

# Renesas Starter Kit for RL78/L1C

## CPU Board Schematics

REV	REF	DATE	DRAWN BY
1.00	Release	08.01.2014	YOI

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### Note:

R : Fixed Resistor  
RV : Potentiometer  
U : Integrated Circuit  
X : Crystal  
RES : Reset Switch  
SW : Switch  
LED : Light Emitting Diode  
PWR : Power Jack  
J : Connector, Jumper

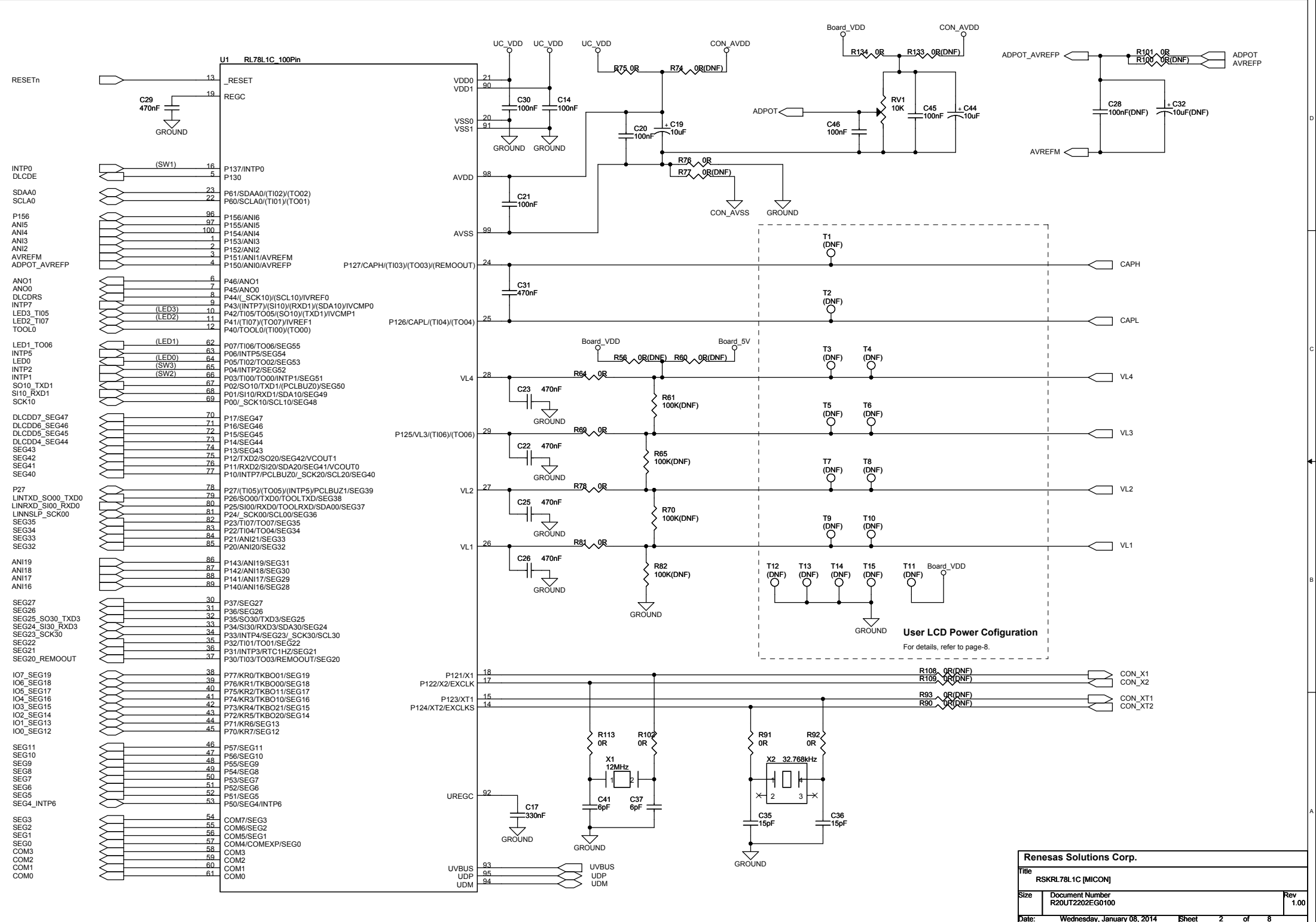
\* "DNF" marking means that component does not fit by default.

