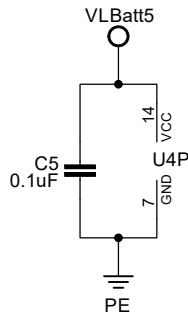


Table de vérité du piézoélectrique:

Battlevel	Buzz	Élément Piézoélectrique
0 (lowbatt)	0 (off)	0 (on)
0 (lowbatt)	1 (on)	0 (on)
1 (ok)	0 (off)	1 (off)
1 (ok)	1 (on)	0 (on)



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Moniteur de batterie et Piézo

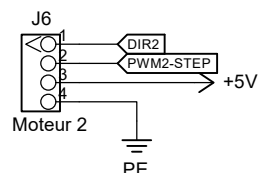
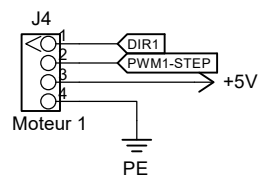
TITLE: Arduino-X_v01

Document Number:

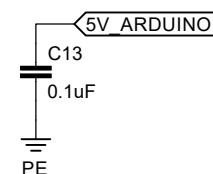
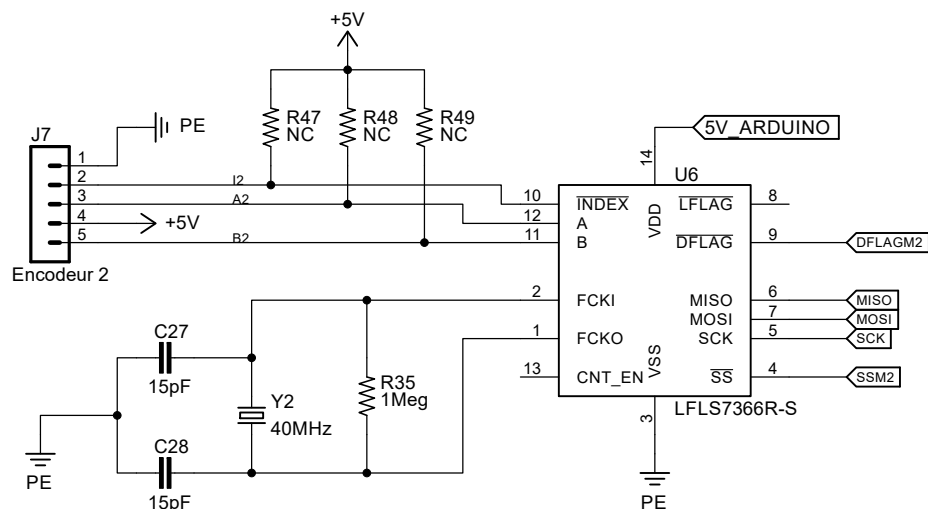
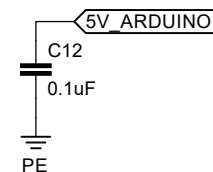
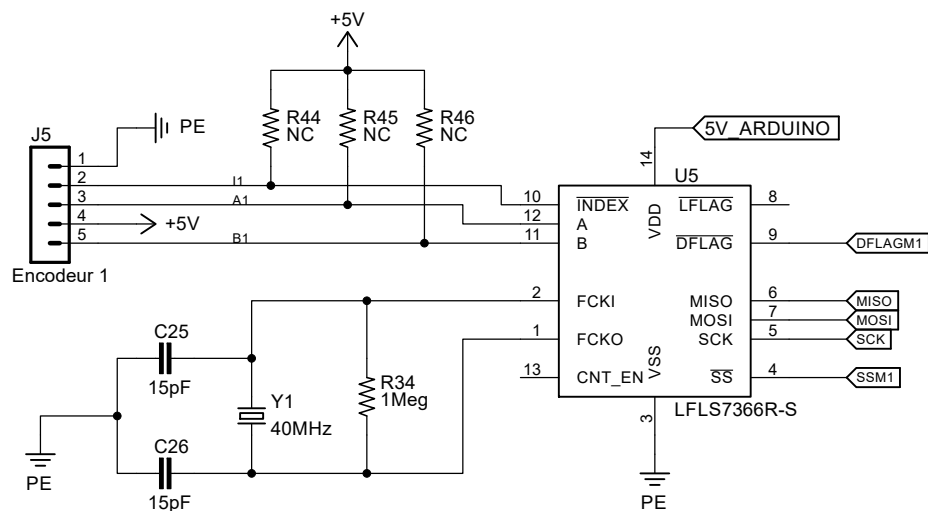
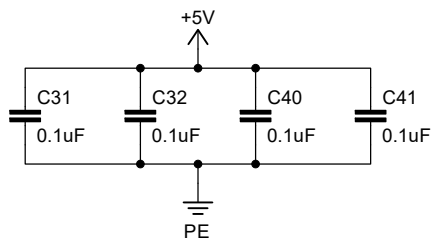
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01

Date: 2018-11-30 10:32:23

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Découplage des connecteurs de la propulsion



