**GVSU School of Engineering**

**EGR326-902 Semester Project**

**Wave-Motion Arduino Shield**

Design Review Supplemental Packet

**Presented By:**

Jordan Visser

Steven Diemer

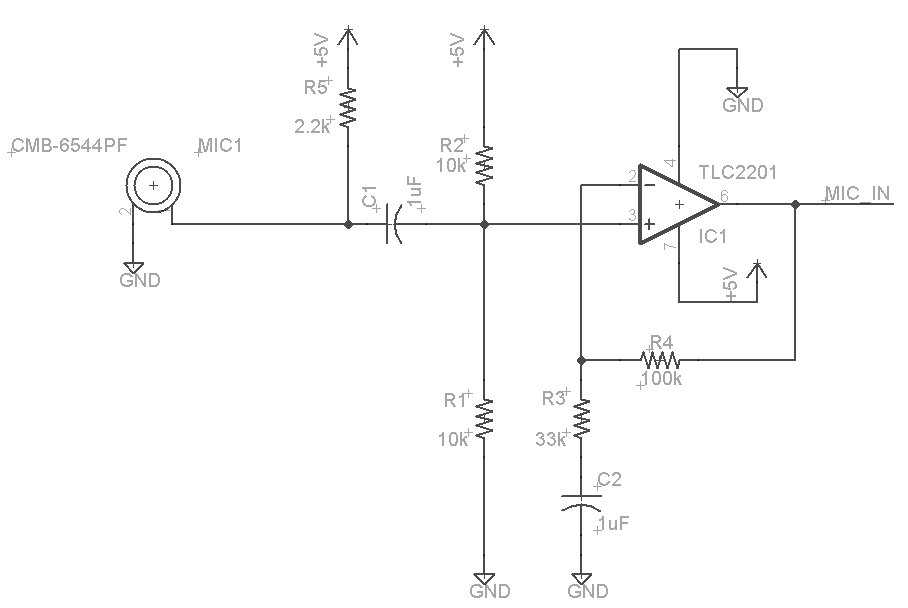
Professor: Andrew Sterian

