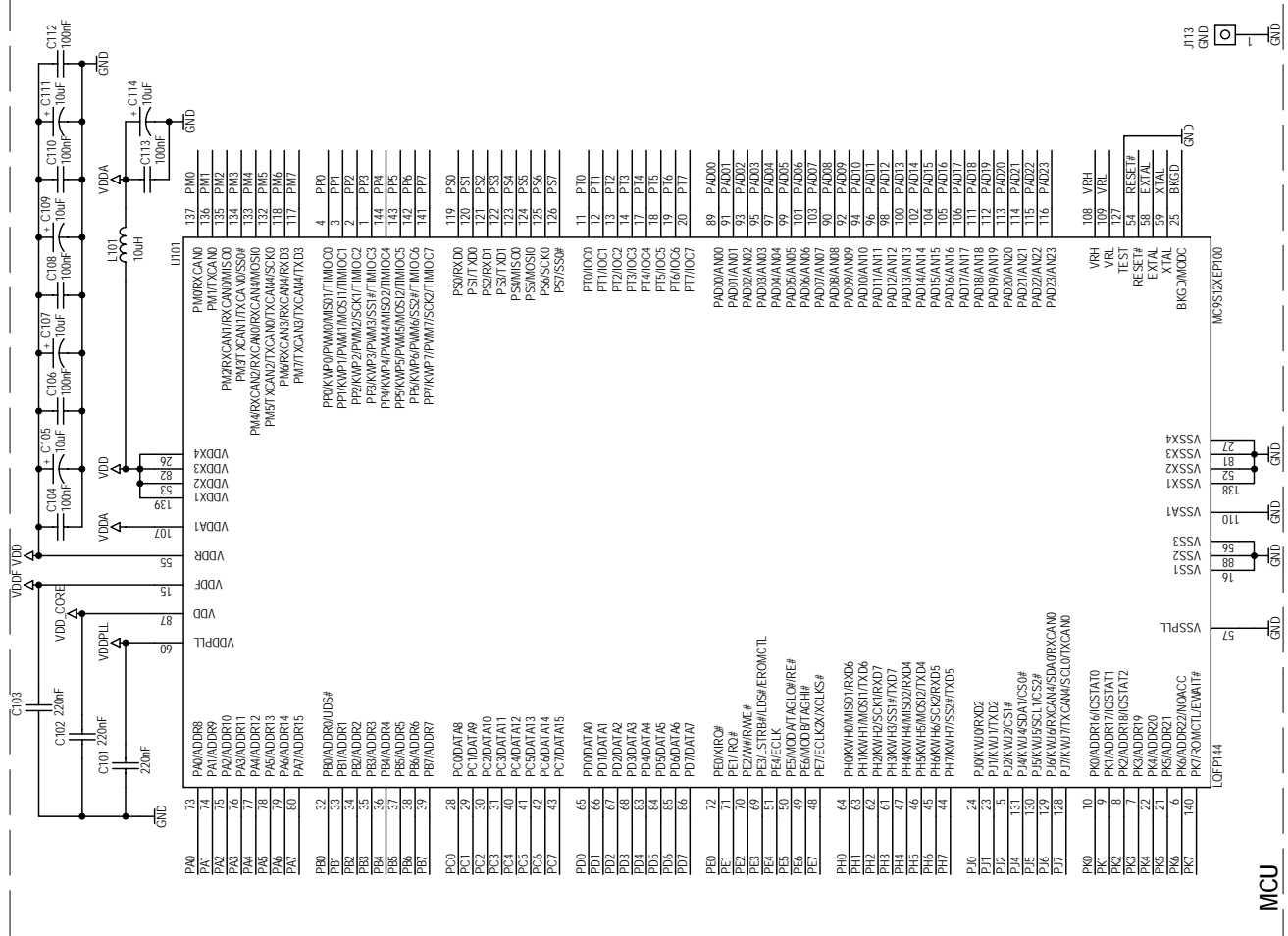
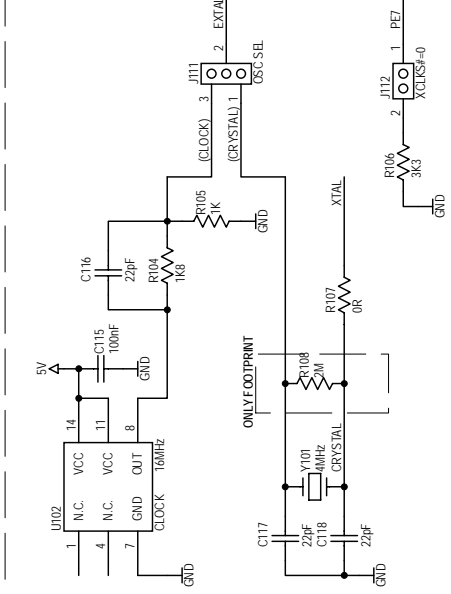