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Connecteurs des moteurs

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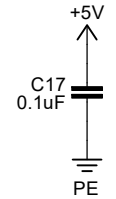
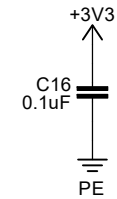
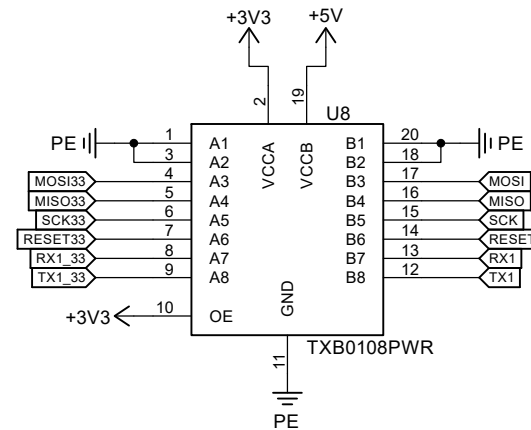
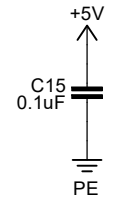
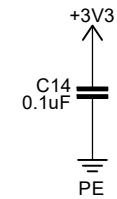
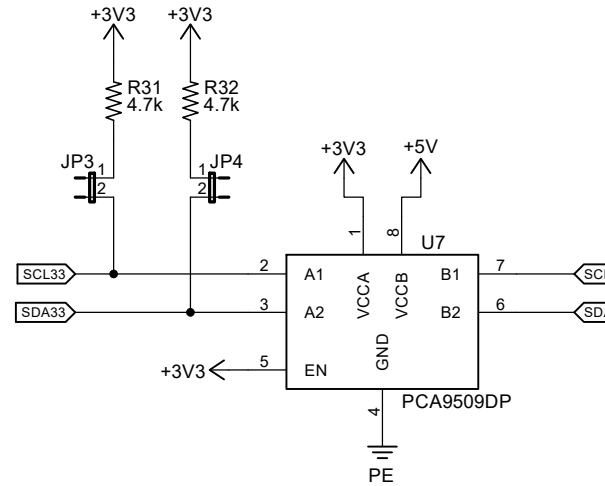
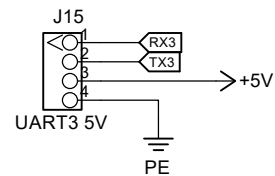
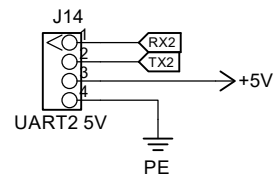
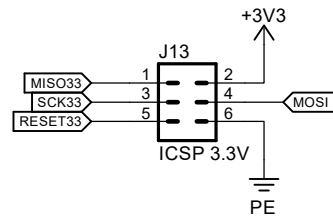
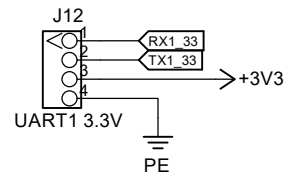
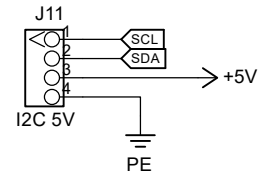
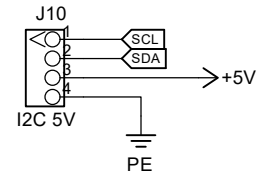
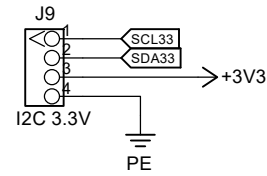
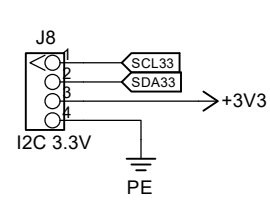
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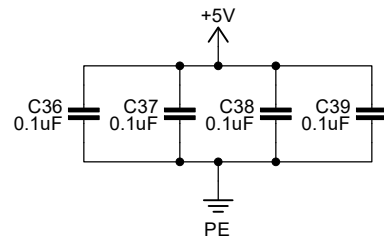
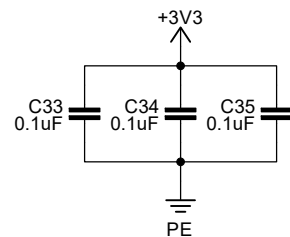
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Connecteurs GROVE : 1597-1082-ND



Découplage des connecteurs GROVE



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Ports de Communication série

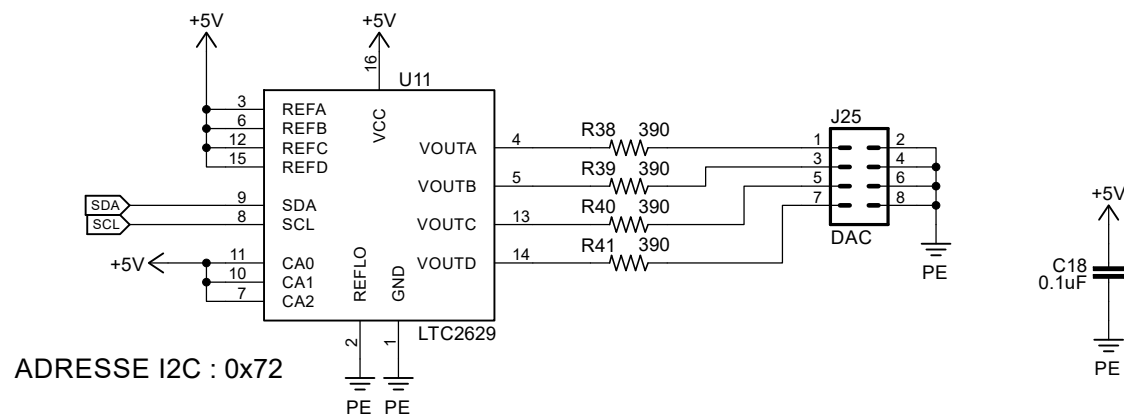
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Document Number:

REV:
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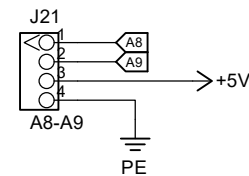
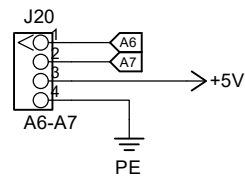
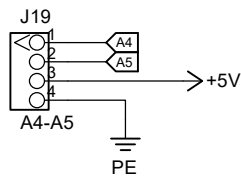
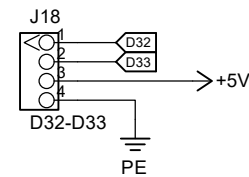
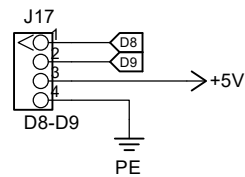
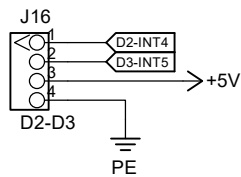
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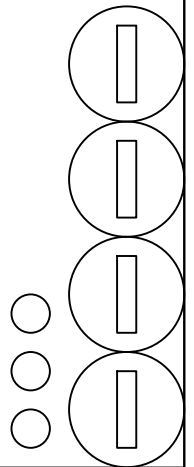
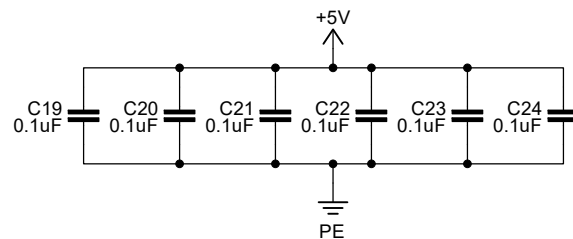


Adresses I2C utilisées:

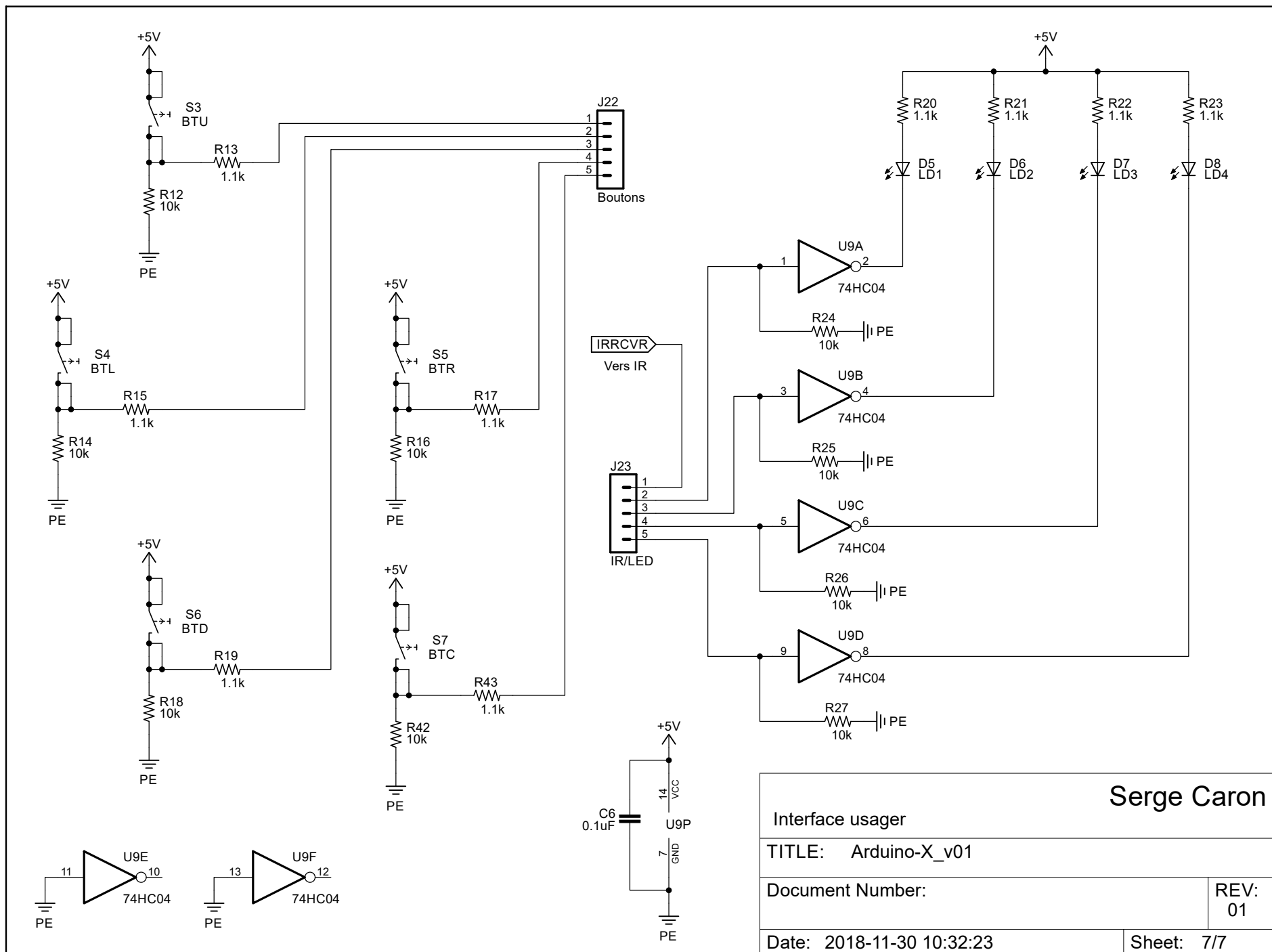
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LTC2629	0x72
ADJDS311	0x74
ADJDS371	0x74
ISL29125	0x44
MPU6050	0x68 & 0x69
SRF08	0xE0 & al.
LK162-12	0x80