11/4/2011

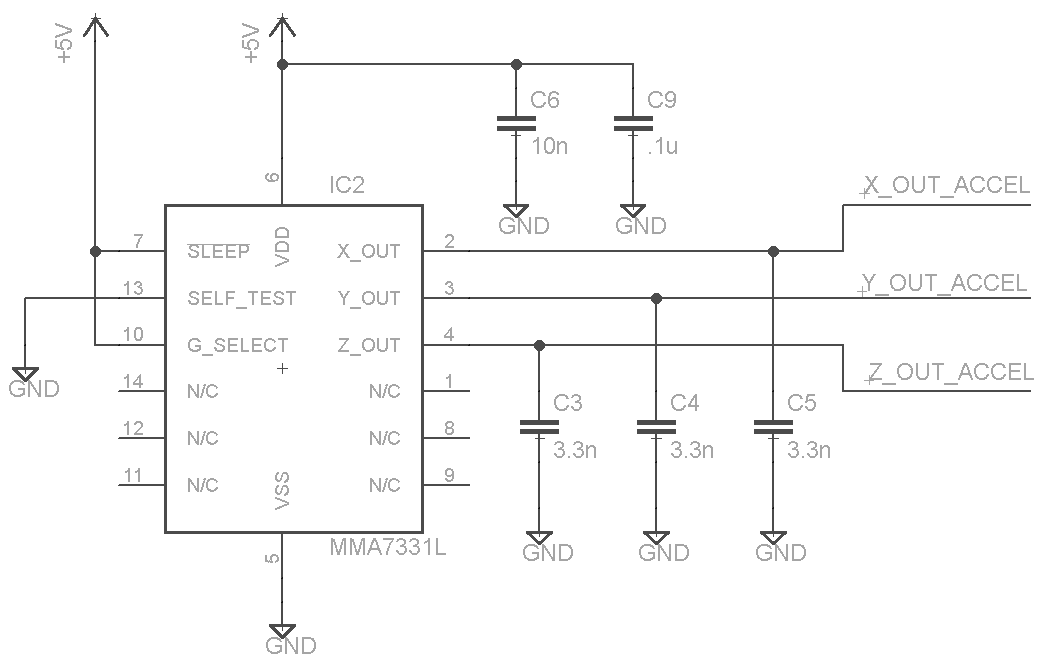
**Bill of Materials:**



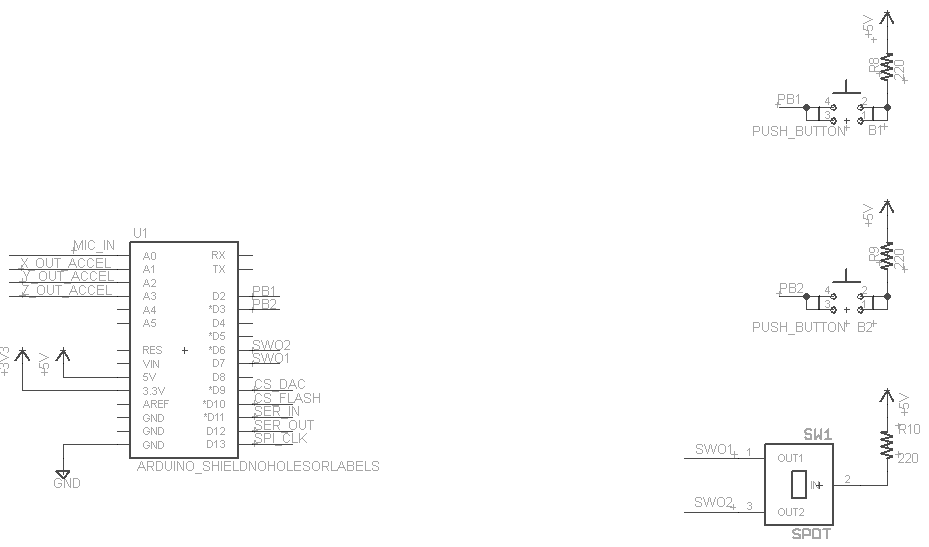
**Microphone Pre-Amplifier:**



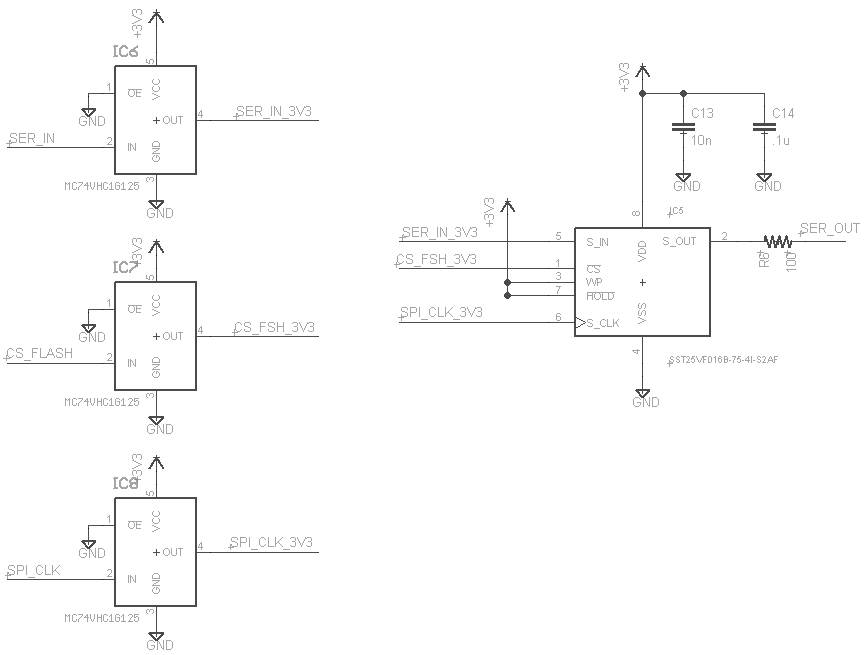
**3-Axis Accelerometer for Re-Sampling Instructions:**



