

Project ***thymio2-main.PrjPCB***
Part ***Thymio2***
PCB principal

File : microcontroller-SchDoc

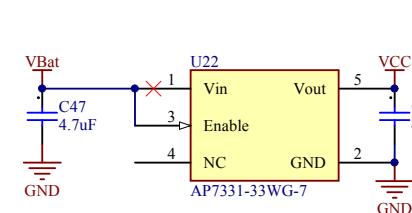
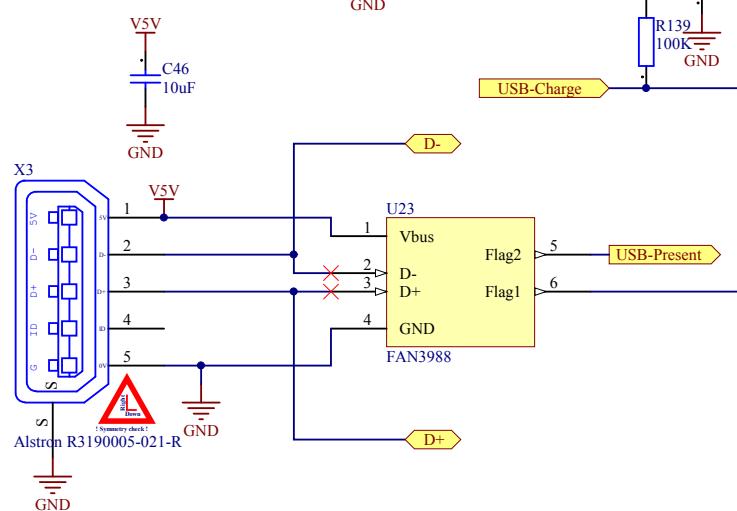
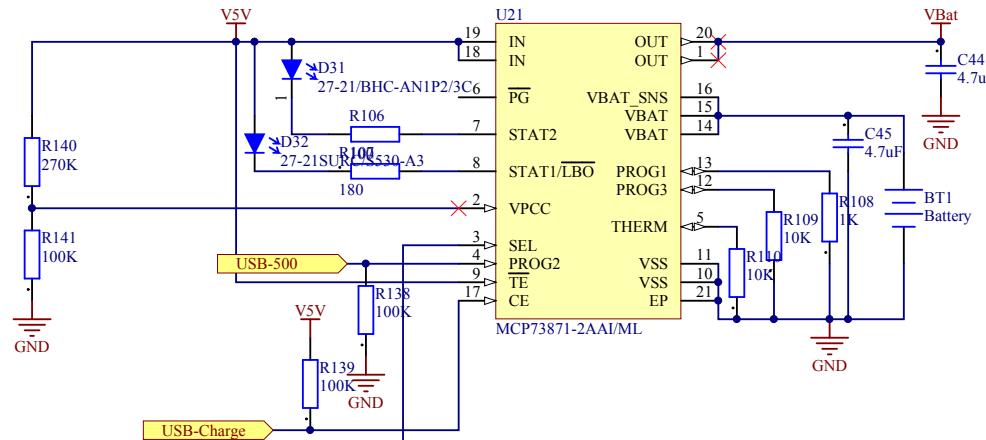
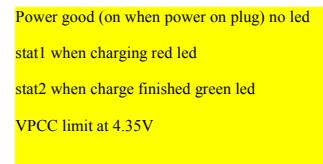
Date:
09.03.2011
10:29:22

*Michael Bonani
STI-IMT-LSRO1
EPFL
CH-1015 LAUSANNE*

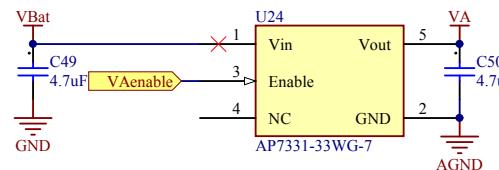


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300mA max
 1x pic24F = 24 mA
 13x led 20mA = 260mA
 1 MMA7660 = 47uA
 3 shift register 160uA = 0.48mA



AGND : Analog Ground GND : Logical Ground

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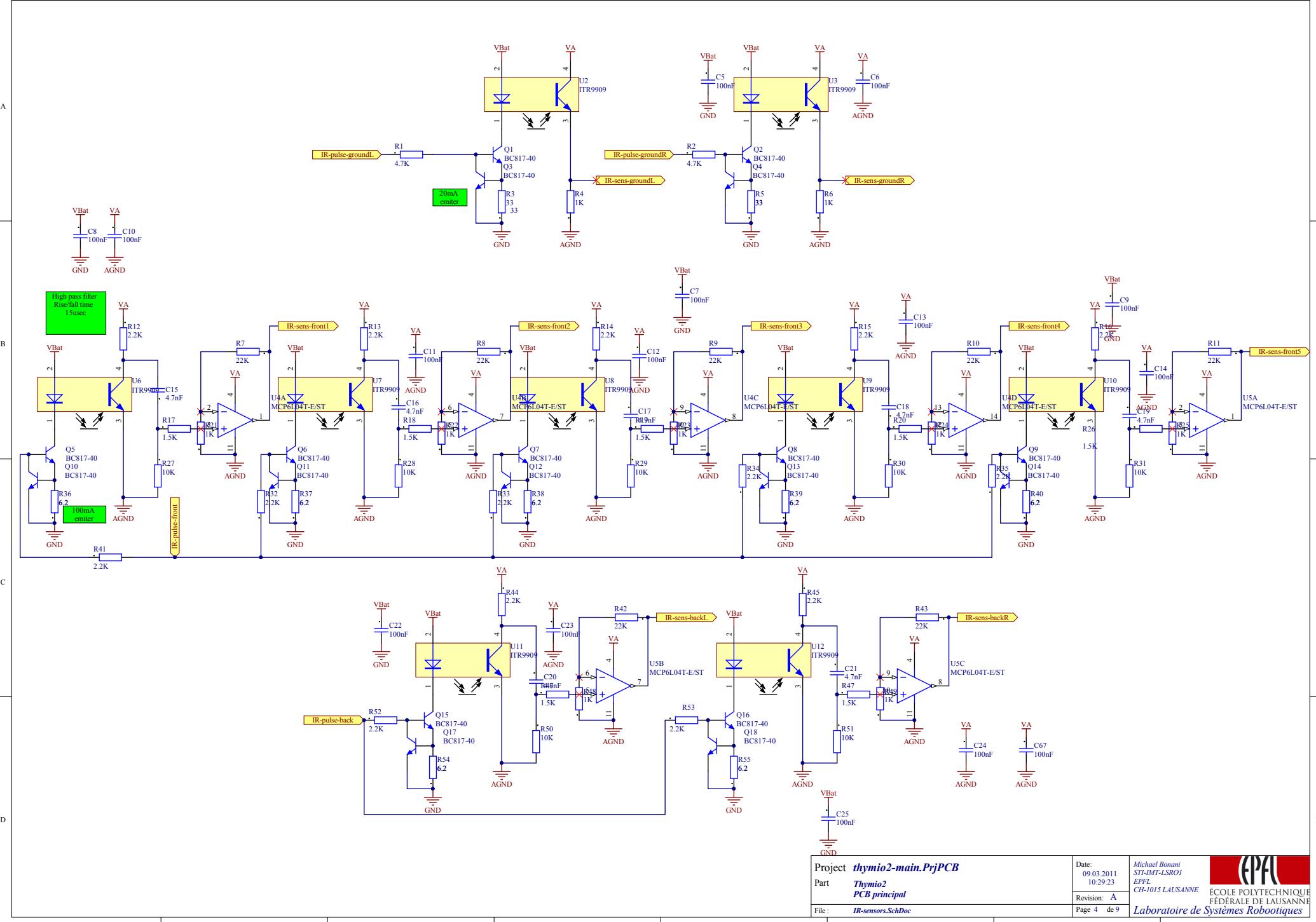
    graph TD
        AGND --- SC2
        GND --- SC2
        SC2 --- XS1
    
```

Project ***thymio2-main.Pcb***
Part ***Thymio2
PCB principal***
File : ***USB-power.SchDoc***

2011
0:22
Michael Bonani
STI-IMT-LSRO1
EPFL
CH-1015 LAUSANNE

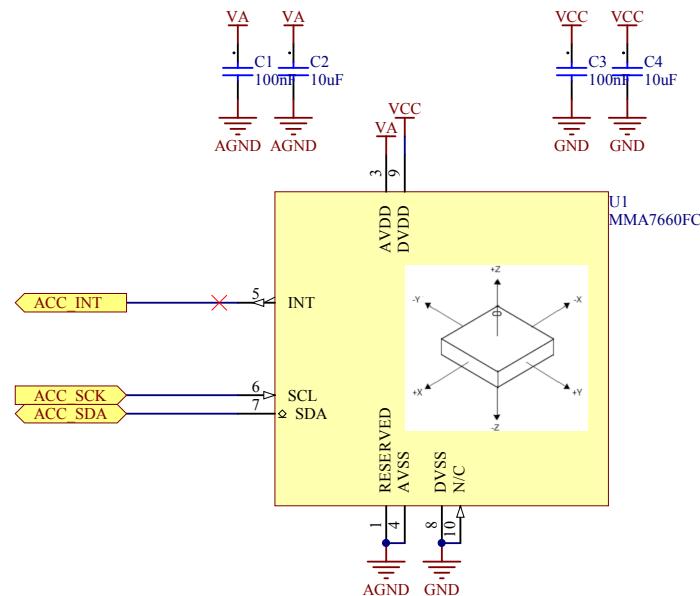


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de 9
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A

A



B

B

C