**ATD REFERENCE**

**MCU SETTINGS**

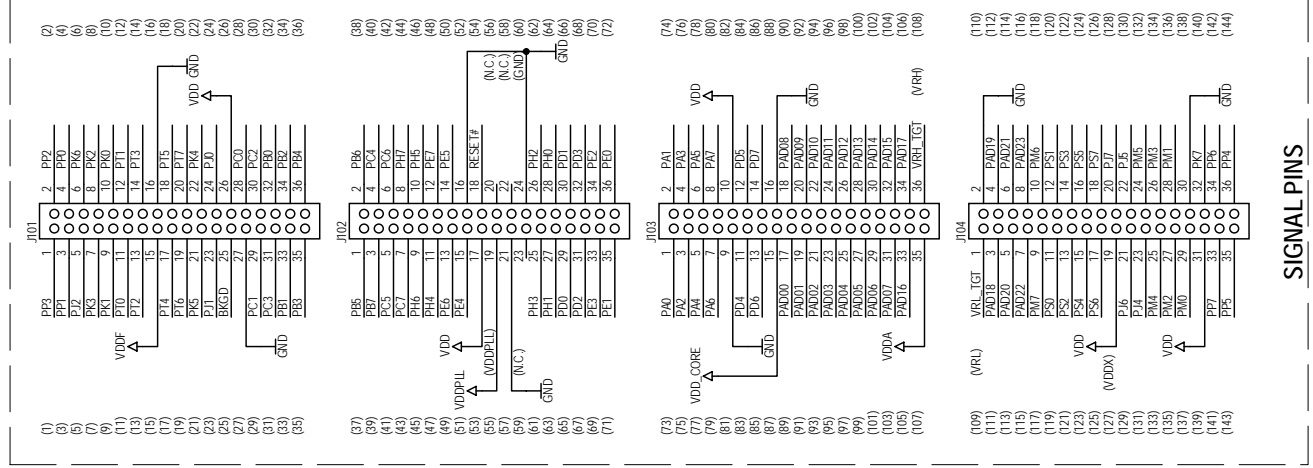


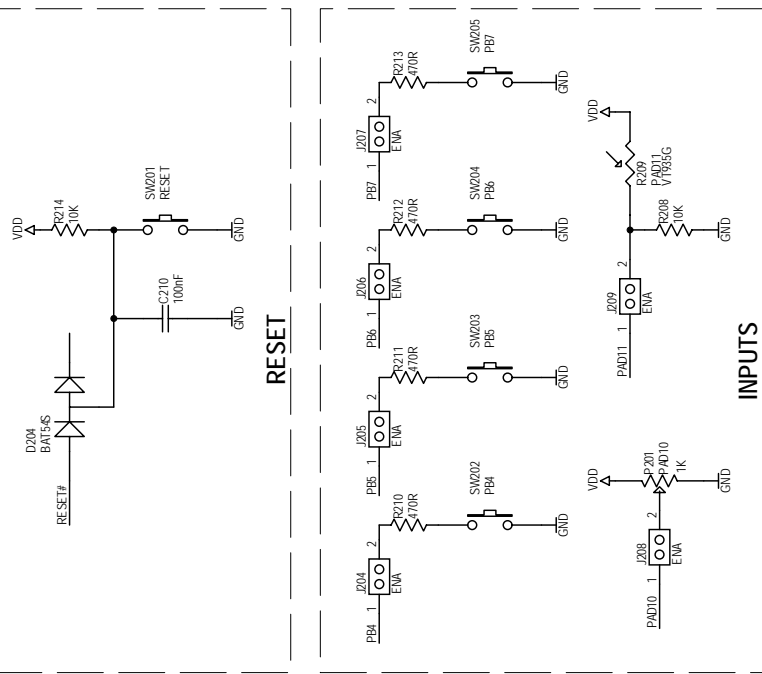
**OSCILLATOR**



**MCU**

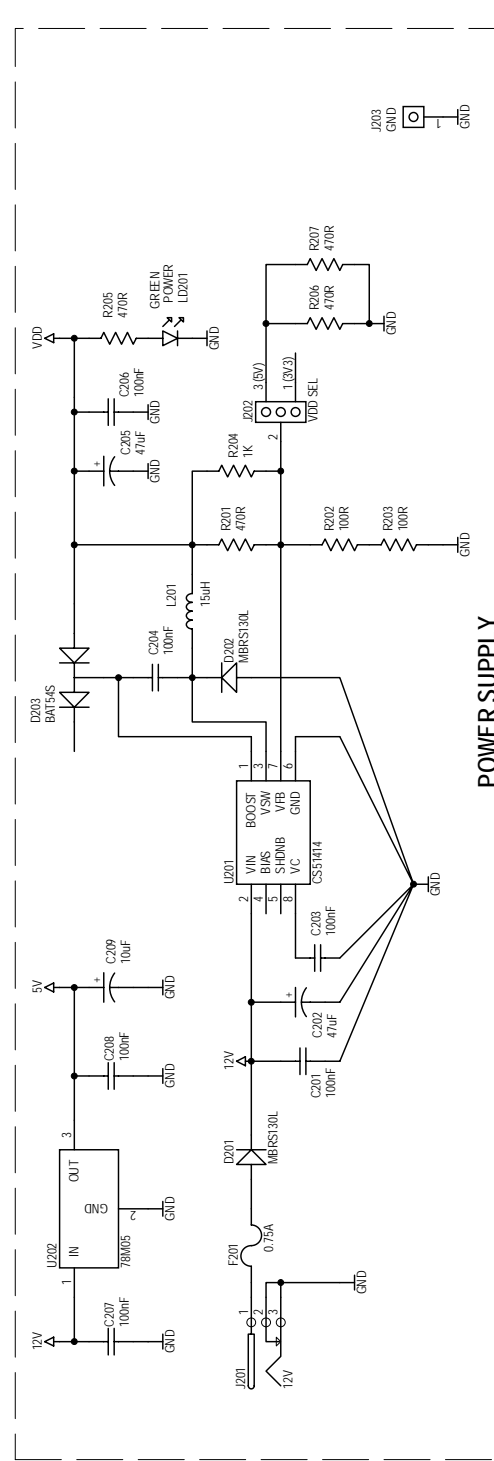