### Board Code:

R0K50110PC000BE : MP Board

REE Drawing No. D011652\_04

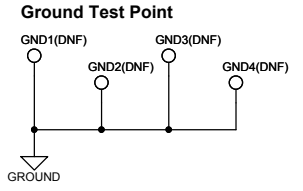
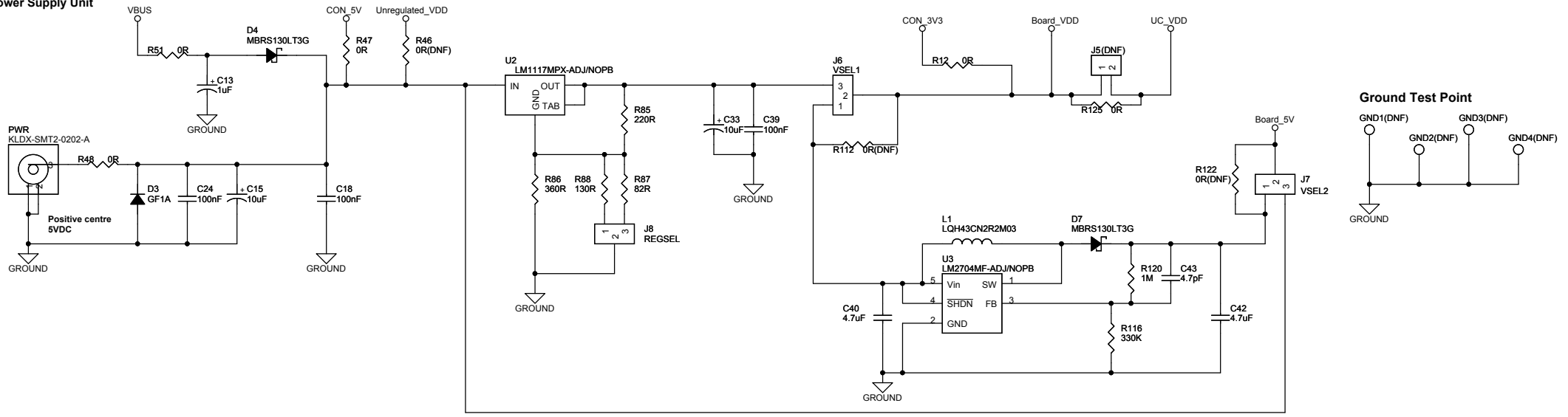
Renesas Solutions Corp.			
Title RSKRL78L1C [INDEX]			
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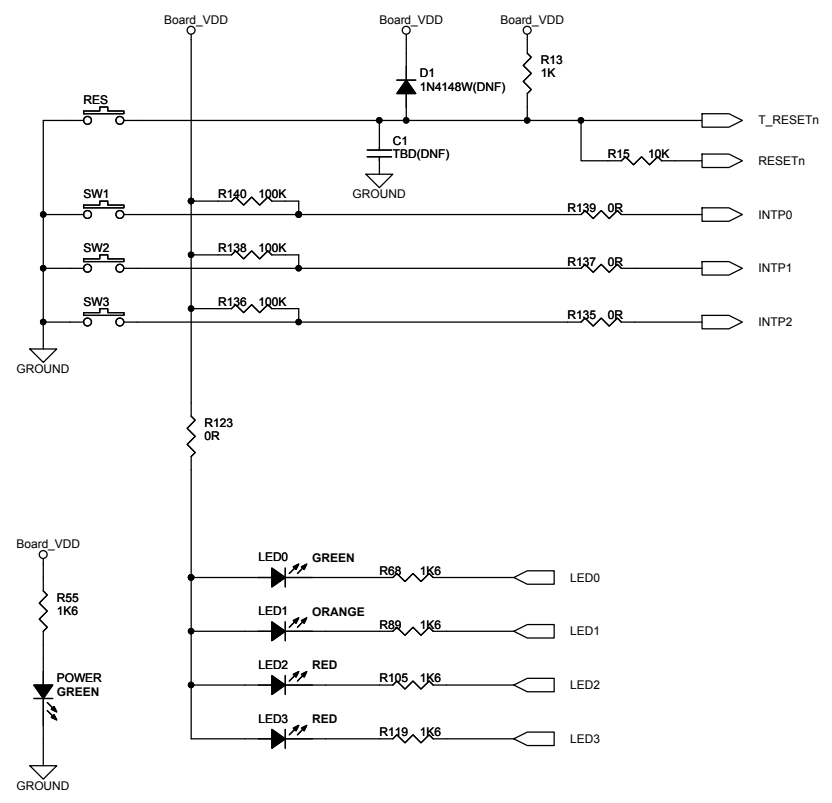
Pin	Function	Pin	Function
13	RESETn	19	REGC
5	INTP0	16	P137/INTP0
5	DLCE	5	P130
23	SDA0	22	P61/SDA0/(TI02)/(TO02)
22	SCL0	22	P60/SCL0/(TI01)/(TO01)
96	P156	96	P156/ANI6
97	ANI5	97	P155/ANI5
100	ANI4	100	P154/ANI4
1	ANI3	1	P153/ANI3
2	ANI2	2	P152/ANI2
3	AVREFM	3	P151/ANI1/AVREFM
4	ADPOT_AVREFP	4	P150/ANI0/AVREFP
6	ANO1	6	P46/ANO1
7	ANO0	7	P45/ANO0
8	DLCDRS	8	P44/(SCK10)/(SCL10)/IVREF0
9	INTP7	9	P43/(INTP7)/(SI10)/(RXD1)/(SDA10)/IVCMP0
10	LED3_TI05	10	P42/TI05/TO05/(SO10)/(TXD1)/IVCMP1
11	LED2_TI07	11	P41/(TI07)/(TO07)/IVREF1
12	TO0L0	12	P40/TO0L0/(TI00)/(TO00)
62	LED1_T006	62	P07/TI06/TO06/SEG55
63	INTP5	63	P06/INTP5/SEG54
64	LED0	64	P05/TI02/TO02/SEG53
65	INTP2	65	P04/INTP2/SEG52
66	INTP1	66	P03/TI00/TO00/INTP1/SEG51
67	SO10_TXD1	67	P02/SO10/TXD1/(PCLBUZ0)/SEG50
68	SI10_RXD1	68	P01/SI10/RXD1/SDA10/SEG49
69	SCK10	69	P00/_SCK10/SCL10/SEG48
70	DLDD7_SEG47	70	P17/SEG47
71	DLDD6_SEG46	71	P16/SEG46
72	DLDD5_SEG45	72	P15/SEG45
73	DLDD4_SEG44	73	P14/SEG44
74	SEG43	74	P13/SEG43
75	SEG42	75	P12/TXD2/SO20/SEG42/VCOUT1
76	SEG41	76	P11/RXD2/SI20/SDA20/SEG41/VCOUT0