C

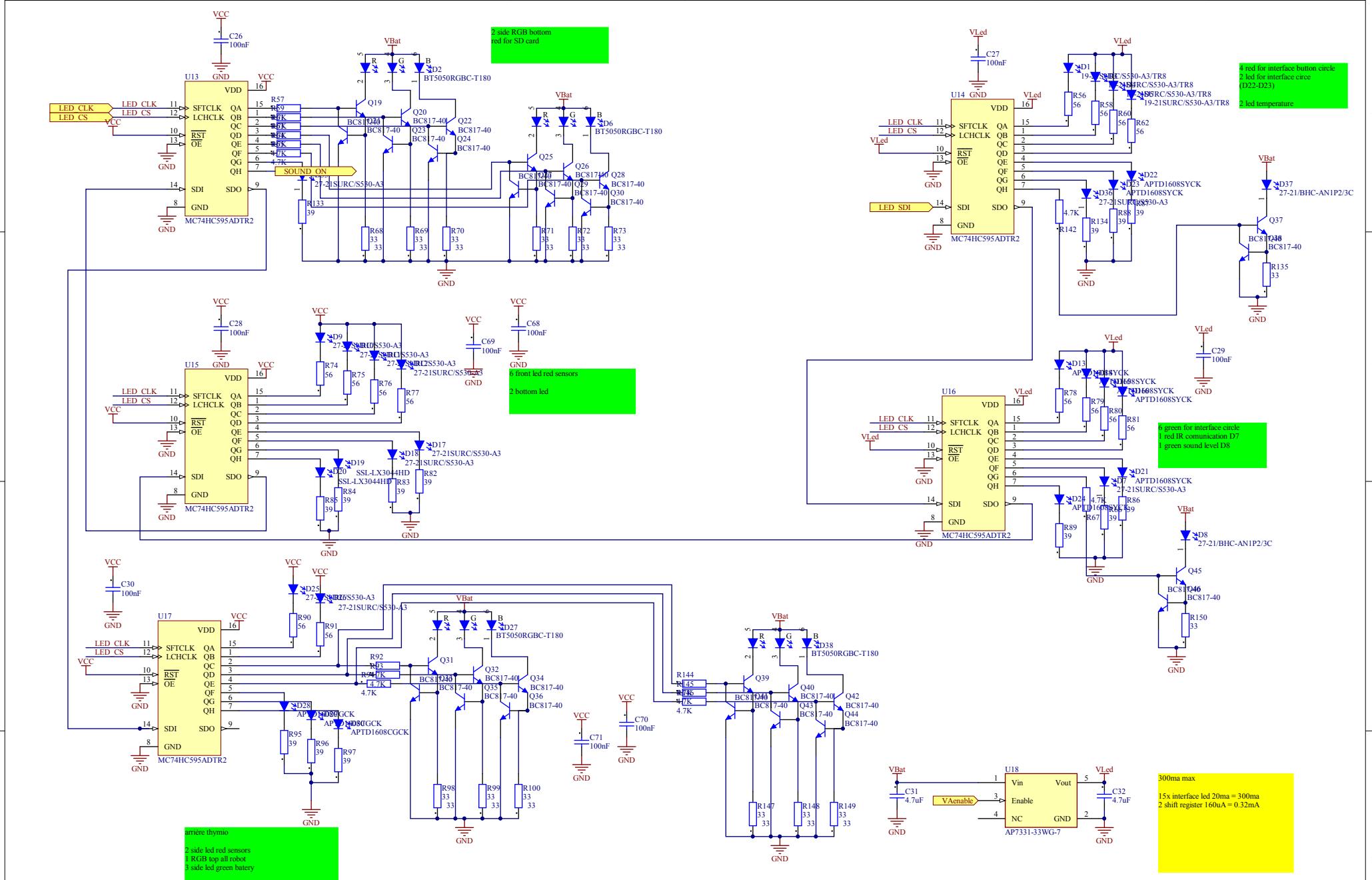
D

D

Project *thymio2-main.PrjPCB*Part *Thymio2 PCB principal*File : *accelerometer.SchDoc*Date:
09.03.2011
10:29:23Michael Bonani
STI-IMT-LSRO1
EPFL
*

*





Project **thymio2-main.PrjPCB**
 Part **Thymio2**
PCB principal
 File : **LEDs.SchDoc**

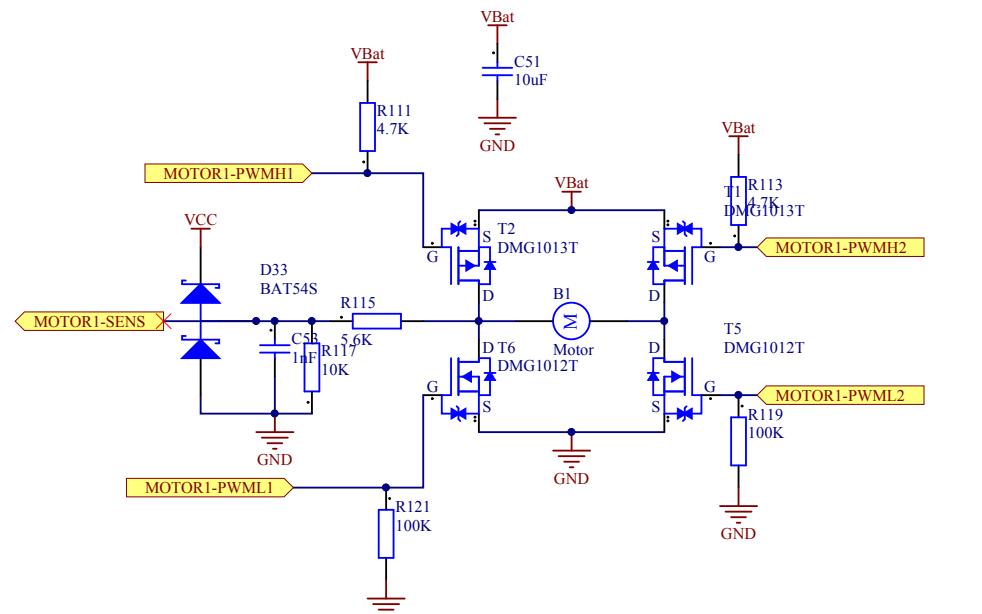
Date: 09.03.2011
 10.29.23
 Revision: *
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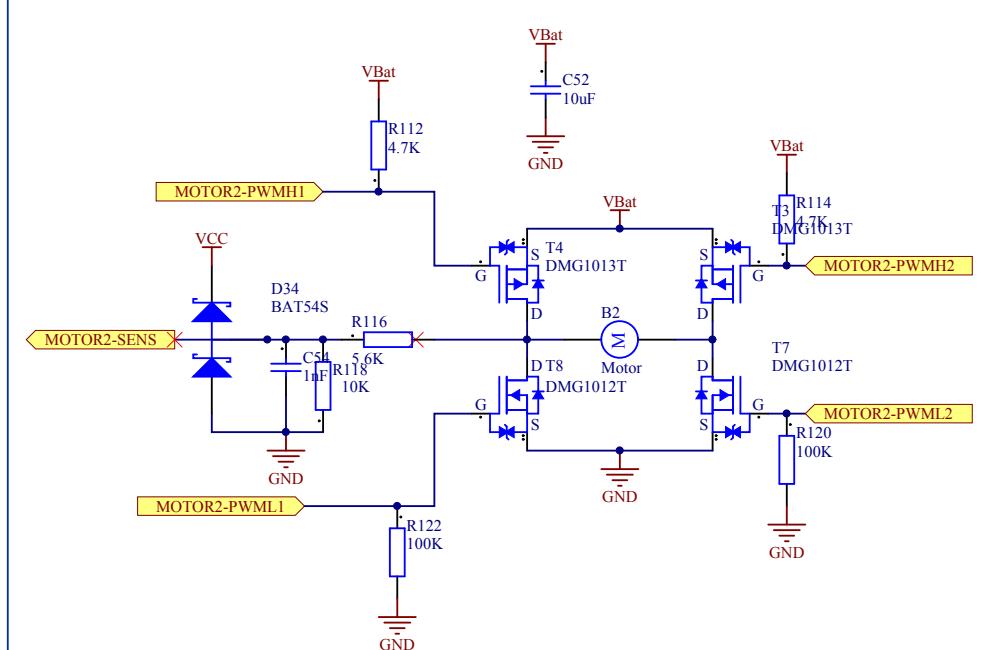
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Motor Left



Motor Right



D

D

Project *thymio2-main.PrjPCB*Part *Thymio2
PCB principal*File : *motor.SchDoc*Date:
09.03.2011
10:29:23

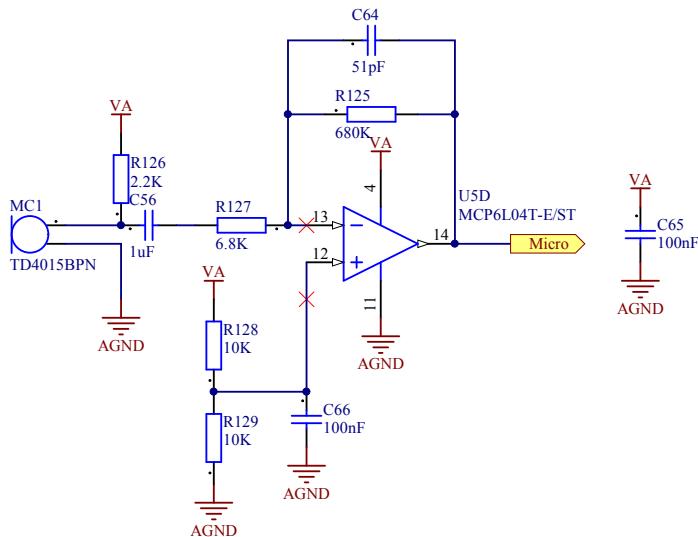
Revision: A

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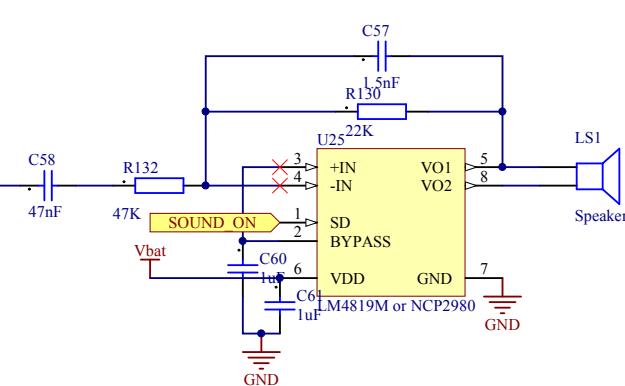
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A



B



C

Project *thymio2-main.PrjPCB*Part *Line 1 of project part*
*Line 2 of project part*File : *sound.SchDoc*Date:
09.03.2011
10:29:24Revision: A
Daniel Burnier
STI-IMT-LSRO1
EPFL
CH-1015 LAUSANNE