**SIGNAL PINS**



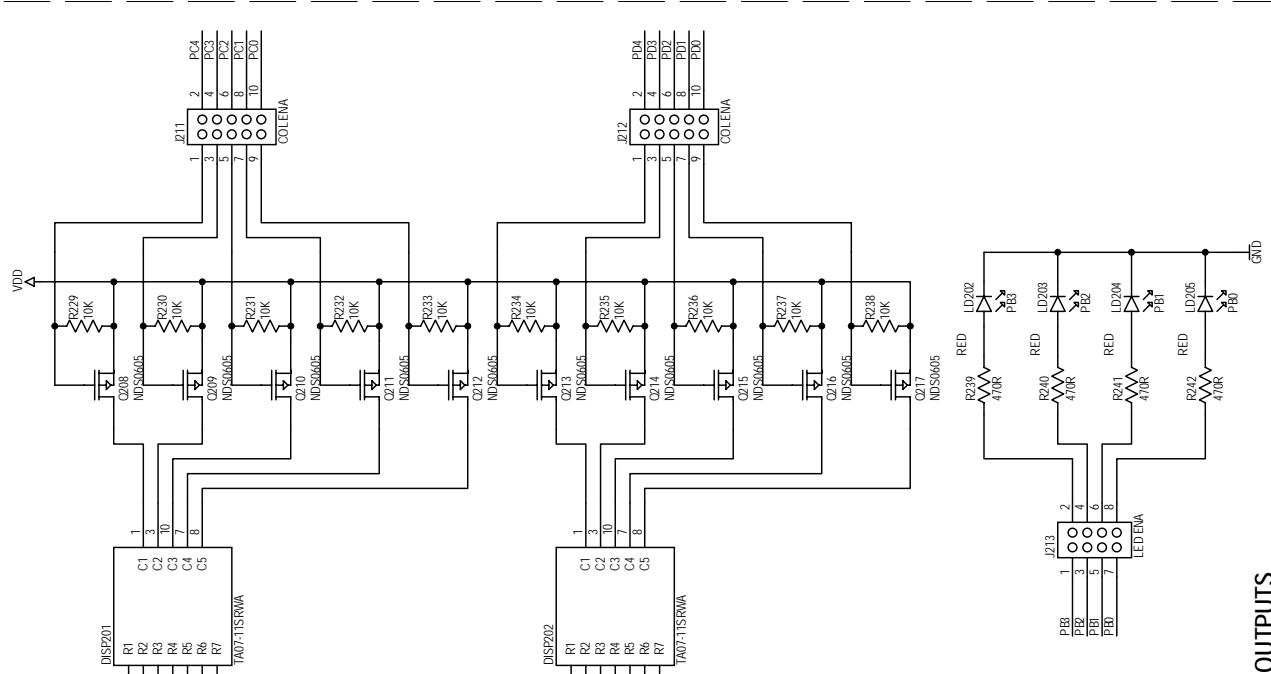


**RESET**

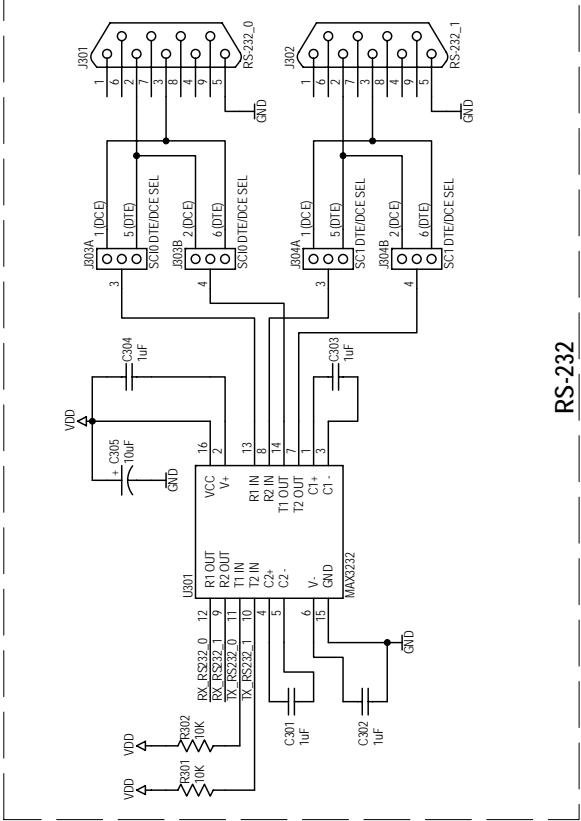
**INPUTS**



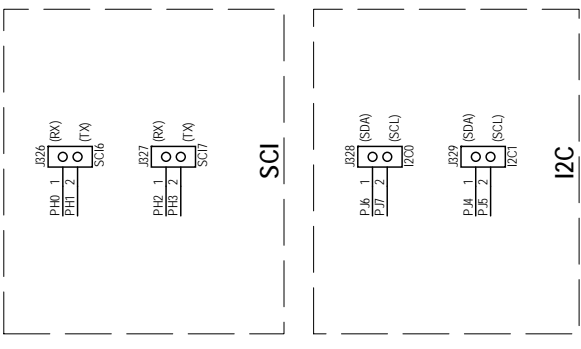
**POWER SUPPLY**



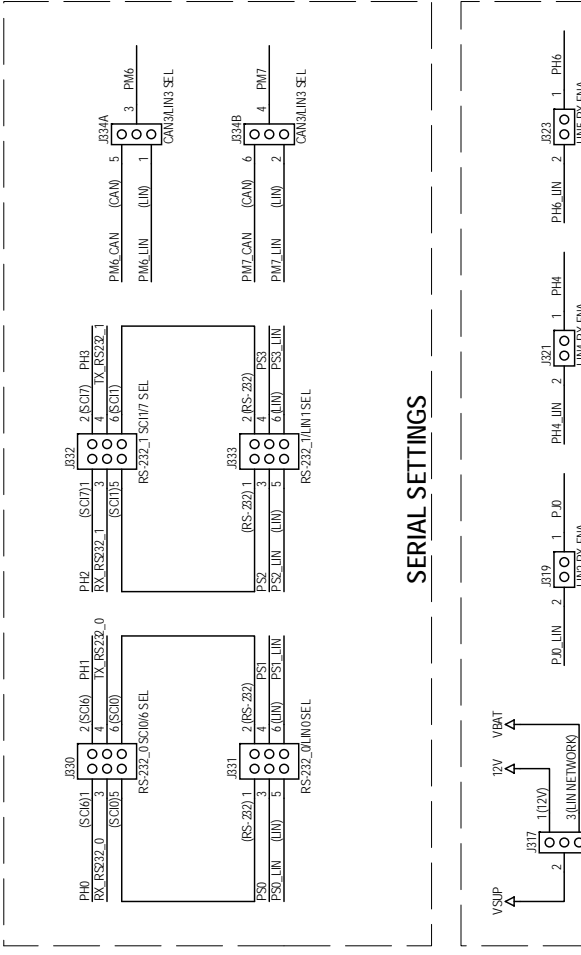
**OUTPUTS**



RS-232

