

Power Budget

Power Budget						
Team Information		Power Requirements				
Team Number:	204	Supply Voltage	+0 - 350V	#	Absolute Maximum Current (mA)	Total Current (mA)
Project Name:	ClapSense				5.7	5.7 mA
Team Member Names:	Aaron Kiem, Roshan Roy, Caleb Yuen, and Quinn Maness				0.17	0.17 mA
Version:	2				500	500 mA
All Major Components						
Component Name	Part Number	Supply Voltage Range	#	Absolute Maximum Current (mA)	Total Current (mA)	Unit
PDV-P5003 Photo-Resistor	PDV-P5003-ND	+0 - 350V	1			
MCP6004 Op-Amp	MCP6004-1/P-N	+1.8 - 6V	1			
Microcontroller	PIC18F57Q43	+1.8 - 5.5V	1			
+5V Power Rail						
Component Name	Part Number	Supply Voltage Range	#	Absolute Maximum Current (mA)	Total Current (mA)	Unit
PDV-P5003 Photo-Resistor	PDV-P5003-ND	+0 - 350V	1			
MCP6004 Op-Amp	MCP6004-1/P-N	+1.8 - 6V	1			
Microcontroller	PIC18F57Q43	+1.8 - 5.5V	1			
				Subtotal	505.87	mA
				Safety Margin	25%	
					632.3375	mA
Total Current Required on +5V Rail						
					1000	1000 mA
					367.6625	mA
Regulator Choice						
+5V Regulator	LM7805	+0 - 35V	1			
Total Remaining Current Available on +5V Rail						
External Power Source						
Power Source Selection	Component Name	Part Number	Supply Voltage Range	Output Absolute Maximum Current (mA)	Total Current (mA)	Unit
Plug-in Wall Supply	none	110V/AC	+24V		5000	5000 mA
Power Rails Connected to External Power Source						
+5V Regulator	LM7805	+0 - 35V	1		1000	1000 mA
Total Remaining Current Available on External Power Source						
					4000	4000 mA