77	SEG40	77	P10/INTP7/PCLBUZ0/_SCK20/SCL20/SEG40
78	P27	78	P27/(TI05)/(TO05)/(INTP5)/PCLBUZ1/SEG39
79	LINTXD_SO00_TXD0	79	P26/SO00/TXD0/TOOLTXD/SEG38
80	LINRXD_SI00_RXD0	80	P25/SI00/RXD0/TOOLRXD/SDA00/SEG37
81	LINISLP_SCK00	81	P24/_SCK00/SCL00/SEG36
82	SEG35	82	P23/TI07/TO07/SEG35
83	SEG34	83	P22/TI04/TO04/SEG34
84	SEG33	84	P21/ANI21/SEG33
85	SEG32	85	P20/ANI20/SEG32
86	ANI19	86	P143/ANI19/SEG31
87	ANI18	87	P142/ANI18/SEG30
88	ANI17	88	P141/ANI17/SEG29
89	ANI16	89	P140/ANI16/SEG28
30	SEG27	30	P37/SEG27
31	SEG26	31	P36/SEG26
32	SEG25	32	P35/SO30/TXD3/SEG25
33	SEG24	33	P34/SI30/RXD3/SDA30/SEG24
34	SEG23	34	P33/INTP4/SEG23/_SCK30/SCL30
35	SEG22	35	P32/TI01/TO01/SEG22
36	SEG21	36	P31/INTP3/RTC1HZ/SEG21
37	SEG20_REMOOUT	37	P30/TI03/TO03/REMOOUT/SEG20
38	I07_SEG19	38	P77/KR0/TKB001/SEG19
39	I06_SEG18	39	P76/KR1/TKB000/SEG18
40	I05_SEG17	40	P75/KR2/TKB011/SEG17
41	I04_SEG16	41	P74/KR3/TKB010/SEG16
42	I03_SEG15	42	P73/KR4/TKB021/SEG15
43	I02_SEG14	43	P72/KR5/TKB020/SEG14
44	I01_SEG13	44	P71/KR6/SEG13
45	I00_SEG12	45	P70/KR7/SEG12
46	SEG11	46	P57/SEG11
47	SEG10	47	P56/SEG10
48	SEG9	48	P55/SEG9
49	SEG8	49	P54/SEG8
50	SEG7	50	P53/SEG7
51	SEG6	51	P52/SEG6
52	SEG5	52	P51/SEG5
53	SEG4_INTP6	53	P50/SEG4/INTP6
54	SEG3	54	COM7/SEG3
55	SEG2	55	COM6/SEG2
56	SEG1	56	COM5/SEG1
57	SEG0	57	COM4/COMEXP/SEG0
58	COM3	58	COM3
59	COM2	59	COM2
60	COM1	60	COM1
61	COM0	61	COM0