Découplage des connecteurs GROVE



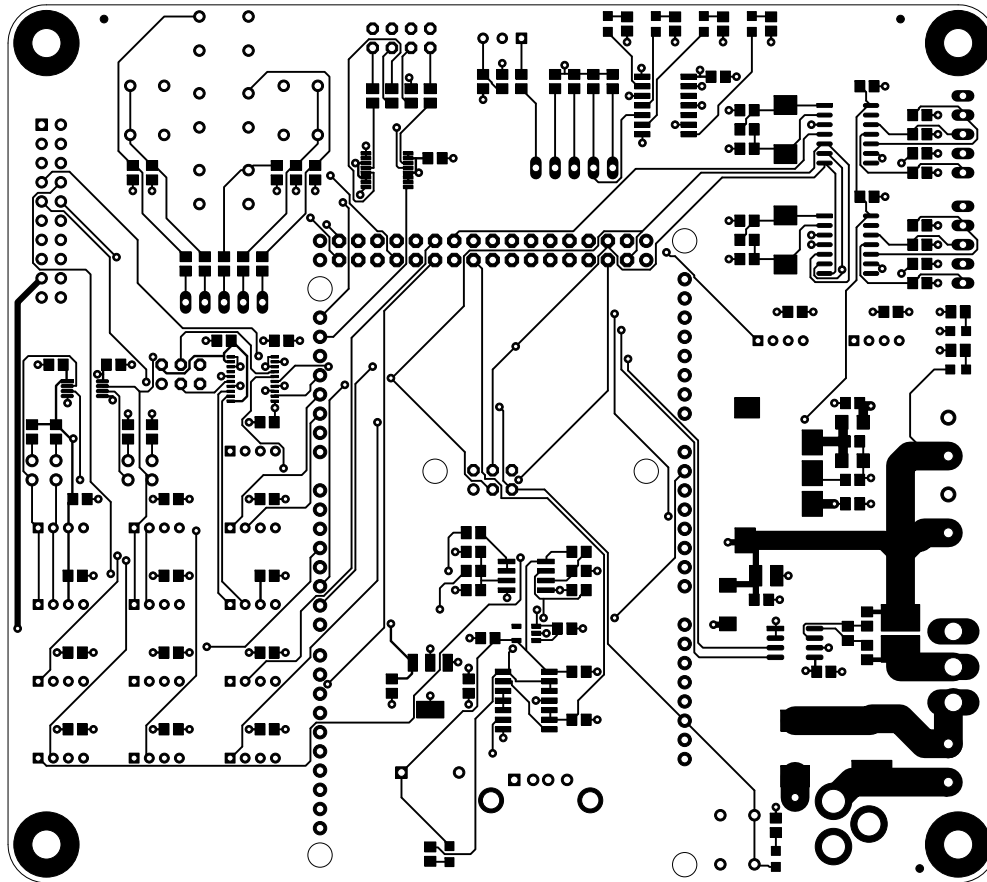
Serge Caron	
Sorties Analogiques et ports GROVE génériques	
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Date: 2018-11-30 10:32:23	Sheet: 6/7



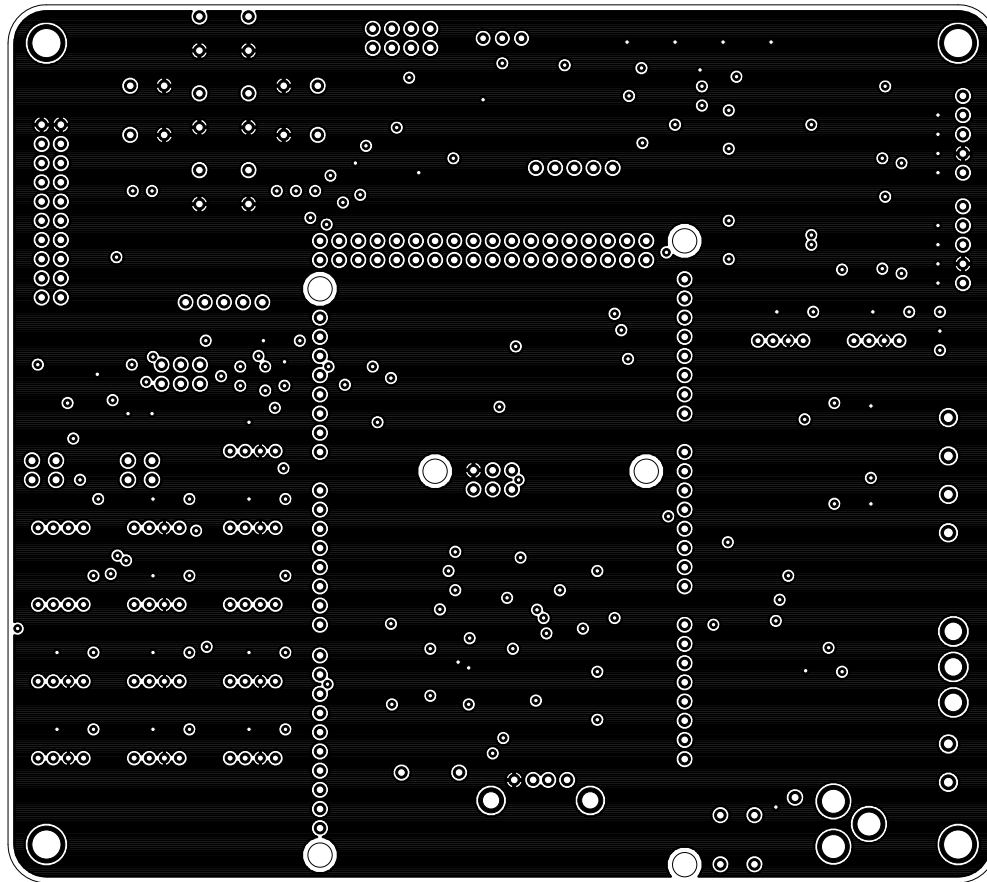
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TITLE: Arduino-X_v01			
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Date: 2018-11-30 10:32:23		Sheet: 7/7	

