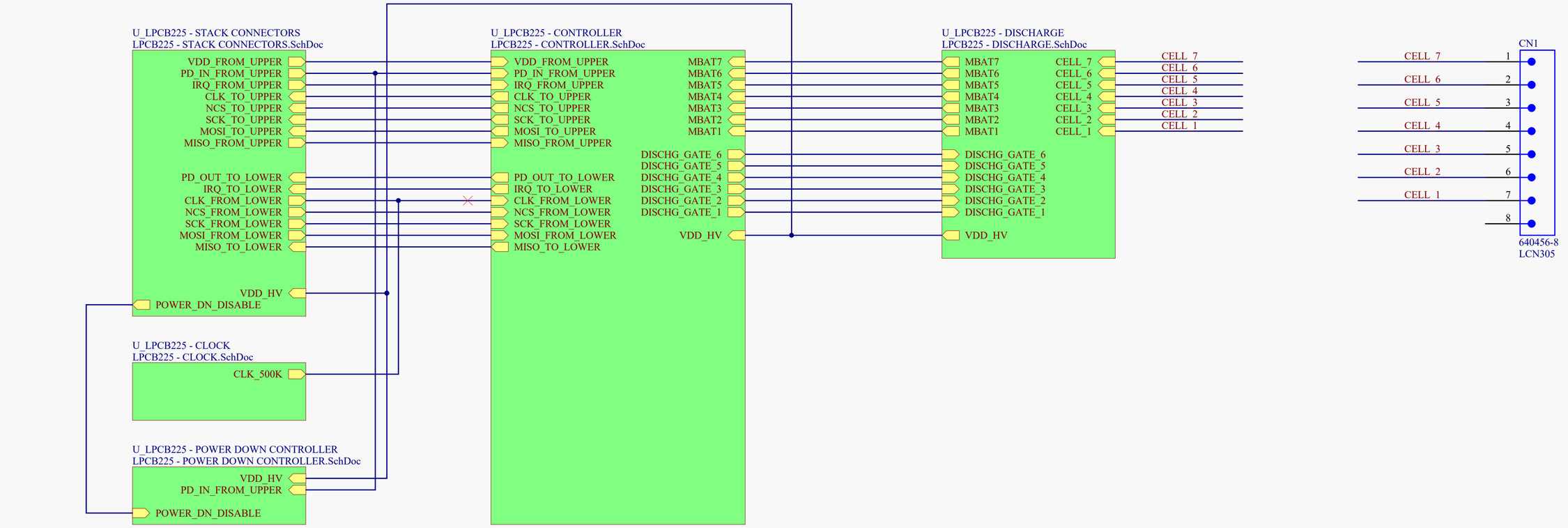

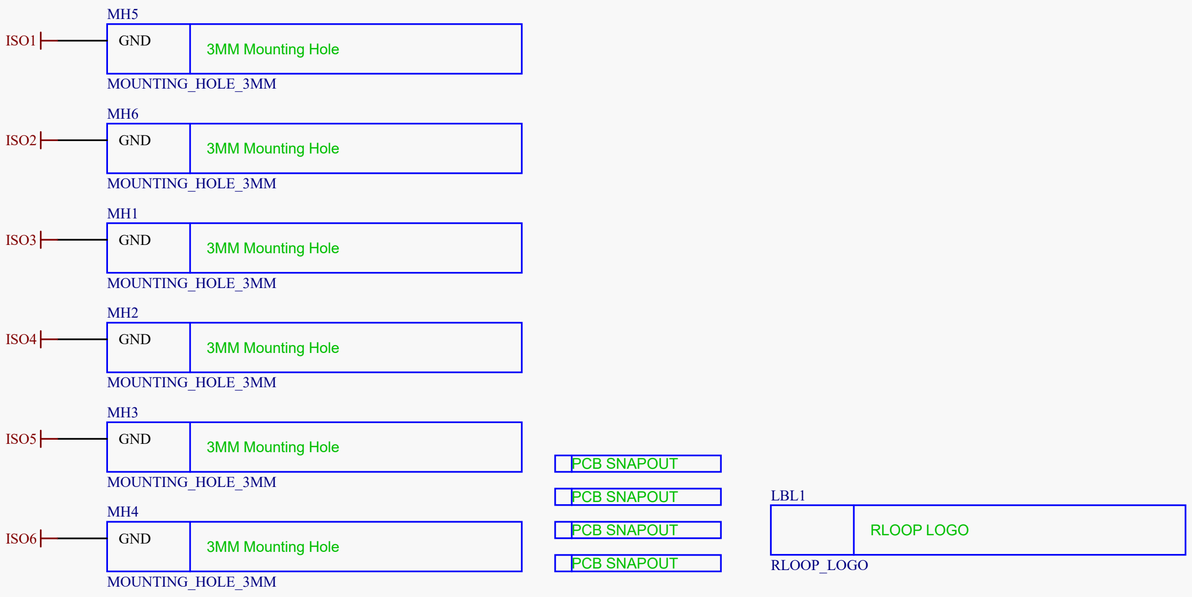

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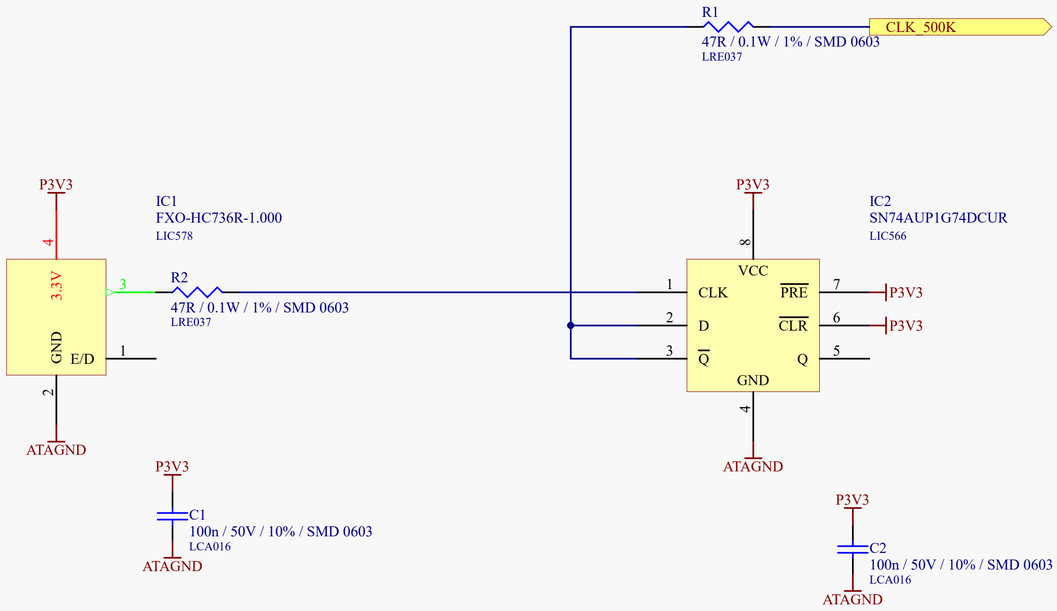
PCB COMPONENT DESCRIPTION: **BMS Module**		LDL NUMBER: **LPCB225**
Assembly Details: Module Overview		
Size: A3	Drawing File Name: LPCB225 - OVERVIEW.SchDoc	Revision: 1
Scale: N.T.S		Sheet Details: Sheet: 1 Of: 6



PCB COMPONENT DESCRIPTION	**BMS Module**
LDL NUMBER	**LPCB225**
Assembly Details	Module Clock Generator
Size	A3
Drawing File Name	LPCB225 - CLOCK.SchDoc
Revision	1
Scale	N.T.S
Sheet Details	Sheet: 2 Of: 6

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VDD_HV — R3 — VDD_FROM_UPPER

0R / 0.1W / SMD 0603
LRE026

Internal Reg powered from VDD_VH on TOP BOARD ONLY!