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Title		
RSKRL78L1C [MICON]		
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### Power Supply Unit



### Switches, LEDs, RESET

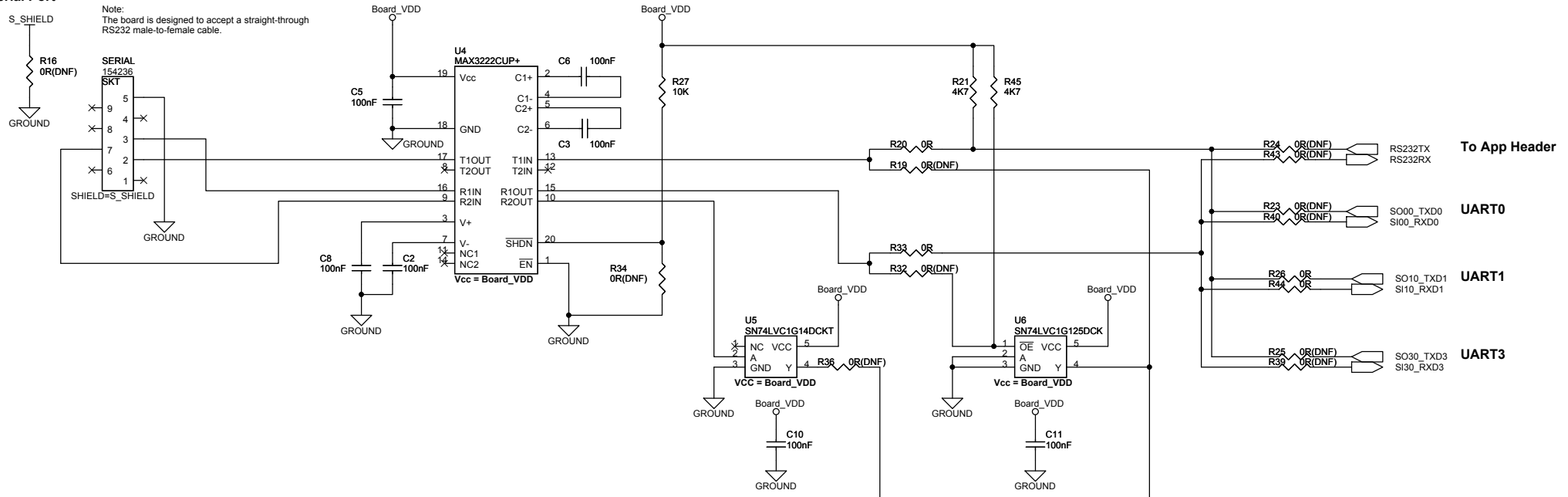


### Power Supply Configuration

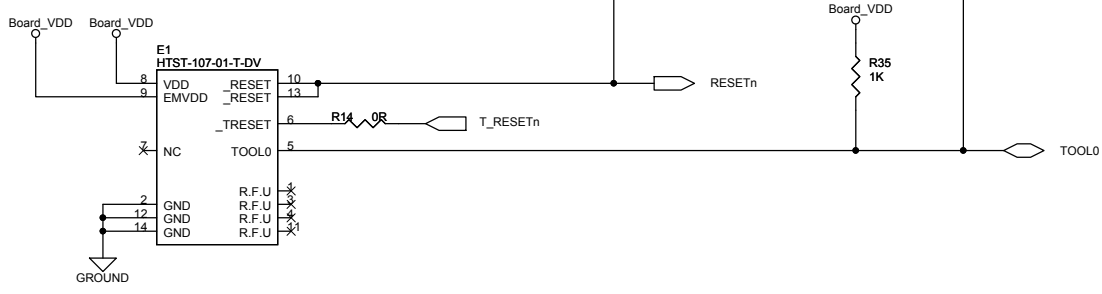
J6	J7	J8	Supply Type	VDD
Shorted Pin2-3	Shorted Pin2-3	all open	PWR, VBUS, CON_5V	3V3
Shorted Pin1-2	Shorted Pin1-2	Don't care	E1(3V3), CON_3V3	3V3
Shorted Pin2-3	Shorted Pin2-3	Shorted Pin1-2	PWR, VBUS, CON_5V	1V8
Shorted Pin2-3	Shorted Pin2-3	Shorted Pin2-3	PWR, VBUS, CON_5V	1V62
all open	all open	all open	DO NOT SET	---

**Serial Port**

Note:  
The board is designed to accept a straight-through RS232 male-to-female cable.