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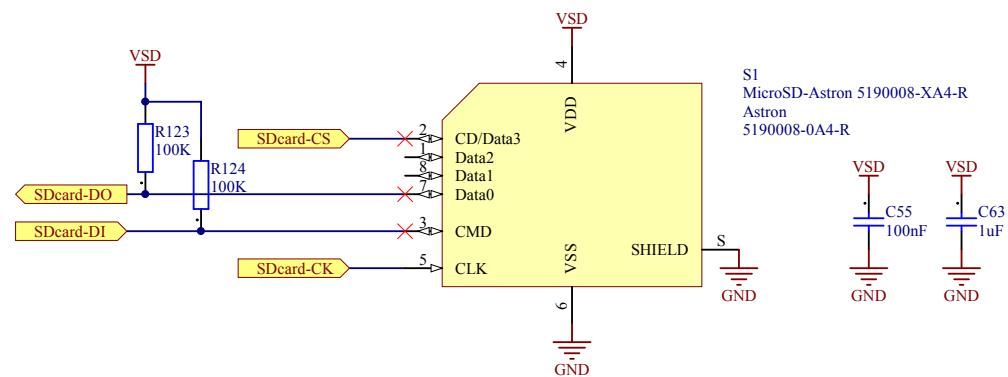
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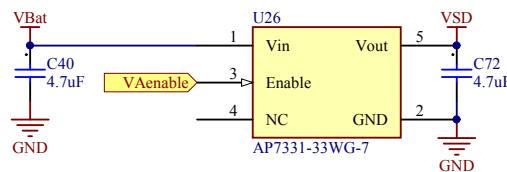
B

B



C

C



D

D

Project *thymio2-main.PnjPCB*Part *Line 1 of project part*
*Line 2 of project part*File : *SDcard.SchDoc*Date:
09.03.2011
10:29:24Revision: A
Daniel Burnier
STI-IMT-LSRO1
EPFL
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Quantity	Comment	LibRef	Designator	Description	Footprint	Supplier	Supplier Nr
2	Motor	B1, B2		Motor, General Kind	RB5-10.5		
1	Battery	BT1		Multicell Battery	BAT-2		
36	100nF	C1, C3, C5, C6, C8, C9, C10, C11, C12, C13, C14, C15, C21, C24, C26, C27, C28, C29, C30, C33, C35, C36, C37, C38, C39, C56, D62, C95, C96, C97, C68, C69, C70, C71		Capacitor	RESC160BX06L	Famell	1288255
6	10uF	C2, C4, C34, C46, C51, C52		Capacitor	RESC160BX06L	Famell	1463375
7	4.7nF	C15, C16, C17, C18, C19, C20, C21		Capacitor	CAPC160N		
11	4.7uF	C31, C32, C40, C43, C44, C45, C47, C48, C49, C50, C72		Capacitor	RESC160BX06L	Famell	9227784
2	18pF	C41, C42		Capacitor	RESC160BX06L	Famell	8819815