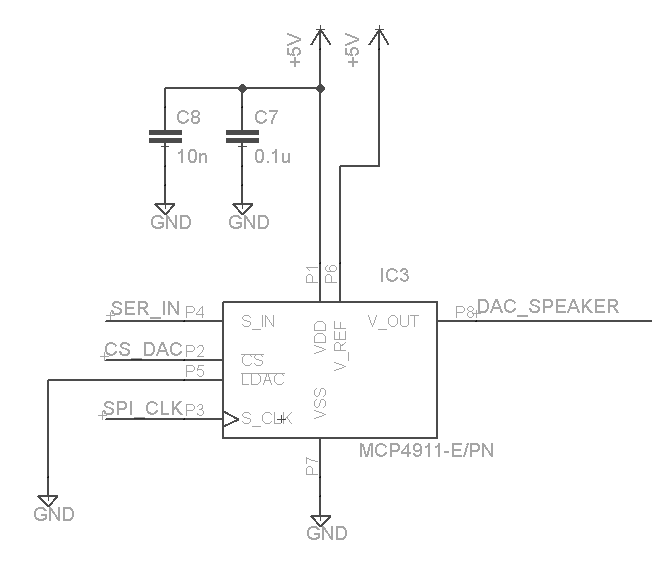
**Arduino Pin Out and Push Buttons and Switch:**