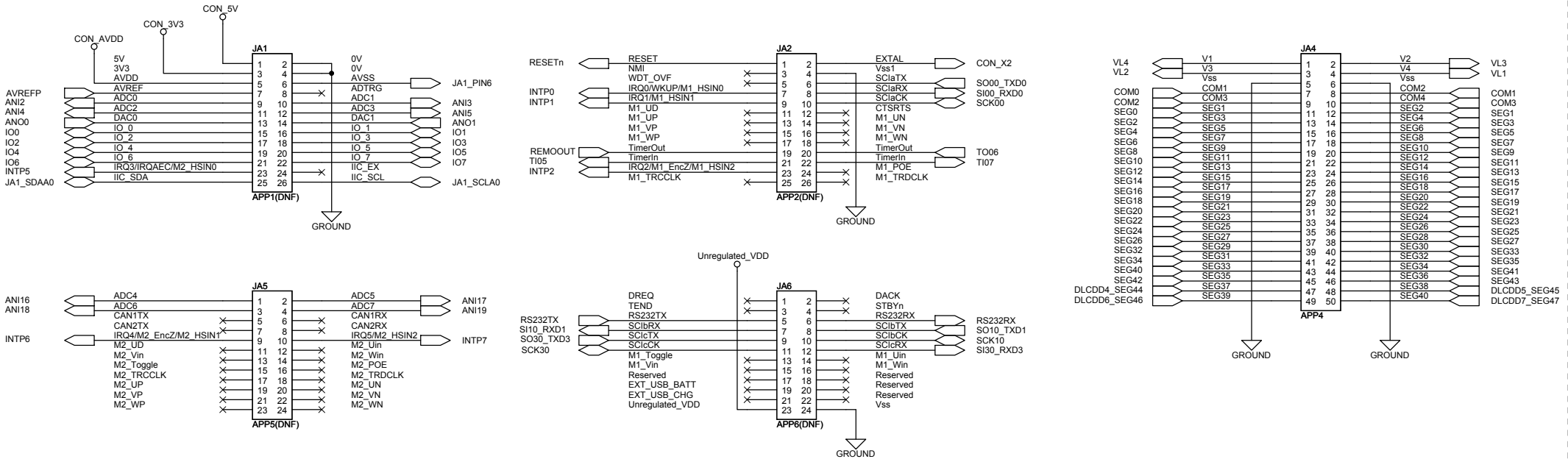


**E1 Emulator Interface**

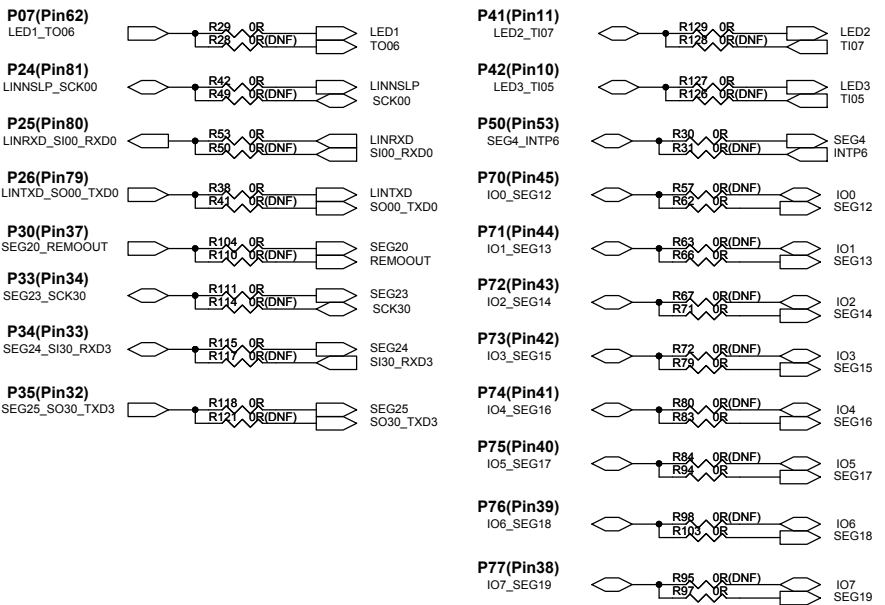


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Title RSKRL78L1C [E1, Serial Port]		
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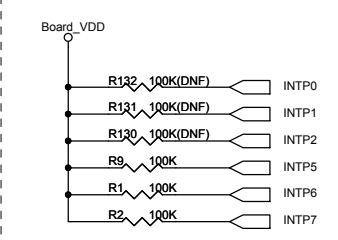
# Application Headers



