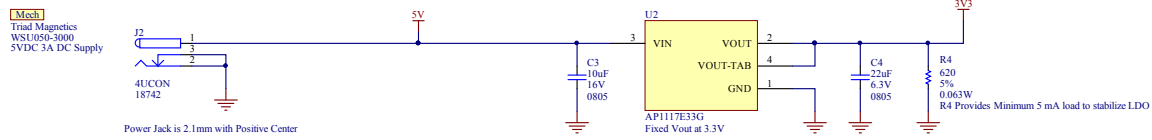
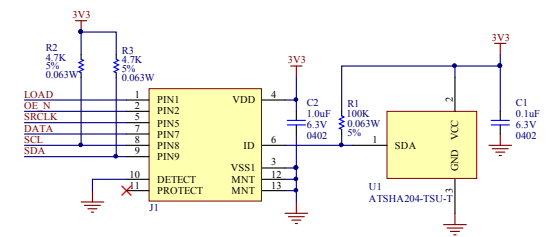


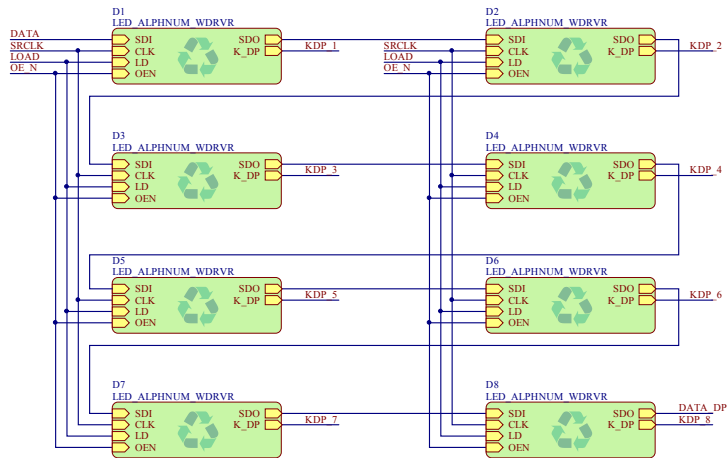
5V Input and 3V3 Power Supply



Imp Slot and ID Chip

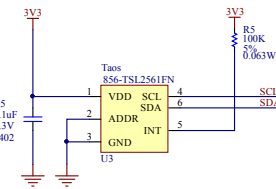


LED Drivers

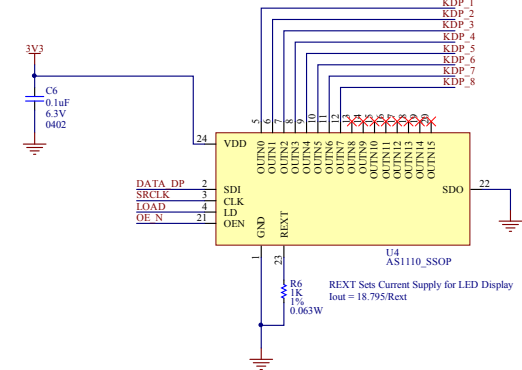


Digital Ambient Light Sensor

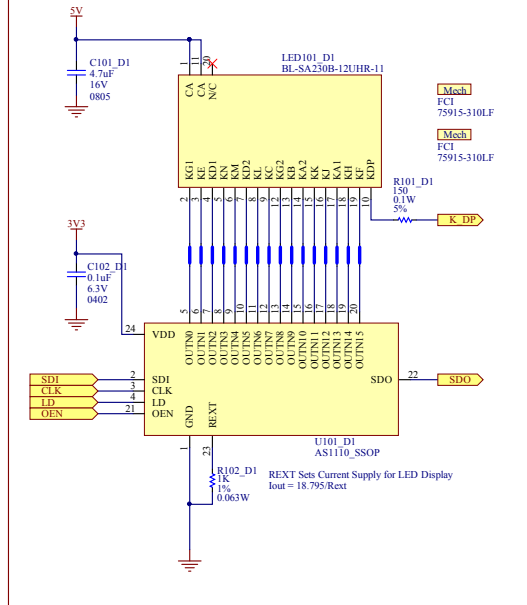
8-bit Address: 0x29 (ADDR Low)