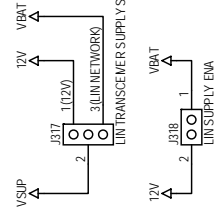
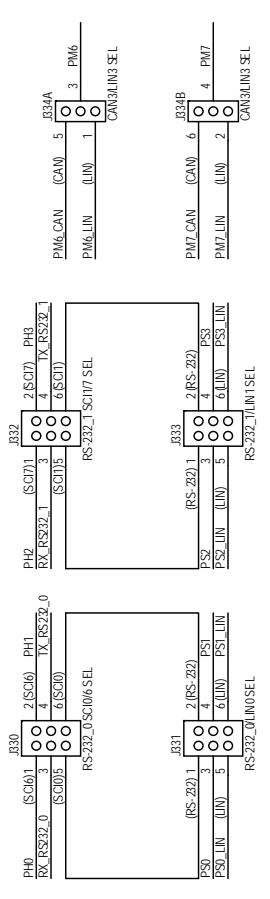


SCI

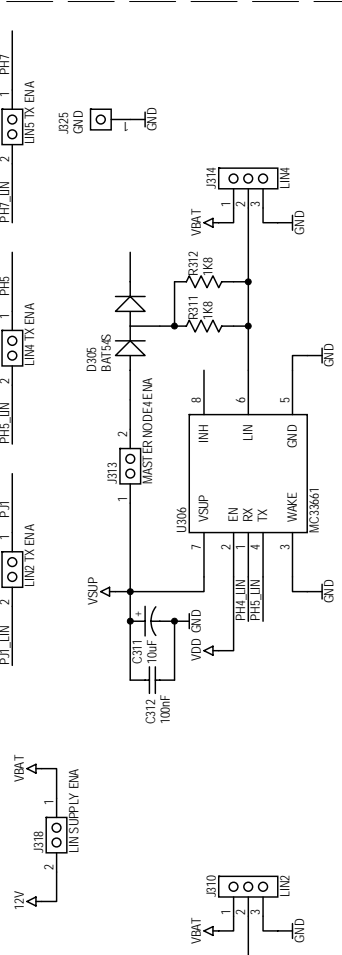
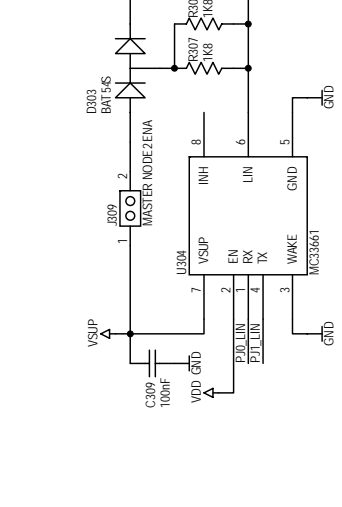
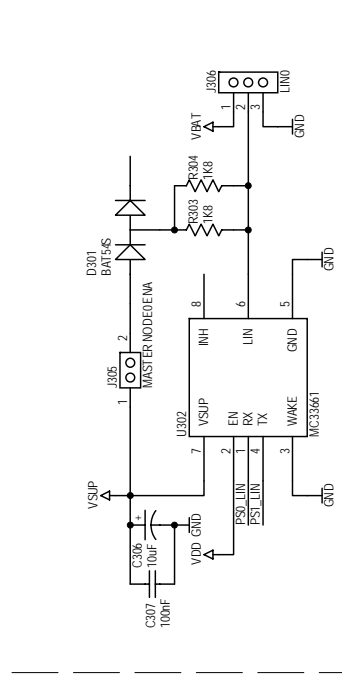