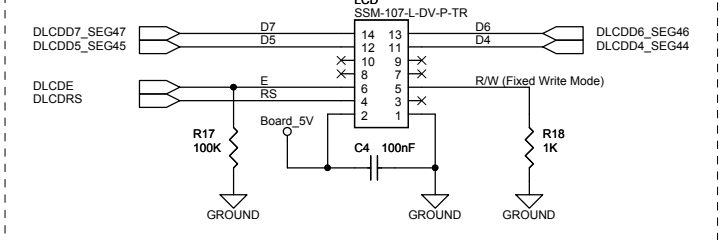
## MCU Pin Function Select



## Option pull-up resistor



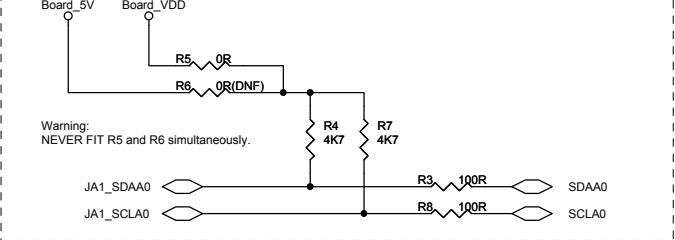
## Debug LCD



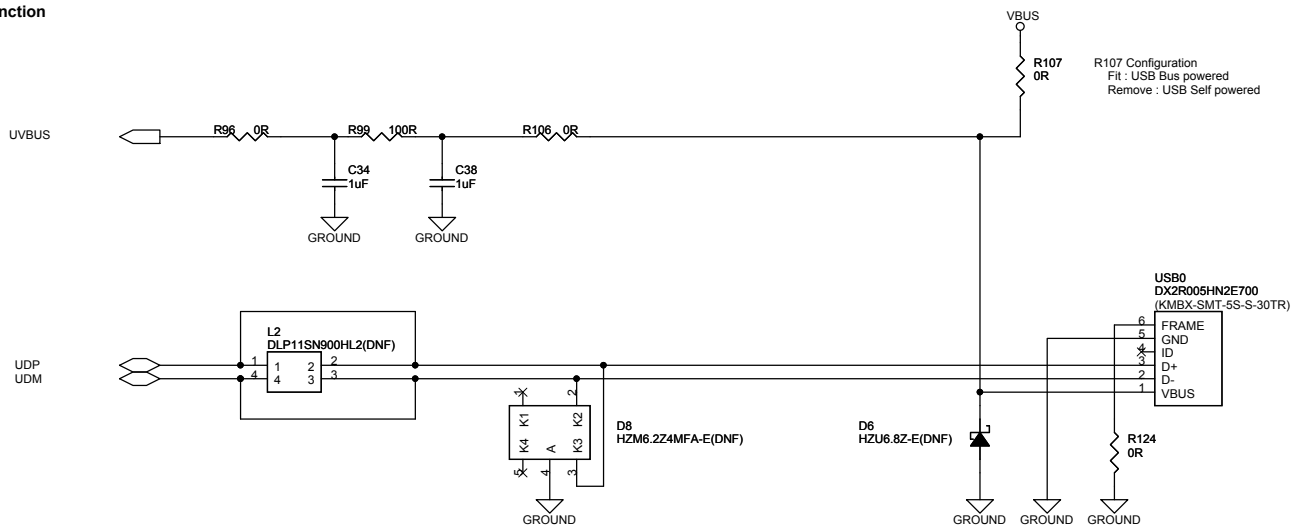
## Header Function Select



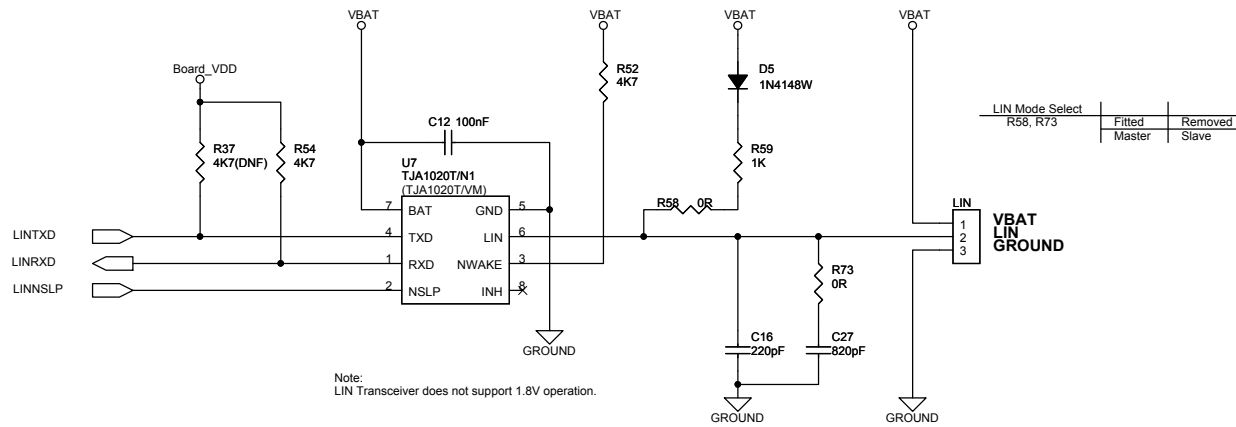
## IIC



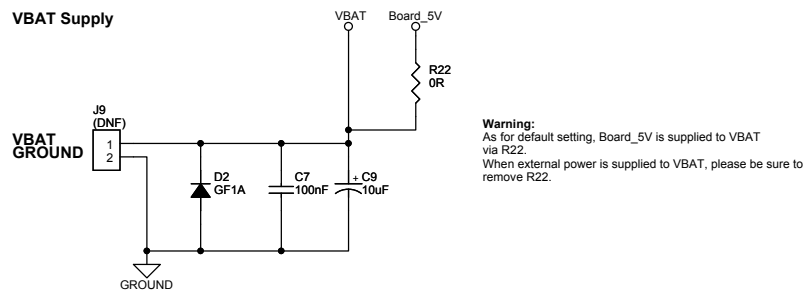