ARDUINO-X v01
Sylvain Lauzier, PCB
Serge Caron, SCH

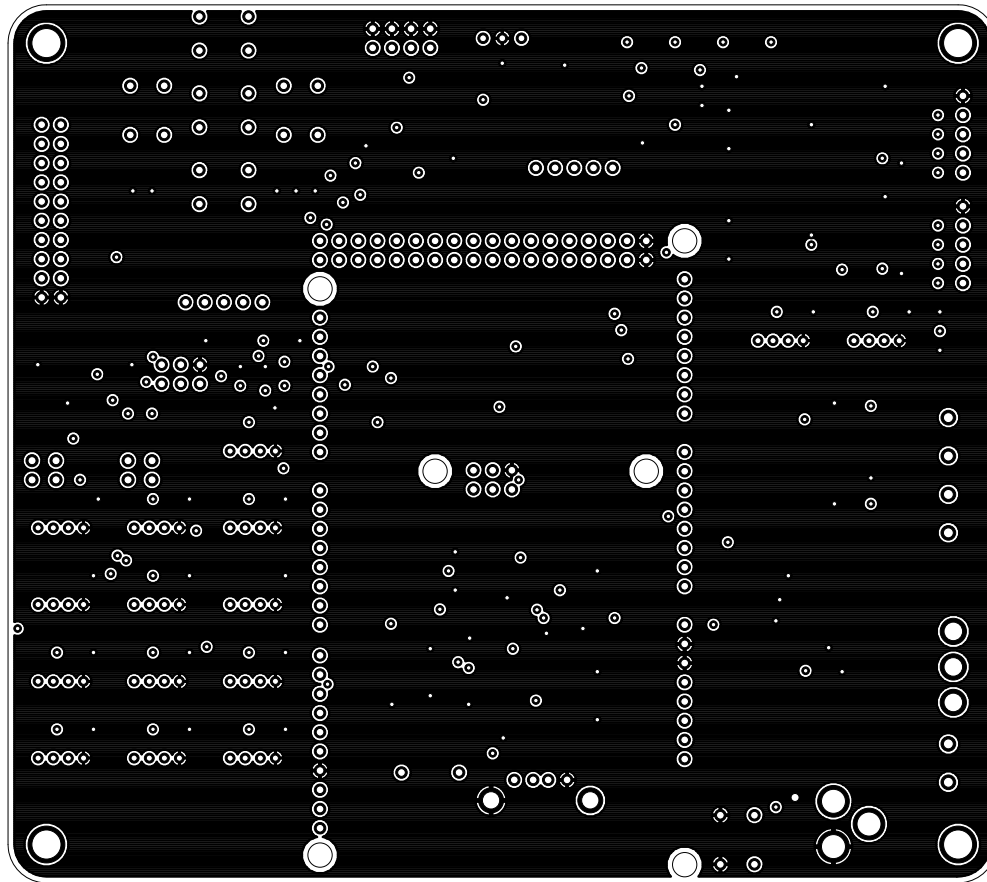
TOP TRACE



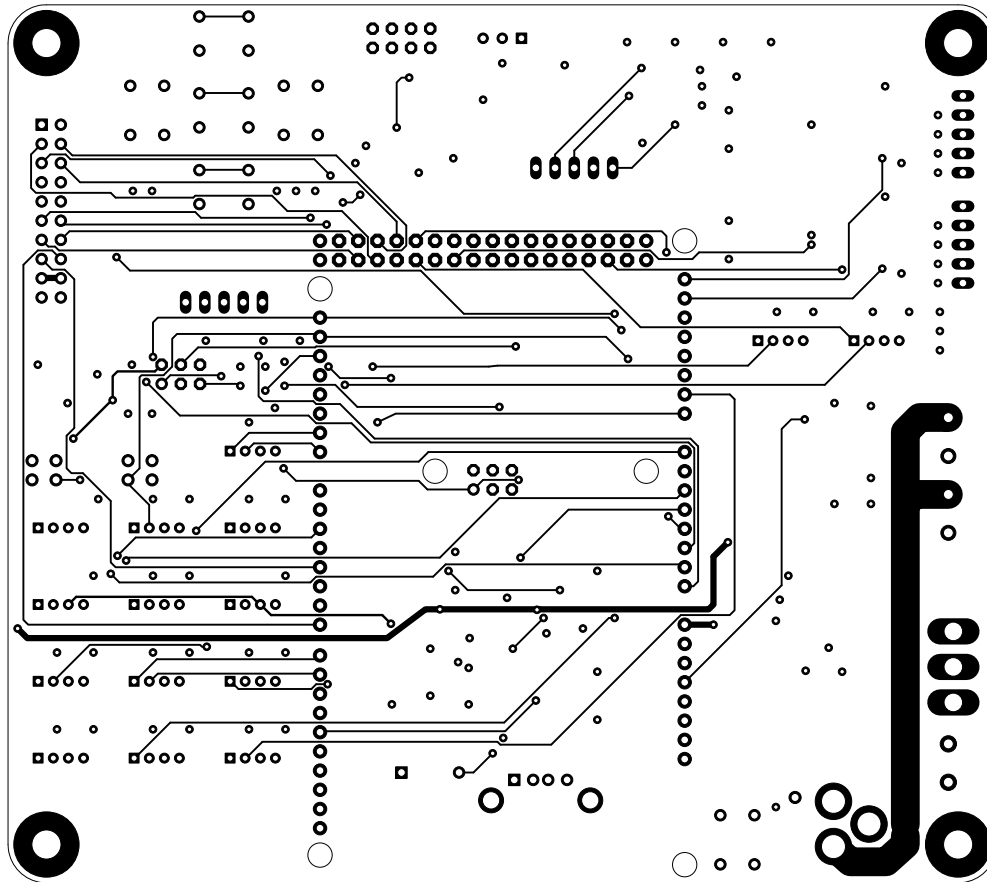
INNER TOP (POWER)