I2C

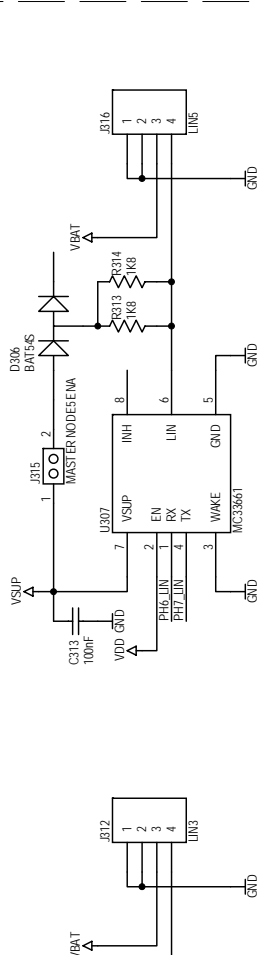
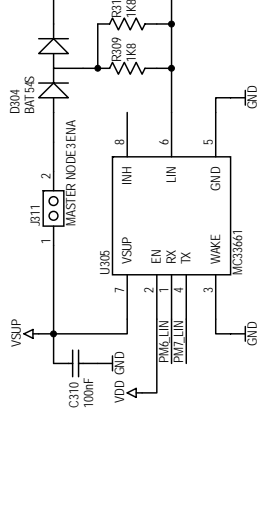
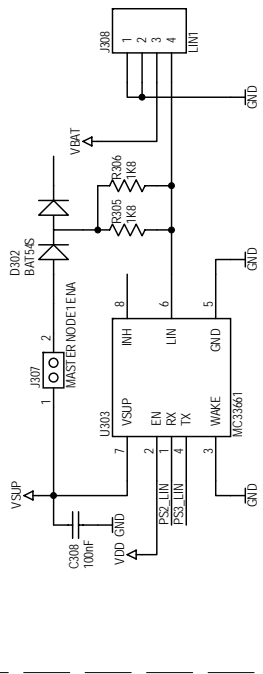
SERIAL SETTINGS



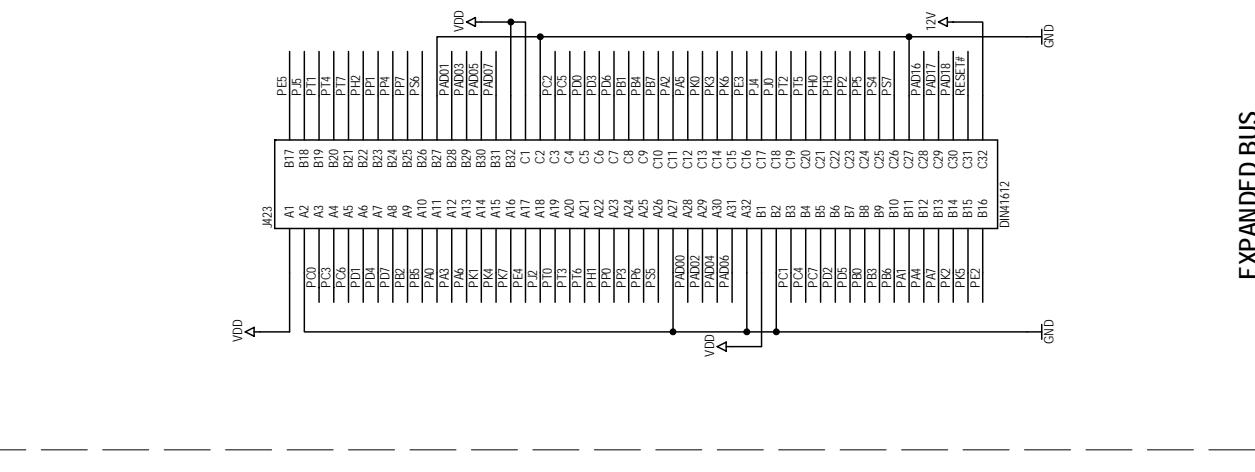
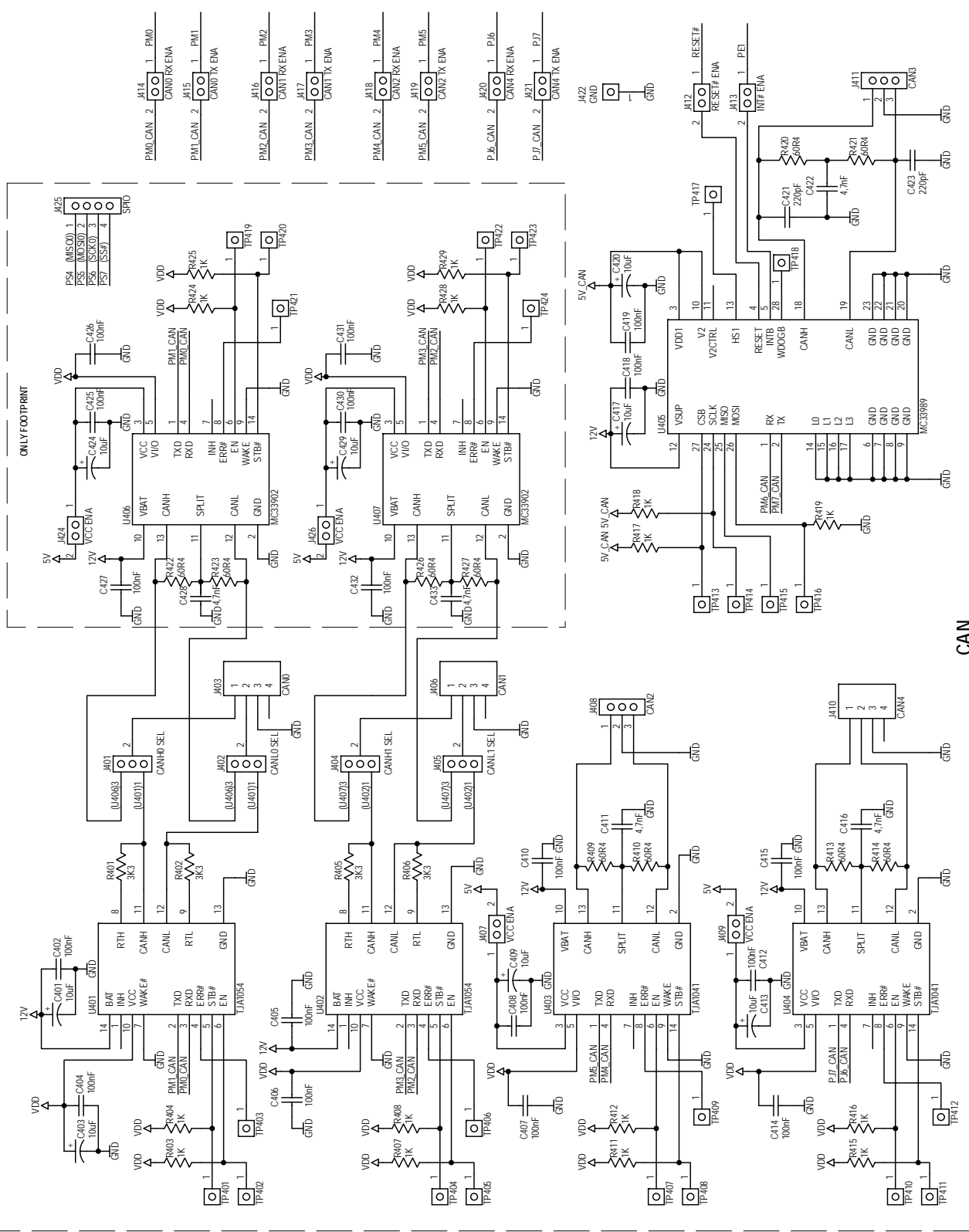
LIN



