

Title		
Sumo_Microcontroller_and_Memory		
Size	Number	Revision
A3	01	A01
Date:	29-Jul-07	
File:	C:\Documents and Settings\...\Microcontroller_and_Memory.SCHDOC	

A

B

C

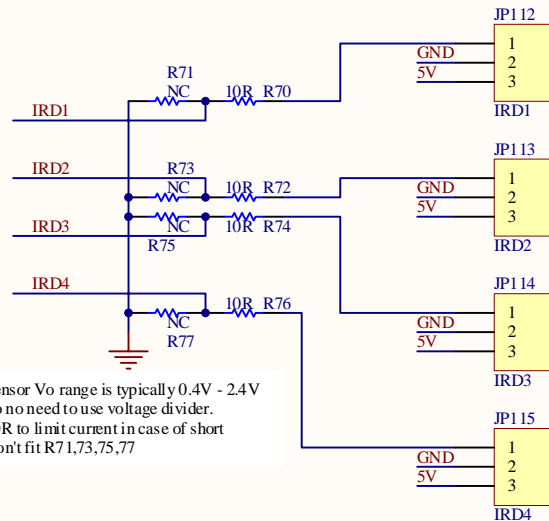
D

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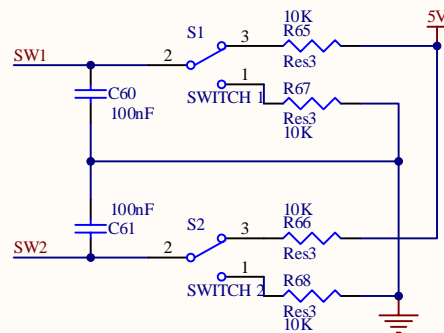
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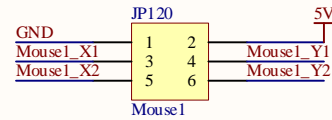
Sensor Vo range is typically 0.4V - 2.4V
So no need to use voltage divider.
10R to limit current in case of short
Don't fit R71,73,75,77

IR Range Inputs

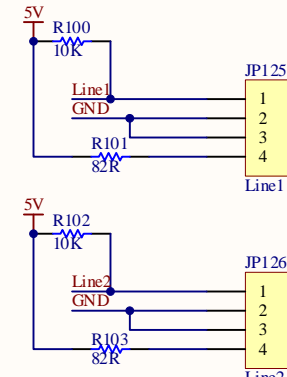


Add debounce caps
and resistors

Momentary switches

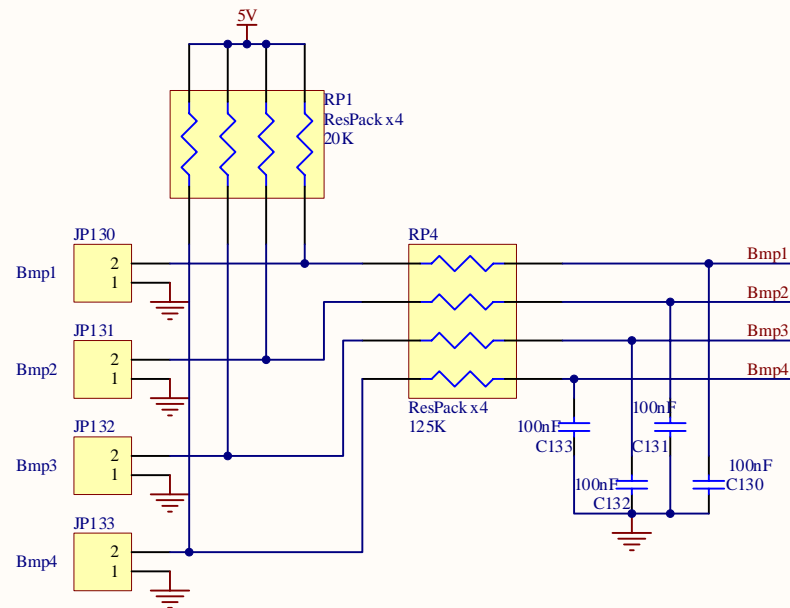


Mouse Sensors



82R sets current at I = 40mA, Vf = 1.7V

Line Sensors



Bump Sensors

Normally Open switches

Title		
Sumo_Interfaces_and_connectors_Sensors		
Size	Number	Revision
A4	04	A01
Date:	29-Jul-07	Sheet of
File:	C:\Documents and Settings\...\Interfaces and Connectors - Sensors.SCHDOC	

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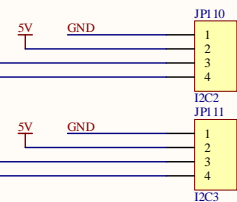
4

A

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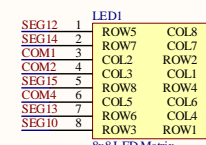
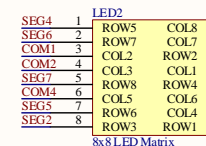
D