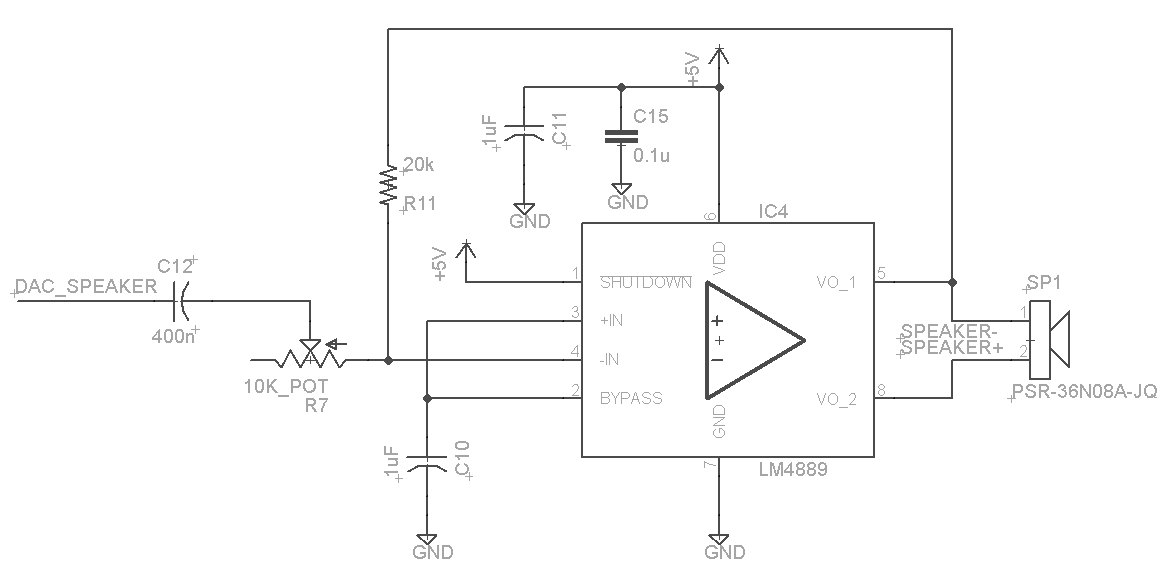
**Level Shifters and Flash Memory:**



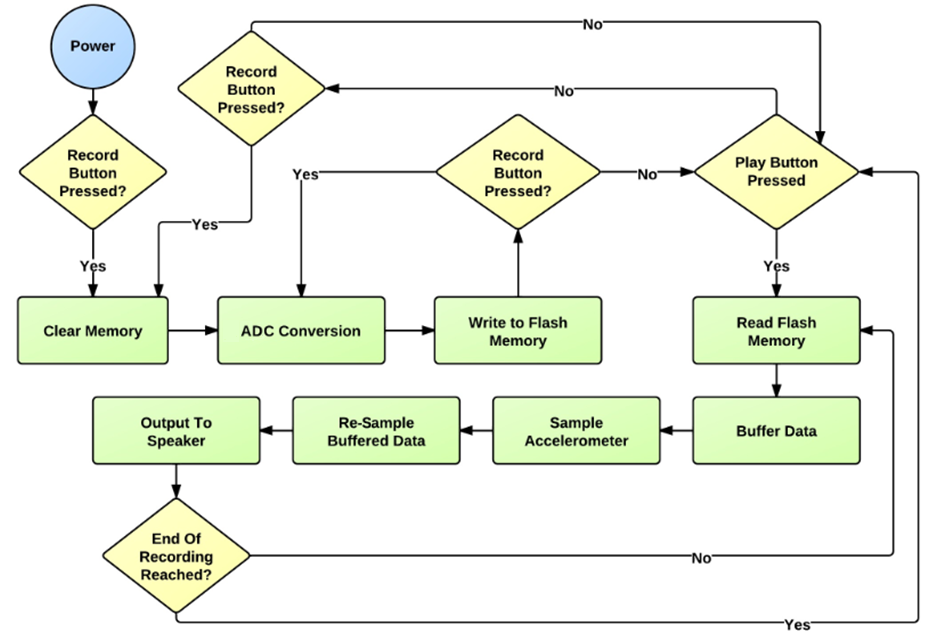
**Digital-to-Analog Converter for Speaker Amplifier Input:**