2	1nF	C53, C54		Capacitor	RESC160BX06L	Famell	1288255
	10uF[1][1]J0603[1]						
4	4.7uF[1][1]J0603[1]	C56, C60, C61, C63		Capacitor	RESC160BX06L	Distrelec, Famell	823495, 9227784
1	1.5nF	C57		Capacitor	RESC160BX06L	Famell	9406182
	10nF[1][1]J0603[1]						
2	47nF	C58, C59		Capacitor	RESC160BX06L	Distrelec, Famell	823494, 9406182
1	510f	C64		Capacitor	RESC160BX06L	Famell	9406182
4	19-21EUR/S530-A3/TR8	D1, D3, D4, D5		SMD Res 0603 2V@20mA 56 mΩ	DI0C160BX0BN		
4	BT5050RGBC-T180	D2, D6, D7, D8, D9, D10, D11, D12, D17, D18, D25, D26, D32		SMD Res 0603 20mA 56 mΩ	LED5MDS		
12	27-21EUR/S530-A3	D35, D36		SMD Red led right angle mount 2V@20mA 57mcd		27-21 Everlight	
3	27-21/BHC-AN1P2/3C	D8, D31, D37		SMD Blue led right angle mount 3.3V@20mA 20mcd		27-21 Everlight Blue	
8	APTD1608SYCK	D13, D14, D15, D16, D21, D22, D23, D24		LED standard - CMS Heios SMD Yellow 590nm 460mcd	DI0C160BX0BN		
2	SSL-LX304HD	D19, D20		Red led 2V@20mA 57mcd	Led_TH_3mm_20mm		
3	APTD1608CGCK	D28, D29, D30		LED standard - CMS Heios SMD Green 570nm 200mcd	DI0C160BX0BN		
2	BAT54S	D33, D34		Schottky Barrier Double Diode	SOT23_N		