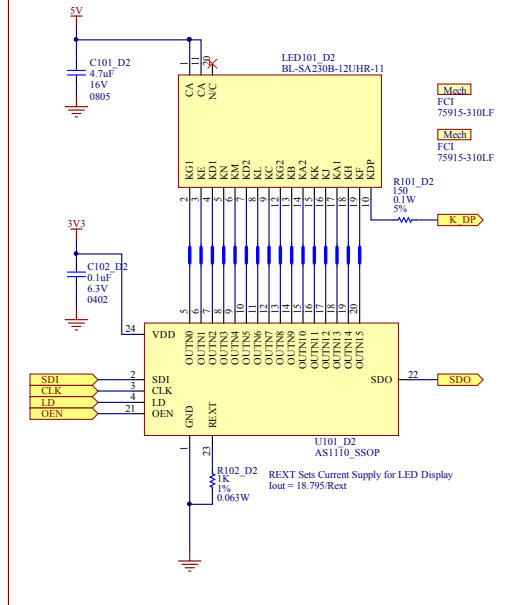
Decimal Point Driver



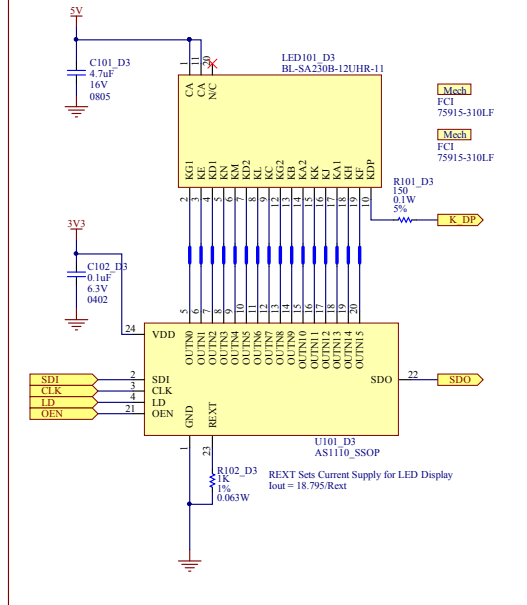
Alphanumeric Digit with Driver



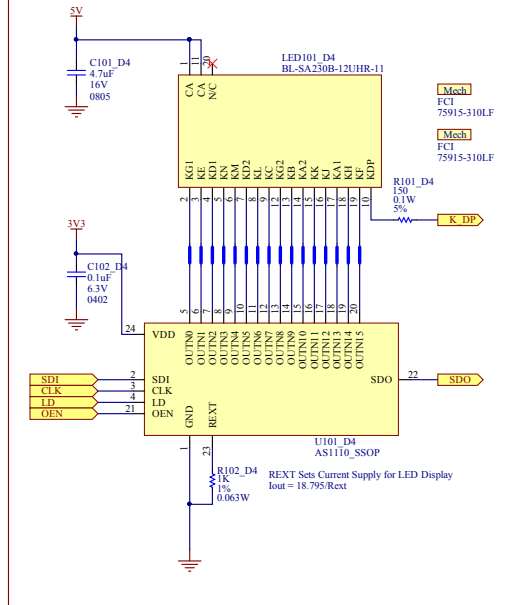
Alphanumeric Digit with Driver




Alphanumeric Digit with Driver

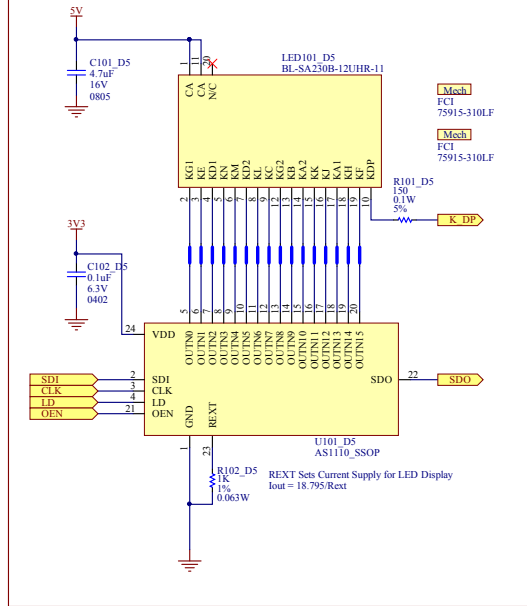



Alphanumeric Digit with Driver



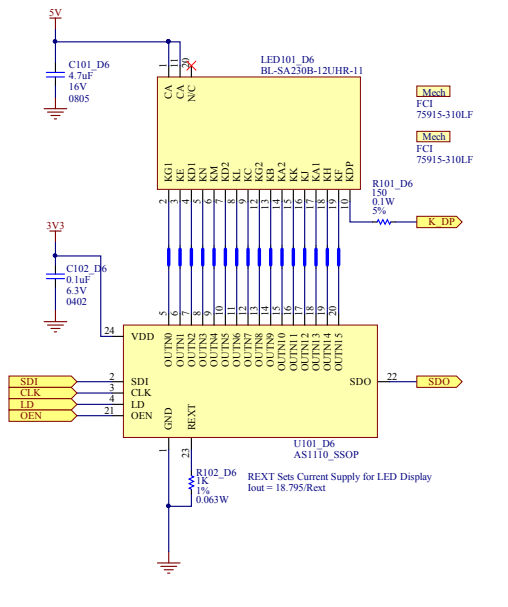
Title: Alphanumeric LED Digit with Driver			Electric Imp	 electric imp
Size: Tabloid	Number: *	Revision: 2	5050 El Camino Real, #221	