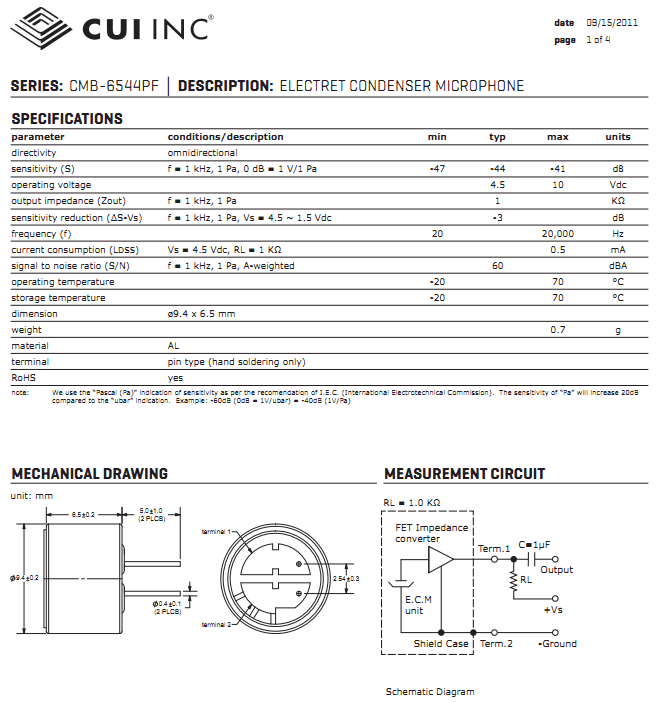
**Speaker Amplifier:**



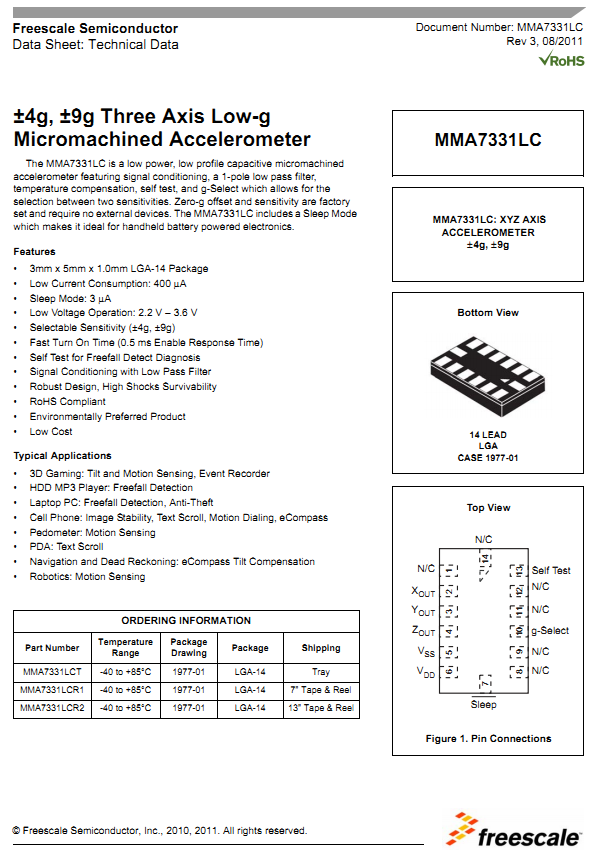
**Software Flow Chart:**



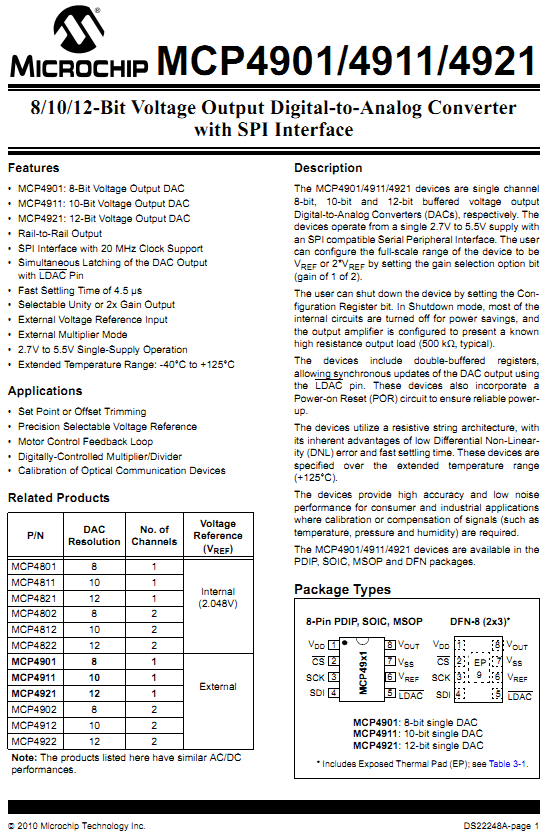
**Electret Condenser Microphone for Audio Input:**



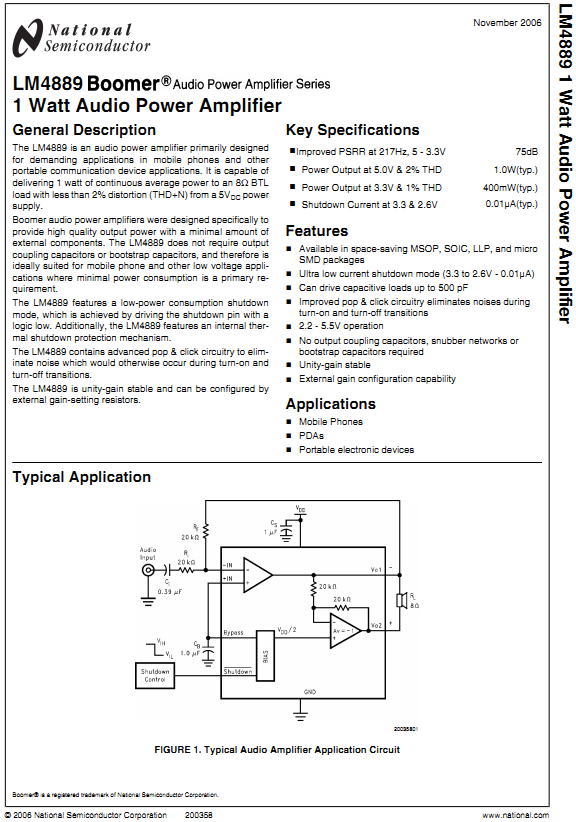
**3-Axis Accelerometer for Re-Sampling Audio:**