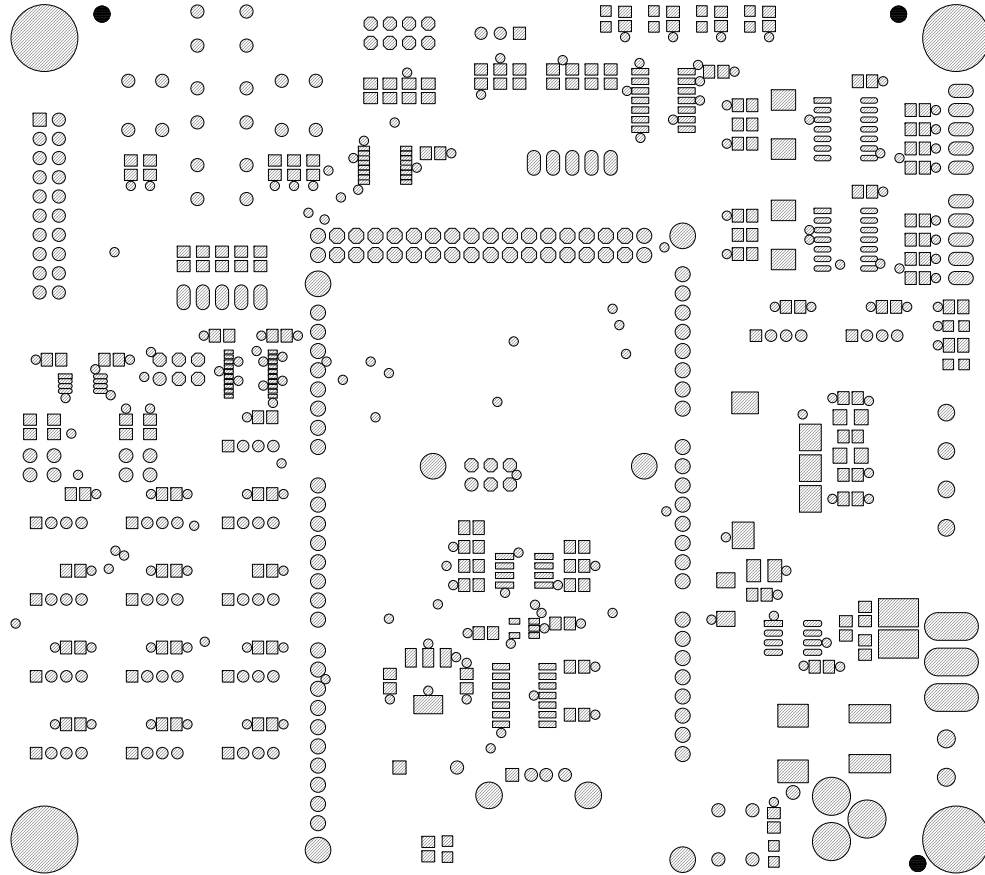
INNER BOTTOM (GND)