### USB0 Function



### LIN



### VBAT Supply



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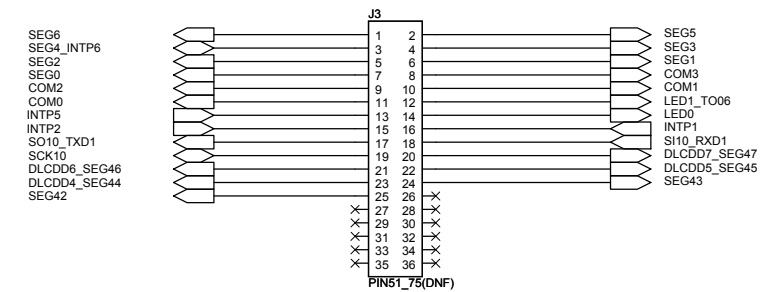
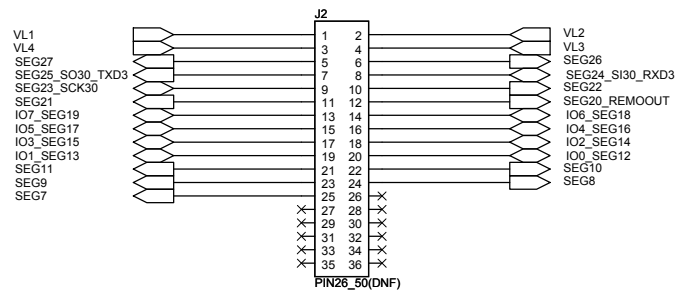
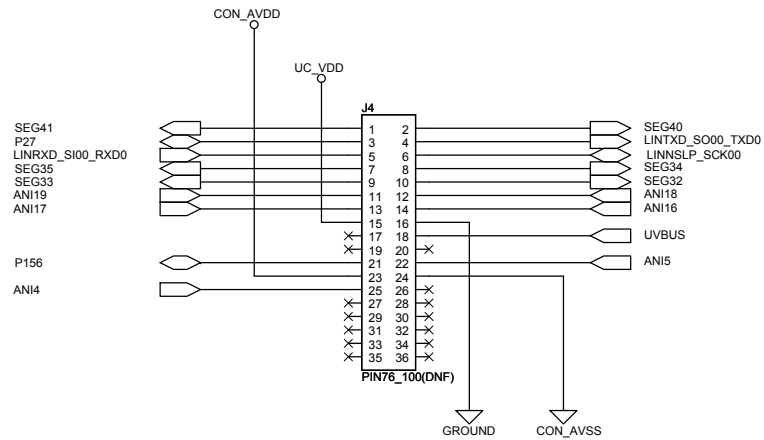
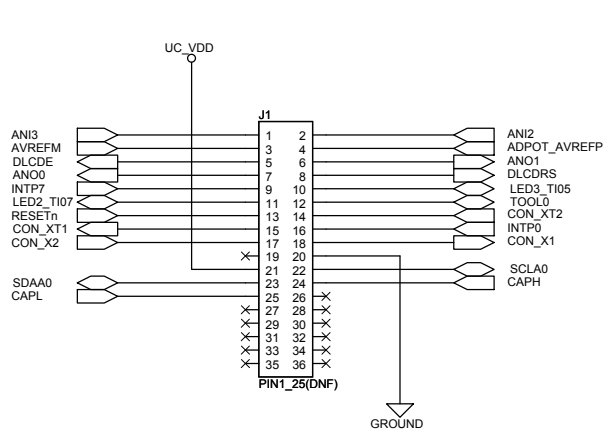
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Size Document Number  
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1.00