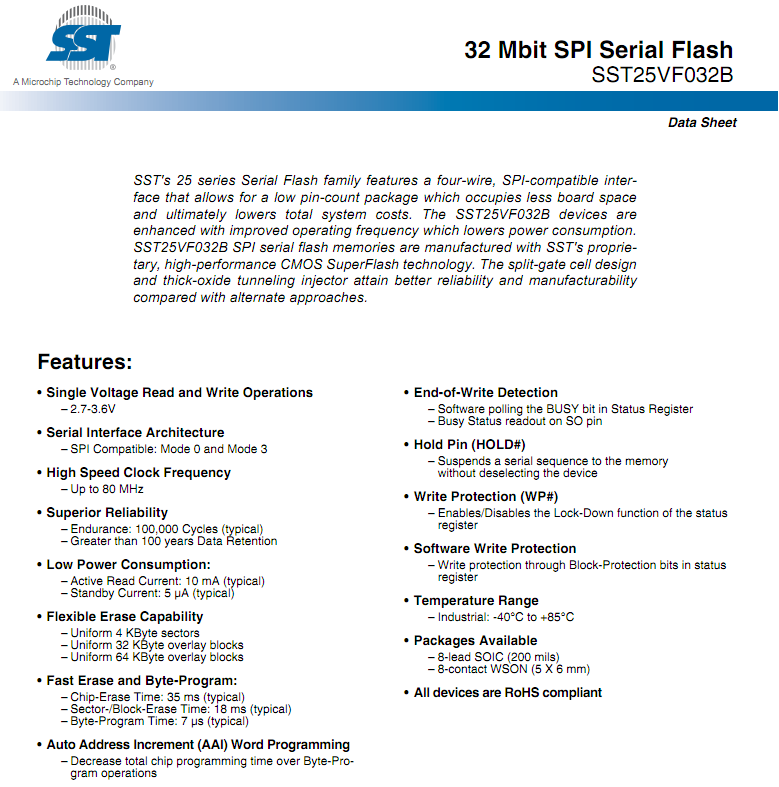
**10-Bit Digital-to-Analog Converter for Speaker:**



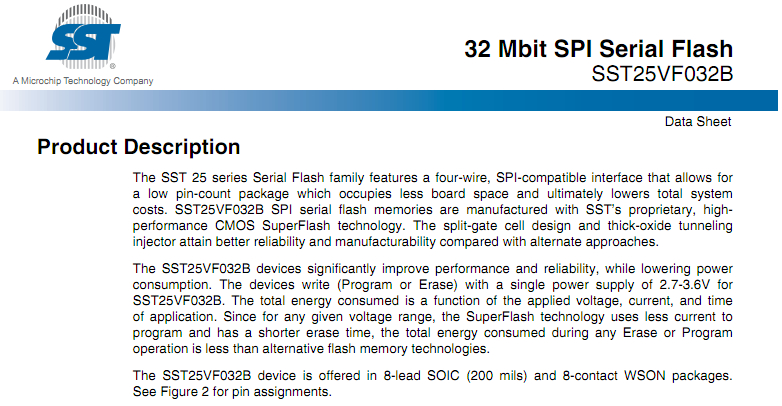
**Audio Power Amplifier for Driving 8Ω Speaker:**