Date: 11/1/2012	Time: 3:31:06 PM	Sheet 1 of 1	Los Altos, CA 94022	
File: Z:\et-hardware\impcc-emu\LED_ALPHNUM_WDRVR.SchDoc			United States	

Alphanumeric Digit with Driver

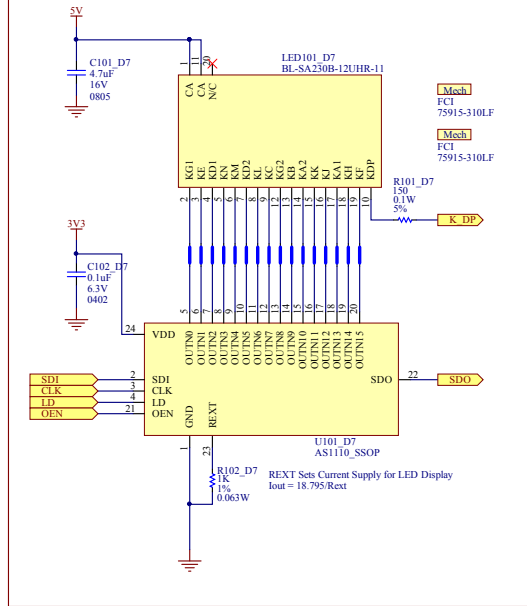


Title Alphanumeric LED Digit with Driver			Electric Imp 5050 El Camino Real, #221 Los Altos, CA 94022 United States	
Size: Tabloid	Number:*	Revision:2		
Date: 11/1/2012	Time: 3:31:06 PM	Sheet 1 of 1		
File: Z:\et-hardware\impcc-emu\LED_ALPHNUM_WDRVR.SchDoc				