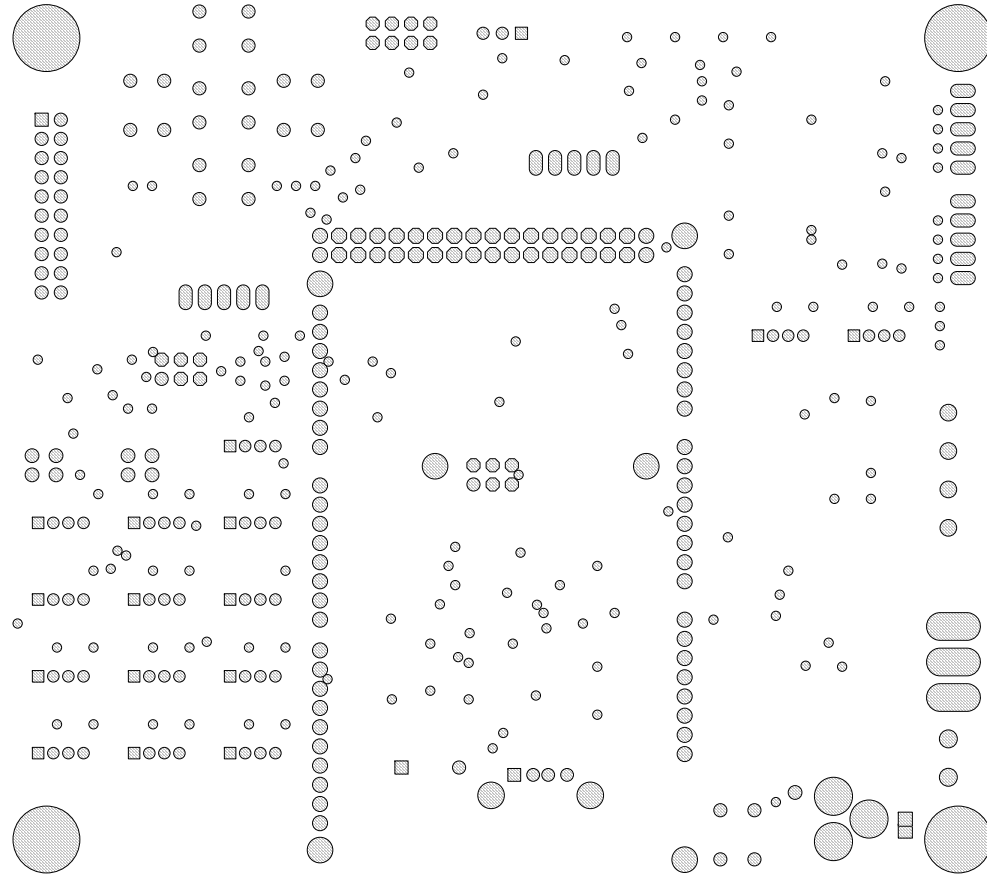
BOTTOM TRACE



SOLDER MASK TOP



SOLDER MASK BOTTOM



PASTE MASK TOP



Pièces Carte Arduino-X v01							
Qtée	Références	Valeur	# Digi-Key	# Digi-Key alt.	# Digi-Key alt.	Prix un.	Prix
1	Circuit imprimé	Arduino-X	Labo-Circuits			30,00 \$	30,00 \$
1	B1	Arduino Mega R3	Fournir par les étudiants mais dont l'interconnexion est composée de B1a, B1x, B1y et B1z				
2	B1a, J13	conn mâle 2x3 pins	MOD36-280G-0 (longues strips)			0,20 \$	0,40 \$
5	B1x	Connecteurs passthru 1x8	SSQ-108-03-T-S			1,61 \$	8,05 \$
1	B1y	Connecteur passthru 1x10	SSQ-110-03-T-S			2,18 \$	2,18 \$
1	B1z	Connecteur Passthru 2x18	SSQ-118-03-T-D			5,23 \$	5,23 \$
1	BRK1	Bornier 5.09mm 2 vis	Not connected	Pour compatibilité future	ED1609-ND		
1	BUZZ1	Avertisseur piézo 4.1kHz	102-1115-ND			2,63 \$	2,63 \$
4	C25, C26, C27, C28	Condensateur 15pF 0805	1276-1163-1-ND	732-7847-1-ND	311-1101-1-ND	0,04 \$	0,16 \$
31	C2, C3, C4, C5, C6, C9, C10, C11, C12, C13, C14, C15, C16, C17, C19, C20, C21, C22, C23, C24, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41	Condensateur 0.1uF X7R 0805	478-1395-1-ND	399-3486-1-ND	311-1141-1-ND	0,02 \$	0,62 \$
1	C18	Condensateur 0.1uF X7R 0805	Not connected	Pour compatibilité future			
1	C7	Condensateur 0.33uF X7R 0805	1276-6479-1-ND	311-3385-1-ND	399-6959-1-ND	0,12 \$	0,12 \$
4	C29, C30, C42, C43	Condensateur 1uF X7R 0805	311-1456-1-ND	1276-1066-1-ND	399-8004-1-ND	0,08 \$	0,34 \$
1	C8	Condensateur 10uF X7R 1206	1276-1804-1-ND	587-2399-1-ND	311-1956-1-ND	0,28 \$	0,28 \$
1	C1	Condensateur 22uF X7R 1210	1276-3391-1-ND	311-2032-1-ND	587-2784-1-ND	0,88 \$	0,88 \$
5	D1, D5, D6, D7, D8	LED rouge 0805	732-4984-1-ND	475-1278-1-ND	350-2039-1-ND	0,19 \$	0,95 \$
1	D4	LED bleue 0805	732-4982-1-ND	1516-1083-1-ND	160-1579-1-ND	0,22 \$	0,22 \$
2	D3, D9	LED verte 0805	732-4983-1-ND	1516-1084-1-ND	754-2120-1-ND	0,19 \$	0,38 \$
1	D2	TVS 12V SMC SMCJ12A	SMCJ12ABCT-ND	SMCJ12A-FDICT-ND		0,72 \$	0,72 \$
1	D10	Diode SMB S1AB	S1AB-FDICT-ND	RS1AB-FDICT-ND		0,41 \$	0,41 \$
1	F1	PTC 7A surface mount serie 2920L	F8138CT-ND			0,92 \$	0,92 \$
1	J2	Prise batterie/chargeur (Jack 2.1mm)	CP-102AH-ND	MOD31-155-0	CP-102A-ND	0,79 \$	0,79 \$
1	J3	Bornier 4 vis 5.08mm	277-1249-ND			2,70 \$	2,70 \$
15	J4, J6, J8, J9, J10, J11, J12, J14, J15, J16, J17, J18, J19, J20, J21	Connecteurs GROVE	1597-1082-ND (10-pack)	110990030 (10-pack Seedstudio.com)	1597-1089-ND & RB-See-174 (5-pack câbles)	0,21 \$	3,20 \$
2	J5, J7	Molex mâle 5 pins	MOD37-6205-0	WM4114-ND	WM2003-ND (femelle)	0,44 \$	0,88 \$
2	J22, J23	conn femelle 5 pins	SSW-105-01-T-S			1,10 \$	2,21 \$
1	J25	conn femelle 2x4 pins	Not connected	Pour compatibilité future	SSW-104-01-T-D		
1	J1	Shrouded 2x10 mâle	MOD35-520-0	A33165-ND	A33166-ND	1,95 \$	1,95 \$
1	J26	conn USB A réceptacle	ED2989-ND	AE11181-ND	A31726-ND		
4	JP1, JP2, JP3, JP4	Jumper 1 position, 2 pins mâle	MOD36-140G-0 (strips 40 pins)			0,10 \$	0,40 \$
1	L1	Ferrite 1206	240-2410-1-ND	587-1772-1-ND	240-2408-1-ND	0,14 \$	0,14 \$
1	RSHUNT	Shunt 2818 10 watts	541-3281-1-ND	541-3281-6-ND		1,87 \$	1,87 \$
2	R1, R2	Résistance 10 Ohms 0805	RMCF0805JT10R0CT-ND	311-10.0CRCT-ND	RHM10KCT-ND	0,01 \$	0,02 \$
1	R37	Résistance 47 Ohms 0805	RMCF0805JT47R0CT-ND	311-47.0CRCT-ND	RHM47KCT-ND	0,03 \$	0,03 \$