1	Speaker	LS1		Loudspeaker	PIN2		
1	TD4015BPN	Micro1	M1C1	Unidirectional Back Electret Condenser Microphone	MICRO_PANASONIC_WM-64PN		
		D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D13, D14, D15, D16, D17, D18, D19, D20, Q21, Q22, Q23, Q24, Q25, Q26, Q27, Q28, Q29, Q30, Q31, Q32, Q33, Q34, Q35, Q36, Q37, Q38, Q39, Q40, Q41, Q42, Q43, Q44, Q45, Q46					
46	BO817-40	BC817-40		NPN General-purpose Transistor	SOT23_N		
		R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R50, R51, R101, R102, R53, R94, R103, R104, R111, R112, R113, R114, R142, R144, R145, R146					
22	4.7K	4.7K[1][1]J0603[1]		Resistor	RESC160BX06L	Distrelec	715604
18	33	68K[1][1]J0603[1]	R3, R5, R6, R8, R9, R7, R1, R2, R3, R58, R95, R100, R110, R115, R147, R148, R149, R150	RES	RESC160BX06L	Distrelec	715632
10	1K	10K[1][1]J0603[1]	R108	RES	RESC160BX06L	Distrelec	715588
8	22K	22K[1][1]J0603[1]	R7, R8, R9, R10, R11, R42, R43, R130	RES	RESC160BX06L	Distrelec	715620
15	2.2K	2.2K[1][1]J0603[1]	R14, R15, R16, R15, R16, R22, R33, R34, R35, R45, R46, R47	RES	RESC160BX06L	Distrelec	715596