LIN



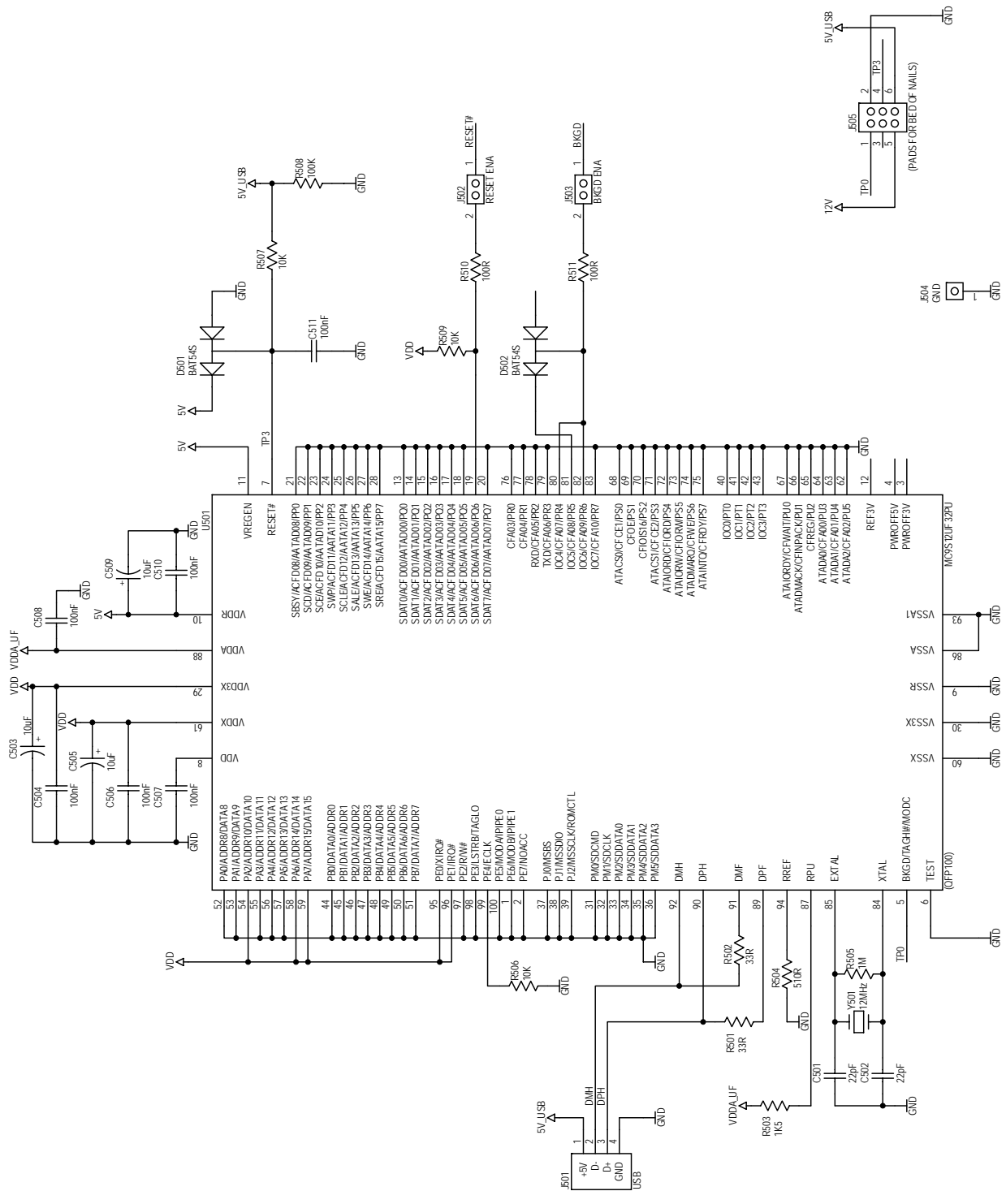
LIN



ONLY FOOTPRINT

CAN

EXPANDED BUS



USB TO BDM INTERFACE

# EVB9S12XEP100 Bill of Material

Qty	Description	Ref. Designators	Vendor Part#
<b>Capacitors</b>			
38	Ceramic Capacitor 100nF X7R 50V 0805	C104, C106, C108, C110, C112, C113, C115, C201, C203, C204, C206, C207, C208, C210, C307, C308, C309, C310, C312, C313, C402, C404, C405, C406, C407, C408, C410, C412, C414, C415, C418, C419, C504, C506, C507, C508, C510, C511	Walsin, 0805B104K500CT
4	Ceramic Capacitor 1uF X7R 25V 0805	C301, C302, C303, C304	Walsin, 0805B105K250CT
3	Ceramic Capacitor 220nF X7R 25V 0805	C101, C102, C103	Walsin, 0805B224K250CT
2	Ceramic Capacitor 220pF X7R 50V 0805	C421, C423	Walsin, 0805B221K500CT
5	Ceramic Capacitor 22pF NP0 50V 0805	C116, C117, C118, C501, C502	Walsin, 0805N220K500CT
3	Ceramic Capacitor 4,7nF X7R 50V 0805	C411, C416, C422	Walsin, 0805B472K500CT
18	Tantalum Capacitor 10uF 16V size B	C105, C107, C109, C111, C114, C209, C305, C306, C311, C401, C403, C409, C413, C417, C420, C503, C505, C509	NIC Components, NTC-T106M16TRBF
2	Tantalum Capacitor 47uF 16V (low ESR) size D	C202, C205	NIC Components, NTC-L476M16TRD
<b>Connectors</b>			
1	Box Header Connector 6 way male straight solder pitch 2,54mm	J105	Coxoc, 302A-06PGAS003
1	Connector DIN41612 3 row 96 way 90° female	J423	Coxoc, 406A-96FSRAAE4
1	DC Power Connector 2.1 mm male 90° PCB mounting	J201	Samar, 22HP037
2	D-Sub Connector female 90° 9-pin	J301, J302	Coxoc, 205A-09FSTUBE3