4	R38, R39, R40, R41	Résistance 390 Ohms 0805	Not connected	Pour compatibilité future	RMCF0805JT390RCT-ND		
1	R36	Résistance 470 Ohms 0805	RMCF0805JG470RCT-ND	311-470ARCT-ND	P470ACT-ND	0,03 \$	0,03 \$
12	R10, R11, R13, R15, R17, R19, R20, R21, R22, R23, R43, R50	Résistance 1.1k Ohms 0805	RMCF0805JT1K10CT-ND	311-1.10KCRCT-ND	541-1.10KCCT-ND	0,01 \$	0,12 \$
1	R6	Résistance 1.2k Ohms 0805	RMCF0805JT1K20CT-ND	311-1.2KARCT-ND	311-1.20KCRCT-ND	0,03 \$	0,03 \$
1	R28	Résistance 1.37k Ohms 1% 0805	311-1.37KCRCT-ND	RMCF0805FG1K37CT-ND	541-1.37KCCT-ND	0,03 \$	0,03 \$
1	R7	Résistance 2k Ohms 1% 0805	311-2.00KCRCT-ND	RMCF0805FT2K00CT-ND	RNCP0805FTD2K00CT-ND	0,03 \$	0,03 \$
1	R8	Résistance 3.09k Ohms 1% 0805	311-3.09KCRCT-ND	RMCF0805FT3K09CT-ND	541-3.09KCCT-ND	0,03 \$	0,03 \$
4	R29, R30, R31, R32	Résistance 4.7k Ohms 0805	RMCF0805JT4K70CT-ND	311-4.7KARCT-ND	RHM4.7KKCT-ND	0,01 \$	0,04 \$
1	R3	Résistance 5.1k Ohms 0805	311-5.1KARCT-ND	311-5.10KCRCT-ND	RMCF0805FT5K10CT-ND	0,03 \$	0,03 \$
10	R12, R14, R16, R18, R24, R25, R26, R27, R33, R42	Résistance 10k Ohms 0805	RMCF0805JT10K0CT-ND	311-10KARCT-ND	311-10.0KCRCT-ND	0,01 \$	0,10 \$
1	R5	Résistance 10k Ohms 1% 0805	311-10.0KCRCT-ND	RMCF0805FT10K0CT-ND	RNCP0805FTD10K0CT-ND	0,03 \$	0,03 \$
1	R4	Résistance 20k Ohms 1% 0805	311-20.0KCRCT-ND	RMCF0805FT20K0CT-ND	A126349CT-ND	0,03 \$	0,03 \$
1	R9	Résistance 62k Ohms 0805	311-62KARCT-ND	311-62.0KCRCT-ND	RMCF0805FT62K0CT-ND	0,03 \$	0,03 \$
2	R34, R35	Résistance 1Meg Ohms 0805	RMCF0805JT1M00CT-ND	P1.0MACT-ND	YAG3361CT-ND	0,01 \$	0,02 \$
6	R44, R45, R46, R47, R48, R49		Not connected	Pour compatibilité future			
1	R51	Charge corrective	Not connected	Pour compatibilité future			
6	S1, S3, S4, S5, S6, S7	Switch tactile SPST-NO	P80085-ND	667-EVQ-PAE04M (mouser.com)		0,24 \$	1,45 \$
1	S2	Interrupteur SPDT 10A debout	MOD41-213-0	MOD41-233-0	EG2350-ND	2,58 \$	2,58 \$
1	U1	Régulateur 3A OKY-T/3-D12P-C	OKY-T/3-D12P-C	OKY-T/5-D12P-C	Mouser & Digikey	9,82 \$	9,82 \$
1	U2	INA219 moniteur courant SOIC8	296-27899-1-ND	296-33291-5-ND	595-INA219AIDR (mouser)	3,21 \$	3,21 \$
1	U3	Op Amp MCP6022 SOIC8	MCP6022T-I/SNCT-ND	MCP6022T-E/SNCT-ND	MCP6022-I/SN-ND	1,67 \$	1,67 \$
1	U4	74HC00 NAND gate SOIC14	MC74HC00ADR2GOSCT-ND	296-1187-5-ND	757-74HC00DBJ (mouser)	0,52 \$	0,52 \$
2	U5, U6	LFLS7366R-S Quadrature Cntr SOIC14	LFLS7366R-S (usdigital.com)			4,99 \$	9,98 \$
1	U7	PCA9509DP level shifter TSSOP8	568-3356-1-ND	771-PCA9509DP-T (mouser.com)		2,01 \$	2,01 \$
1	U8	TXB0108PWR 8-bit lvl-shifter TSSOP20	296-21527-1-ND	595-TXB0108PWR (mouser.com)		2,07 \$	2,07 \$

1	U9	74HC04 Hex Inverter SOIC14	74HC04DCT-ND	MC74HC04ADR2GOSCT-ND	757-74HC04DBJ (mouser)	0,47 \$	0,47 \$	
1	U10	TSOP34338 38kHz IR revr	751-1385-5-ND	78-TSOP34338 (mouser.com)		1,08 \$	1,08 \$	
1	U11	LTC2629 quad R-to-R DAC SSOP16	LTC2629IGN#PBF-ND	584-LTC2629CGN#PBF (mouser)	LTC2629CGN#PBF-ND			
1	U12	TC1262-3.3 Régulateur 3.3V SOT-223	TC1262-3.3VDBCT-ND	TC1262-3.3VDB-ND	579-TC1262-3.3VDBTR (mouser)	0,66 \$	0,66 \$	
1	U13	MIC5205-5.0 Régulateur 5V SOT23-5	576-1261-1-ND	296-20717-1-ND	296-26128-1-ND	0,50 \$	0,50 \$	
2	Y1, Y2	Cristal 40MHz SMD	644-1032-1-ND			0,57 \$	1,15 \$	
						Total :	106,37 \$	