7	1.5K	1.5K[1][1]J0603[1]	R17, R18, R19, R20, R26, R46, R47	RES	RESC160BX06L		
		R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R50, R51, R101, R102, R53, R94, R103, R104, R111, R112, R113, R114, R142, R144, R145, R146					
16	10K	10K[1][1]J0603[1]	R27, R28, R29, R30, R31, R50, R51, R101, R102, RES	RES	RESC160BX06L	Distrelec, Famell	715612, 9330399, 9331565
7	8.2	8.2[1][1]J0603[1]	R36, R37, R38, R39, R40, R54, R55	RES	RESC160BX06L		
14	56	68K[1][1]J0603[1]	R56, R58, R60, R62, R74, R75, R76, R77, R78, R79, R80, R81, R90, R91	RES	RESC160BX06L	Distrelec	715632
14	39	68K[1][1]J0603[1]	R66, R82, R83, R84, R85, R86, R87, R88, R89,	RES	RESC160BX06L	Distrelec	715632
2	100	100K[1][1]J0603[1]	R105, R106	AC/ORT	RESC160BX06N		
2	180	180K[1][1]J0603[1]	R107, R137	RES	RESC160BX06L	Distrelec	715570
2	5.6K	5.6K[1][1]J0603[1]	R115, R116	RES	RESC160BX06L	Distrelec	715598
		10K[1][1]J0603[1]					
9	100K	100K[1][1]J0603[1]	R119, R120, R121, R122, R123, R124, R138, R139, R141	RES	RESC160BX06L	Distrelec	715612, 715636
1	1.68K	1.68K[1][1]J0603[1]	R125	RES	RESC160BX06L	Distrelec	715612
1	1.8K	10K[1][1]J0603[1]	R127	RES	RESC160BX06L	Distrelec	715612