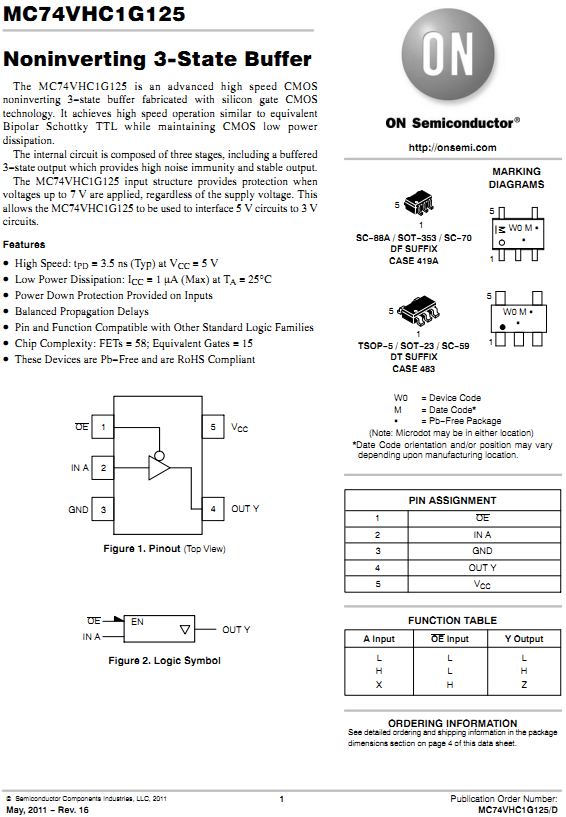
**32Mbit Flash Memory – Page 1:**



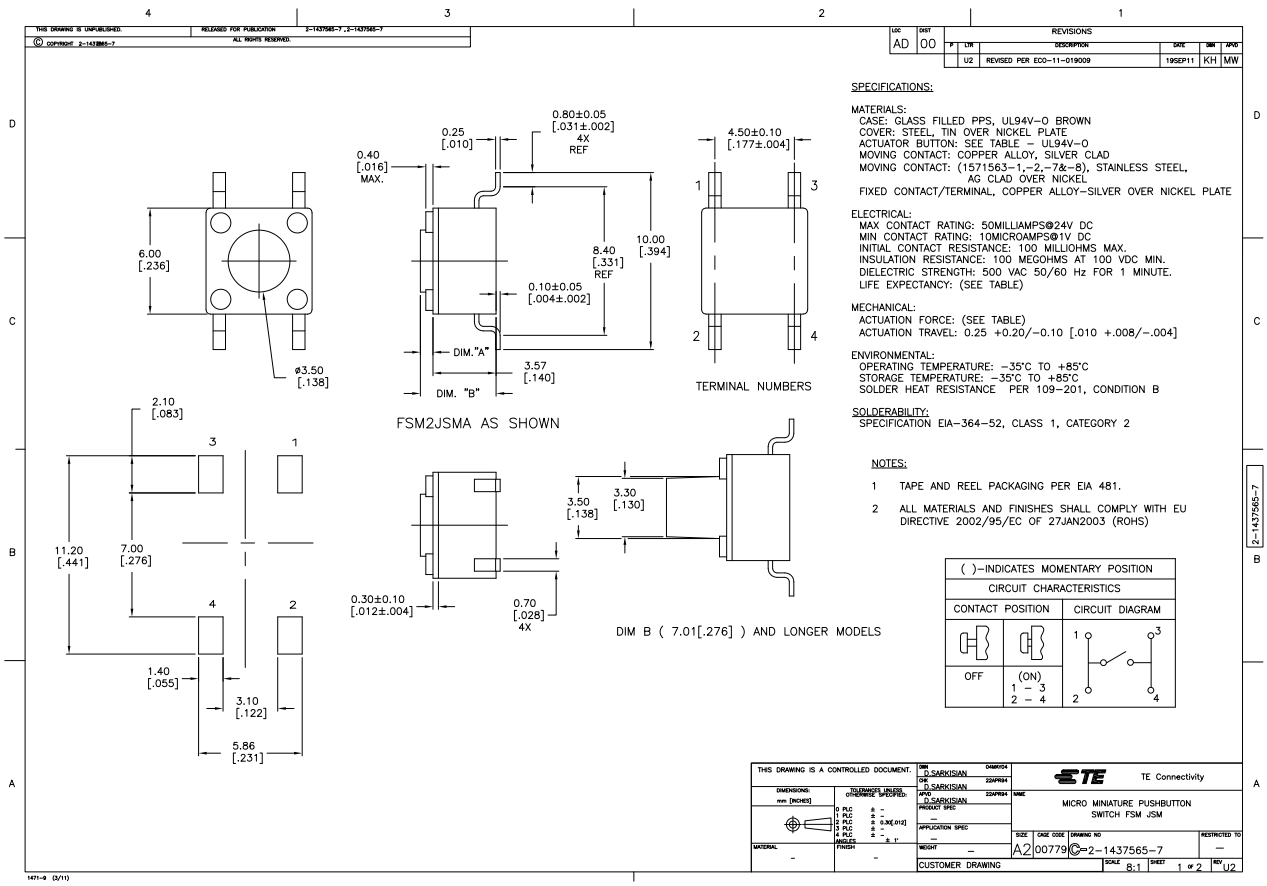
**32Mbit Flash Memory – Page 2:**



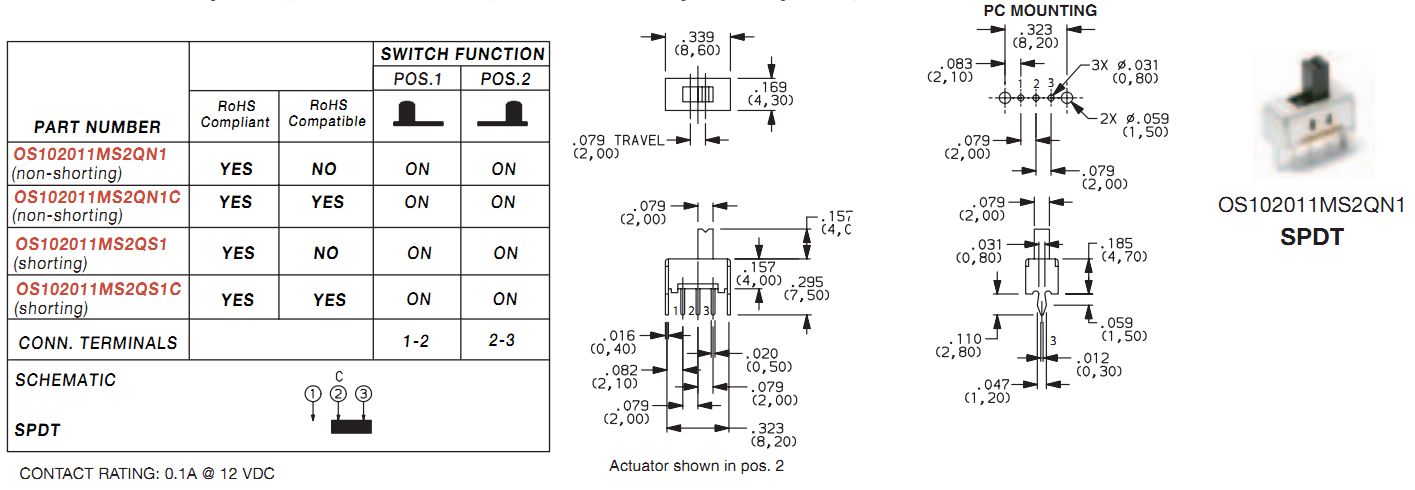
**3.3V Level Shifter for Memory Operation:**



**Push Button for Audio Recording and Playback:**



**Single Pull Double Throw Switch for Different Modes of Operation in the Future:**



**Sparkfun Connector for Mounting Shield:**

