

Final Design Power Budget				JDT - 18
Supply:	6 Powerex NiMH Batteries		Package:	N/A
Nominal Voltage:	1.5		Heatsink(s):	None
Maximum Sourcable Current (mA):	>2700		Expected Power Dissipated (mW):	15318
Expected Sourced Current (mA):	965		Expected Temperature Rise (C):	Not Spec'd
PCB Reference Designators	Part Number(s)	Maximum Sunk Current (mA)	Maximum Input Power (mW)	Notes
None	SainSmart Mega 2560	45	236	Sainsmart Mega Controller (Breakdown below)
VR1	MIC5239	120	683	5V LDO Regulator (Breakdown below)
None	IG-22GM	800	14400	Quadrature-Encoded Motors
Totals		965	15318	
Supply:	5V SainSmart Mega 2560 Output		Package:	N/A
Nominal Voltage:	5		Heatsink(s):	None
Maximum Sourcable Current (mA):	40 x Number of Pins		Expected Power Dissipated (mW):	11
Expected Sourced Current (mA):	20		Expected Temperature Rise (C):	Not Spec'd
PCB Reference Designators	Part Number(s)	Maximum Sunk Current (mA)	Maximum Input Power (mW)	Notes
R1, T-1	RHM422BBCT-ND, PZT2222A	10	5.23696682464455	BJT and Resistor, Closest to IR Transmitter
R2, T-2	RHM422BBCT-ND, PZT2222A	10	5.23696682464455	BJT and Resistor, Closest to Ground
None	HC-SR04	0.006	0.03	Ultrasound Proximity Sensors, Trigger Input
None	IG-22GM	0.006	0.03	Quadrature-Encoded Motors, Enable
Totals		20	11	
Supply:	MIC5239 LDO Regulator		Package:	SOT-223
Nominal Voltage:	5		Heatsink(s):	None
Maximum Sourcable Current (mA):	500		Expected Power Dissipated (mW):	683
Expected Sourced Current (mA):	120		Expected Temperature Rise (C):	34
PCB Reference Designators	Part Number(s)	Maximum Sunk Current (mA)	Maximum Input Power (mW)	Notes
R8, DIR-1, T-1, T-2	IR7393C	99.6	588	IR Transmitter
U1, R7, C2	TSOP382	0.3	0.99	IR Receiver
SA-SD, R3-R6	SFH 5711	2	2.31	Photodiode Sensors, Input Voltage
None	HC-SR04	18.3	91.5	Ultrasound Proximity Sensors, Input Voltage
Totals		120	683	
Note: Batteries assumed to run for 60-minutes of continuous gameplay				