1	820	22K[1][1]J0603[1]	R131	RES	RESC160BX06L	Distrelec	715620
1	47K	22K[1][1]J0603[1]	R132	RES	RESC160BX06L	Distrelec	715620
1	270K	270K[1][1]J0603[1]	R140	RES	RESC160BX06L	Famell	9330941
1	NCP150H103F03RC	Res Thermal	RT1	Thermistor - NTC 10K OHM 1% 0402	RESC100X04L		
1	SD-Card-Micro-ASLSTRON	SD-Card-Micro-ASLSTRON					
1	MicroSD-Astron 5190008-XA4-R	5190008-XA4-R	S1	MicroSD Card connector 5190008-XA4-R	Astron 5190008-XA4-R		
1	SW-PB	SW-PB	S2	Switch	FSMRA2JH		
4	DMG1013T	DMG1013T	T1, T2, T3, T4	Transistor MOSFET 1 x N, P Hng : 1xG, 2xS, 3xD	SOT50P160X030-3N		
4	DMG1012T	DMG1012T	T5, T6, T7, T8	Transistor MOSFET 1 x N, P Hng : 1xG, 2xS, 3xD	SOT50P160X030-3N		
1	MMA7660FC	MMA7660FC	U1	IMMA7660FC: XY-Z AXIS ACCELEROMETER			
2	ITR9909	ITR9909	U2, U3	IR Infrared Optic Interrupter	ITR9909_LONG		
2	MCP9804AT-E/ST	MCP9804AT-E/ST	U4, U5	1.5MHz, 25°C Accurate D/A Amp, 14-Bit I2C-SCLP, Extended Temperature Range, Tape and Reel	TSSOP-ST14_N		
7	ITR9909	ITR9909	U6, U7, U8, U9, U10, U11, U12	Eighthight Optic Interrupter	ITR9909_EDGE		