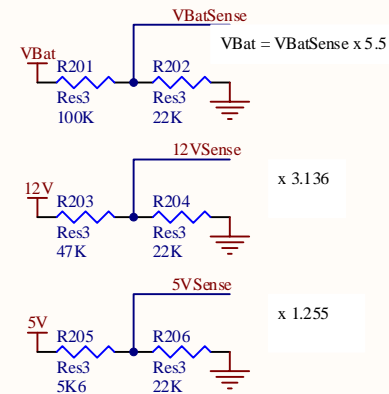
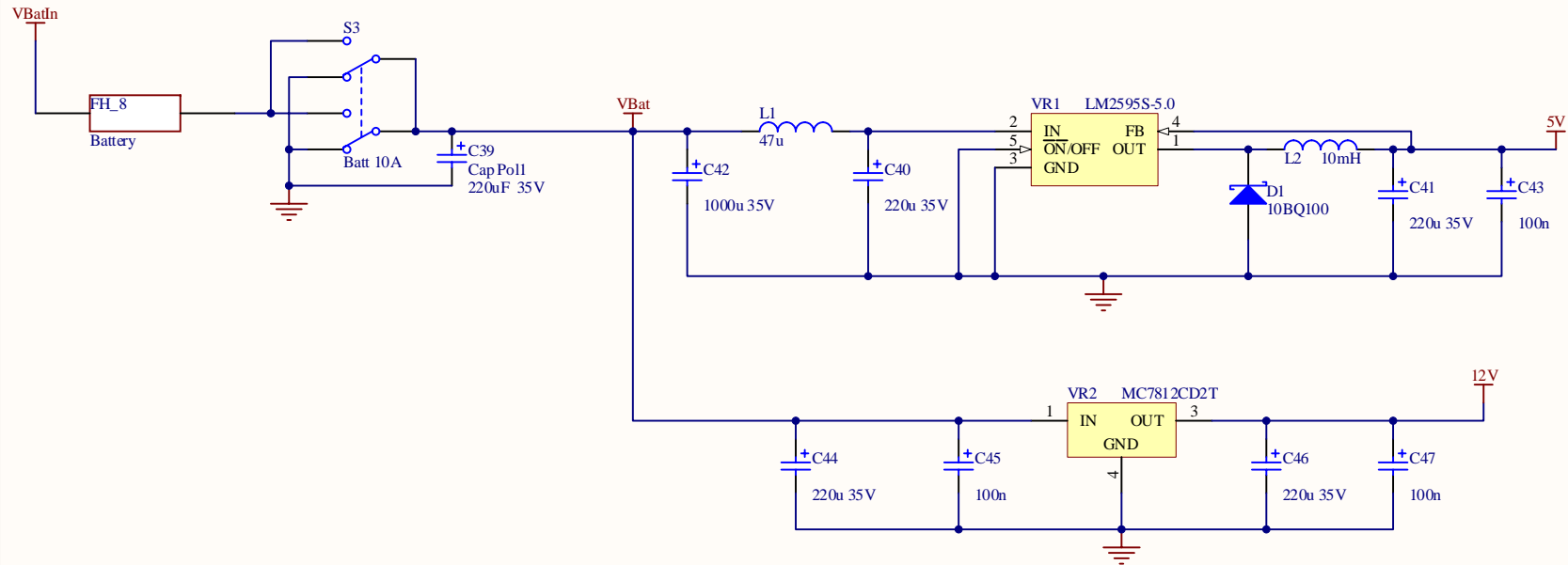
I²C Serial Interface



Using Common Cathode where Coms is the Columns and Segments is the rows.
Seg 0-7 is LED 1, Seg 8-15 is LED2
1k resistor sets current approx equal to 13mA per LED or 208mA total
SOUT to be connected to a via in case it is needed but there is a lack of pins and it only mirrors the SIN input

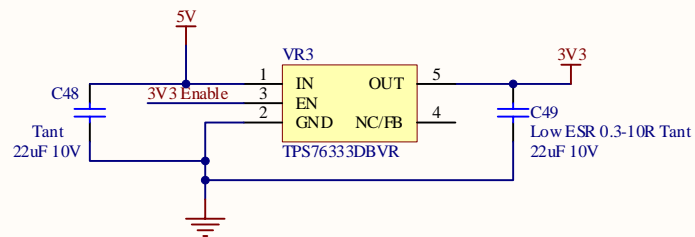


Title Sumo_Interfaces_and_Connectors		
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Current through each is ~200uA assuming nominal voltage (VBat = 24V)
At nominal input voltage VSense = ~4V

Voltage Monitoring



Title			Sumo_Power_Regulation_and_Protection
Size	Number	Revision	
A4	02	A01	
Date:	29-Jul-07	Sheet of	1
File:	C:\Documents and Settings\...\Power Regulation and Protection.SCHDOC		

1

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A

A

Microcontroller and Memory
Microcontroller and Memory.schdoc



Power Regulation and Protection
Power Regulation and Protection.schdoc



B

B

Interfaces and Connectors
Interfaces and Connectors.schdoc



C

C

Interfaces and Connectors - Sensors
Interfaces and Connectors - Sensors.schdoc



D

D

Title		
Size	Number	Revision
A4		
Date:	29-Jul-07	Sheet of 3
File:	C:\Documents and Settings\...\Schematic of Solenoid Box.SCHDOC	

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