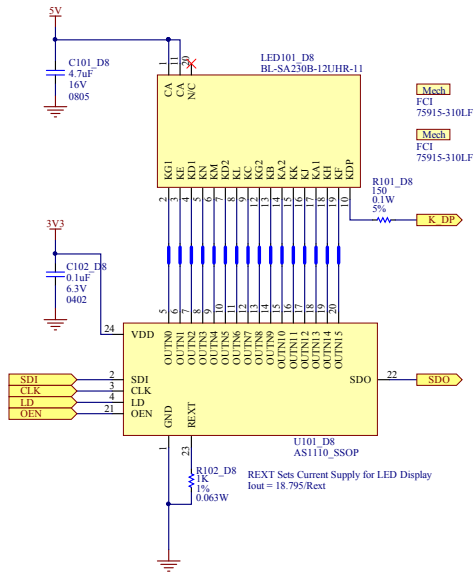
Alphanumeric Digit with Driver

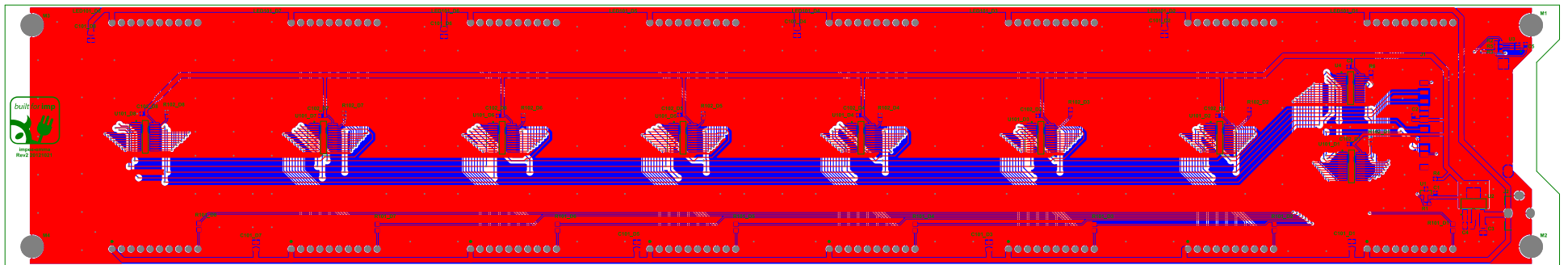


Alphanumeric Digit with Driver



Alphanumeric Digit with Driver







electric imp

impee-emma.PrjPcb

Bill of Materials

Revision: 2

Report Date: 11/1/2012

3:31:15 PM

#	Designator	Quantity	Description	Manufacturer	Manufacturer Part Number	Manufacturer 2	Manufacturer Part Number 2	Supplier 1	Supplier Part Number 1	Supplier Price 1	Supplier 2	Supplier Part Number 2	Supplier Price 2
1	C1, C5, C6, C102_D1, C102_D2, C102_D3, C102_D4, C102_D5, C102_D6, C102_D7, C102_D8	11	CAP,X5R,0.1uF,10%,6.3V, 0402,#	TDK	C1005X5R0J104K	Murata	GRM155R60J104KA01D	Digi-Key	445-1266-1-ND	0.0066	Mouser	81-GRM155R60J104KA1D	0.007
2	C2	1	CAP,X5R,1.0uF,10%,6.3V, 0402,#	Taiyo Yuden	JMK105BJ105KV-F	Yageo	CC0402KRX5R5BB105	Digi-Key	587-1231-1-ND	0.009	Digi-Key	311-1438-1-ND	.00948
3	C3	1	CAP,X5R,10uF,10%,16V,0805,#	Taiyo Yuden	EMK212BJ106KG-T	TDK	C2012X5R1C106K/0.85	Digi-Key	587-1295-1-ND	0.05355	Digi-Key	445-7644-1-ND	0.06345
4	C4	1	CAP,X5R,22uF,10%,6.3V,0805,#	TDK	C2012X5R0J226K/1.25	Taiyo Yuden	JMK325BJ226KM-T	Digi-Key	445-7679-1-ND	0.225	Digi-Key	587-1471-2-ND	0.22880
5	C101_D1, C101_D2, C101_D3, C101_D4, C101_D5, C101_D6, C101_D7, C101_D8	8	CAP,X5R,4.7uF,10%,16V,0805,#	Taiyo Yuden	EMK212BJ475KG-T	TDK	C2012X5R1C475K/1.25	Digi-Key	587-1294-1-ND	0.051	Digi-Key	445-7640-1-ND	.051
6	J1	1	Imp Slot with Proconn or 4Uconn,#	4UCON	19646	Proconn	SDC009-A0-2274 (EOL)	4UCON	19646	0.36			
7	J2	1	DC power jack, DIP right angle, 2.0 DIA	4UCON	18742	CUI	PJ-102A	4UCON	18742	0.1059	Digi-Key	CP-102A-ND	0.3128
8	LED101_D1, LED101_D2, LED101_D3, LED101_D4, LED101_D5, LED101_D6, LED101_D7, LED101_D8	8	LED, 17-Segment Display, Red	BetLux	BL-SA230B-12UHR-11			EvilMadScience	-	7			