5	MCT41HC555ADTR2	MCT41HC555ADTR2	U13, U14, U15, U16, U17	8-Bit Serial-Input Shift Register with Latched 3-State Output	948F01_N		
4	AP7331-33WG-7	AP7331	U18, U22, U24, U26	300mA, Low Quiescent Current, Fast Transient I/O	SOT95P285X100-5N		
1	PIC24FJ64GB106-I/PT	PIC24FJ64GB106-I/PT	U19	Universal Purpose 16-Bit Flash Microcontroller with USB On-The-Go, 64KB Flash, 16KB SRAM, 64-Bit TQFP, Industrial Temperature	TQFP-PT164_N		
1	IRM-3636T	IRM-3636T	U20	IR Receiver Module (36 kHz) for Remote Control Systems	I-Receiver		
		MCP73871-2AA/ML	U21	Stand-Alone System Load Sharing and Li-Ion/Li-Polymer Battery Charge Management Controller, 4.2V, 20-Pin QFN, Industrial Temperature	QFN-ML20_N		
1	FAN3988	FAN3988	U23	Universal Voltage and Over Voltage Detection Device	MLP-1.45x1mm		
1	LM4819M or NCP2980	LM4819M	U25	350mW Audio Power Amplifier with Shutdown Mode	M08A_N		
1	Cont1x6	Cont1x6	X1	1 x 6 pins connector	TYCO_74-15079-6		
1	Cont1x6	Cont1x6	X2	1 x 6 pins connector	MHDR1X6		
1	Astron R3190005-021-R	USB_MINIAB	X3	USB connector Micro B	Astron 3190005-x21-t		
1	615-ABL5-8-62	HC49/4H_SMX	Y1	Surface Mount Quartz Crystal 8MHz	HC49/4H_SMX		