4	Header Connector 18x2 pin male gold straight 6mm pitch 2,54mm	J101, J102, J103, J104	Coxoc, 307A-080GBSAA3
40	Header Connector 2x1 pin male gold straight 6mm pitch 2,54mm	J106, J107, J112, J204, J205, J206, J207, J208, J209, J305, J307, J309, J311, J313, J315, J318, J319, J320, J321, J322, J323, J324, J326, J327, J328, J329, J407, J409, J412, J413, J414, J415, J416, J417, J418, J419, J420, J421, J502, J503	Coxoc, 307A-040GASAA3
15	Header Connector 3x1 pin male gold straight 6mm pitch 2,54mm	J108, J109, J110, J111, J202, J306, J310, J314, J317, J401, J402, J404, J405, J408, J411	Coxoc, 307A-040GASAA3
7	Header Connector 3x2 pin male gold straight 6mm pitch 2,54mm	J303, J304, J330, J331, J332, J333, J334	Coxoc, 307A-080GBSAA3
1	Header Connector 4x2 pin male gold straight 6mm pitch 2,54mm	J213	Coxoc, 307A-080GBSAA3
2	Header Connector 5x2 pin male gold straight 6mm pitch 2,54mm	J211, J212	Coxoc, 307A-080GBSAA3
1	Header Connector 7x2 pin male gold straight 6mm pitch 2,54mm	J210	Coxoc, 307A-080GBSAA3
3	Mini-Fit Connector Molex 5569 series 4 way 90° dual row pitch 4,20mm	J308, J312, J316	Molex, 39-29-5043
3	Mini-Fit Connector Molex 5569 series 4 way 90° single row pitch 4,20mm	J403, J406, J410	Molex, 39-30-3047
5	PCB Terminal Connector black hole size 1,32mm 1-pin	J113, J203, J325, J422, J504	William Hughes, 100-103
81	Shunt jumper 2,54mmmm totally insulated black pitch 2,54mm		Coxoc, 308A02PGBA003
1	USB Connector Receptacle Type B 90° 4-pin	J501	Coxoc, 317A-04PSB0003
<b>Crystals</b>			
1	SMD Crystal 12MHz HC-49USMD (11x5x3)	Y501	Megatec, HC49/USM4-012M000000CR