9	MECH1	1	Pwr Supply, Wall mount, 100-240VAC in, 5VDC Out, 3A	Triad Magnetics	WSU050-3000			Digi-Key	237-1387-ND	7.6625			
10	MECH2_D1, MECH2_D2, MECH2_D3, MECH2_D4, MECH2_D5, MECH2_D6, MECH2_D7, MECH2_D8	16	Standoff, Thru-hole, Pitch .1", Height .335", 10 pos., single row	FCI	75915-310LF			Digi-Key	609-3550-ND	0.77504			
11	R1, R5	2	RES,100k,5%,0.063W,0402,#	Stackpole	RMCF0402JT100K	ROHM	MCR01MRTJ104	Digi-Key	RMCF0402JT100KCT-ND	0.00256	Digi-Key	RHM100KCECT-ND	0.00352
12	R2, R3	2	RES,4.7k,5%,0.063W,0402,#	Yageo	RC0402JR-074K7L	ROHM	MCR01MRTJ472	Digi-Key	311-4.7KJRCT-ND	0.00237	Digi-Key	RHM4.7KCECT-ND	0.00352
13	R4	1	RES,620 Ohm,5%,0x063W,0402	Yageo	RC0402JR-07620RL			Digi-Key	311-620JRCT-ND	0.00237			
14	R6, R102_D1, R102_D2, R102_D3, R102_D4, R102_D5, R102_D6, R102_D7, R102_D8	9	RES,1K,1%,0.063W,0402,#	Yageo	RC0402FR-071KL	Stackpole	RMCF0402FT1K00	Digi-Key	311-1.00KLRCT-ND	0.0027	Digi-Key	RMCF0402FT1K00CT-ND	0.00384
15	R101_D1, R101_D2, R101_D3, R101_D4, R101_D5, R101_D6, R101_D7, R101_D8	8	RES,150,5%,0.1W,0603	Yageo	RC0603JR-07150RL	Panasonic	ERJ-3GEYJ151V	Digi-Key	311-150GRCT-ND	0.00207	Digi-Key	P150GCT-ND	0.00256
16	U1	1	IC, CryptoAuthentication, Single-Wire, SOT23,#	Atmel	ATSHA204-TSU-T			Avnet	ATSHA204-TSU-T	0.42			
17	U2	1	IC, LDO, Fixed Output, 3.3V, 1A, SOT223	Diodes Inc.	AP1117E33G-13			Digi-Key	AP1117E33GDICT-ND	0.14411			
18	U3	1	IC, Sensor,ALS,I2C,640nm/940nm,SMT	Taos	TSL2561FN			Mouser	856-TSL2561FN	0.764			
19	U4, U101_D1, U101_D2, U101_D3, U101_D4, U101_D5, U101_D6, U101_D7, U101_D8	9	IC, LED Driver, Constant Current, 16-Channel, SSOP	Austria Micro	AS1110-BSSU			Digi-Key	AS1110-BSSU-ND	1.37592			