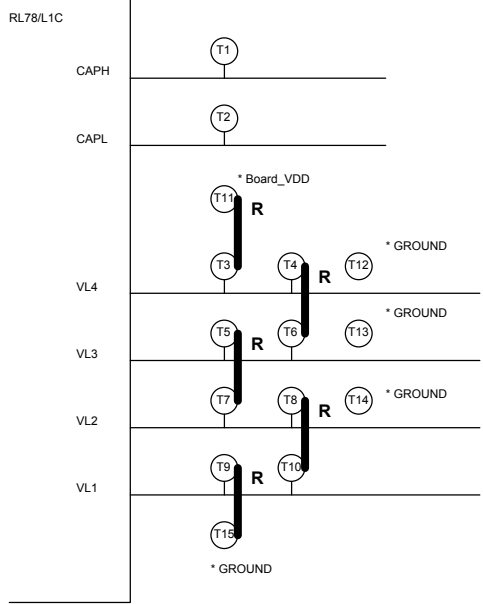
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Microcontroller Pin Headers

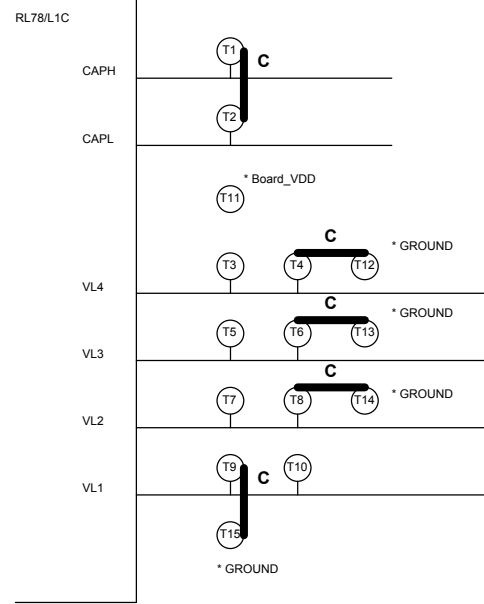


Appendix (User LCD Power Configurations)

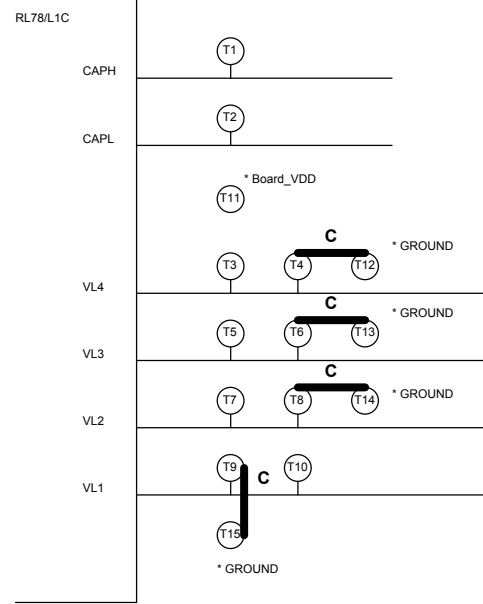
Example-1



Example-2



Example-3





# Revision History

REV	DATE	PAGE	DESCRIPTION
1.00	08.01.2014	---	1st release edition.