Qty	Description	Ref. Designators	Vendor Part#
1	SMD Crystal 4MHz HC-49USMD (11x5x3)	Y101	Megatec, HC49/USM4-004M000000CR
<b>Diodes</b>			
10	Schottky Diode BAT54S SOT23	D203, D204, D301, D302, D303, D304, D305, D306, D501, D502	Philips Semiconductors, BAT54S
2	Schottky Diode MBRS130L SMB	D201, D202	On Semiconductor, MBRS130LT3G
<b>Displays</b>			
2	LED Dot Matrix Display TA07-11SRWA DIP12	DISP201, DISP202	Kingbright, TA07-11SRWA
<b>Fuses</b>			
1	Autorestore Fuse 0,75A 1812	F201	Raychem Circuit Protection, miniSMDC075F-2
<b>Inductors</b>			
1	SMD Inductor 10uH 150mA 1210	L101	TDK, NL322522T-100J
1	SMD Inductor 15uH 1,47A 2-pin	L201	Würth, 744777115
<b>Integrated Circuits</b>			
1	IC Microcontroller MC9S12UF32 QFP100	U501	Freescale, MC9S12UF32PU
1	IC Microcontroller MC9S12XEP100 LQFP144	U101	Freescale, MC9S12XEP100CFVE
2	IC Transceiver CAN TJA1041 SOIC14	U403, U404	Philips Semiconductors, TJA1041T
2	IC Transceiver CAN TJA1054 SOIC14	U401, U402	Philips Semiconductors, TJA1054T
6	IC Transceiver LIN MC33661 SOIC8	U302, U303, U304, U305, U306, U307	Freescale, MC33661D/R2
1	IC Transceiver MC33989 SOIC28	U405	Freescale, MC33989DW
1	IC Transceiver RS-232 MAX3232 SOIC16	U301	STMicroelectronics, ST3232CD
1	IC Voltage Regulator CS51414 SOIC8	U201	On Semiconductor, CS51414G
1	IC Voltage Regulator LM78M05 5V TO252 (DPAK)	U202	National Semiconductor, LM78M05CDT
<b>LEDs</b>			
1	SMD LED Green 1206	LD201	Agilent Technologies, HSMG-C150
4	SMD LED Red 1206	LD202, LD203, LD204, LD205	Agilent Technologies, HSMH-C150
<b>Oscillators</b>			
1	PTH Oscillator Module 16 MHz DIL8	U102	Megatec, DH2100S
<b>Potentiometers</b>			
1	Potentiometer 1K vertical adjust	P201	Phier, PT10MVP102A2020
<b>Resistors</b>			
1	Photoresistor VT935G pitch 2,54mm	R209	PerkinElmer Optoelectronics, VT935G
1	SMD Resistor 0R 5% 1/8W 0805	R107	Kamaya, RMC1/10JPTP
1	SMD Resistor 1,5K 1% 0805	R503	Kamaya, RMC1/10K1501FTP
13	SMD Resistor 1,8K 1% 0805	R104, R303, R304, R305, R306, R307, R308, R309, R310, R311, R312, R313, R314	Kamaya, RMC1/10K1801FTP
1	SMD Resistor 100K 1% 0805	R508	Kamaya, RMC1/10K1003FTP
4	SMD Resistor 100R 1% 0805	R202, R203, R510, R511	Kamaya, RMC1/10K1000FTP
24	SMD Resistor 10K 1% 0805	R208, R214, R215, R217, R219, R221, R223, R225, R227, R229, R230, R231, R232, R233, R234, R235, R236, R237, R238, R301, R302, R506, R507, R509	Kamaya, RMC1/10K1002FTP
13	SMD Resistor 1K 1% 1/8W 0805	R105, R204, R403, R404, R407, R408, R411, R412, R415, R416, R417, R418, R419	Kamaya, RMC1/10K102FTP
1	SMD Resistor 1M 1% 0805	R505	Kamaya, RMC1/10K1004FTP
7	SMD Resistor 3,3K 1% 0805	R101, R102, R106, R401, R402, R405, R406	Kamaya, RMC1/10K3301FTP



Qty	Description	Ref. Designators	Vendor Part#
2	SMD Resistor 33R 1% 0805	R501, R502	Kamaya, RMC1/10K33R0FTP
1	SMD Resistor 4,7K 1% 1/8W 0805	R103	Kamaya, RMC1/10K4701FTP
19	SMD Resistor 470R 1% 0805	R201, R205, R206, R207, R210, R211, R212, R213, R216, R218, R220, R222, R224, R226, R228, R239, R240, R241, R242	Kamaya, RMC1/10K4700FTP
1	SMD Resistor 510R 1% 0805	R504	Kamaya, RMC1/10K5100FTP
6	SMD Resistor 60R4 1% 1/4W 1210	R409, R410, R413, R414, R420, R421	Kamaya, RMC1/4K60R4FTE
<b>Sockets</b>			
1	IC Socket Tulip pitch 2,54mm DIP14		Preci-dip, 110-87-314-41-001101
<b>Switches</b>			
5	Pushbutton Switch SMD	SW201, SW202, SW203, SW204, SW205	Augat, FSM4JSMA
<b>Transistors</b>			
7	NMOS Transistor BSS138 SOT23	Q201, Q202, Q203, Q204, Q205, Q206, Q207	On Semiconductor, BSS138LT1G
10	PMOS Transistor NDS0605 SOT23	Q208, Q209, Q210, Q211, Q212, Q213, Q214, Q215, Q216, Q217	Fairchild Semiconductor, NDS0605_NL