INT VOLT REG

IC3
ATA6870N-PLQW-1
LIC563

ATA3V3 — 26 AVDD, 23 DVDD

VDD_HV	45	VDD_HV	
MBAT7	46	MBAT7	
DISCHG_GATE_6	47	DISCH6	
MBAT6	48	MBAT6	
DISCHG_GATE_5	1	DISCH5	
MBAT5	2	MBAT5	
DISCHG_GATE_4	3	DISCH4	
MBAT4	4	MBAT4	
DISCHG_GATE_3	5	DISCH3	
MBAT3	6	MBAT3	
DISCHG_GATE_2	7	DISCH2	
MBAT2	8	MBAT2	
DISCHG_GATE_1	9	DISCH1	
MBAT1	10	MBAT1	
	31	TEMPREF	
	29	TEMP1	
	30	TEMP2	
ATAGND	28	TEMPVSS	
ATAGND — R7	32	BIASRES	121K / 0.1W / 1% / SMD 0603 LRE212
ATAGND	19	SCANMODE	
ATAGND	20	CS_FUSE	
ATAGND	21	VDD_FUSE	
	38	PD_N	
	35	PD_N_OUT	
	37	VDD_HVP	
P3V3	36	VDD_HVM	
ATA3V3	34	POW_ENA	
	44	IRQ_IN	
	43	CLK_OUT	
	42	NCS_OUT	
	41	SCK_OUT	
	40	MOSI_OUT	
	39	MISO_IN	
	11	IRQ	
	12	CLK	
	13	NCS	
	14	SCK	
	15	MOSI	
	16	MISO	
	17	MFIRST	
	18	DTST	
	25	ATST	
	33	PWTST	
ATAGND	24	GND	
	22	DVSS	
	27	AVSS	
THERMGND		PAD	

VDD_FROM_UPPER, PD_IN_FROM_UPPER, IRQ_FROM_UPPER, CLK_TO_UPPER, NCS_TO_UPPER, SCK_TO_UPPER, MOSI_TO_UPPER, MISO_FROM_UPPER

P3V3 — R4 10K / 0.1W / 1% / SMD 0603 LRE030

R5 10K / 0.1W / 1% / SMD 0603 LRE030 — C4 100n / 50V / 10% / SMD 0603 LCA016 — ATAGND

R6 10K / 0.1W / 1% / SMD 0603 LRE030 — RT1 NTCS0603E3103JLT LRE213 — ATAGND

C3 100n / 50V / 10% / SMD 0603 LCA016 — ATAGND

MOUNT ONLY GND ON TOP BOARD

R8 10K / 0.1W / 1% / SMD 0603 LRE030 — ATAGND

R9 10K / 0.1W / 1% / SMD 0603 LRE030 — ATA3V3

PD_OUT_TO_LOWER

IRQ_TO_LOWER, CLK_FROM_LOWER, NCS_FROM_LOWER, SCK_FROM_LOWER, MOSI_FROM_LOWER, MISO_TO_LOWER

MBAT2	C5	100n / 50V / 10% / SMD 0603	LCA016
MBAT3	C6	100n / 50V / 10% / SMD 0603	LCA016
MBAT4	C7	100n / 50V / 10% / SMD 0603	LCA016
MBAT5	C8	100n / 50V / 10% / SMD 0603	LCA016
MBAT6	C9	100n / 50V / 10% / SMD 0603	LCA016
MBAT7	C14	100n / 50V / 10% / SMD 0603	LCA016
MBAT1			
MBAT2			
MBAT3			
MBAT4			
MBAT5			
MBAT6			

BYPASS CAPS

ATA3V3	C10	100n / 50V / 10% / SMD 0603	LCA016
P3V3	C11	100n / 50V / 10% / SMD 0603	LCA016
P3V3	C12	47uF / 25V / 20% / SMD 1206	LCA113
ATAGND	ATAGND	ATAGND	

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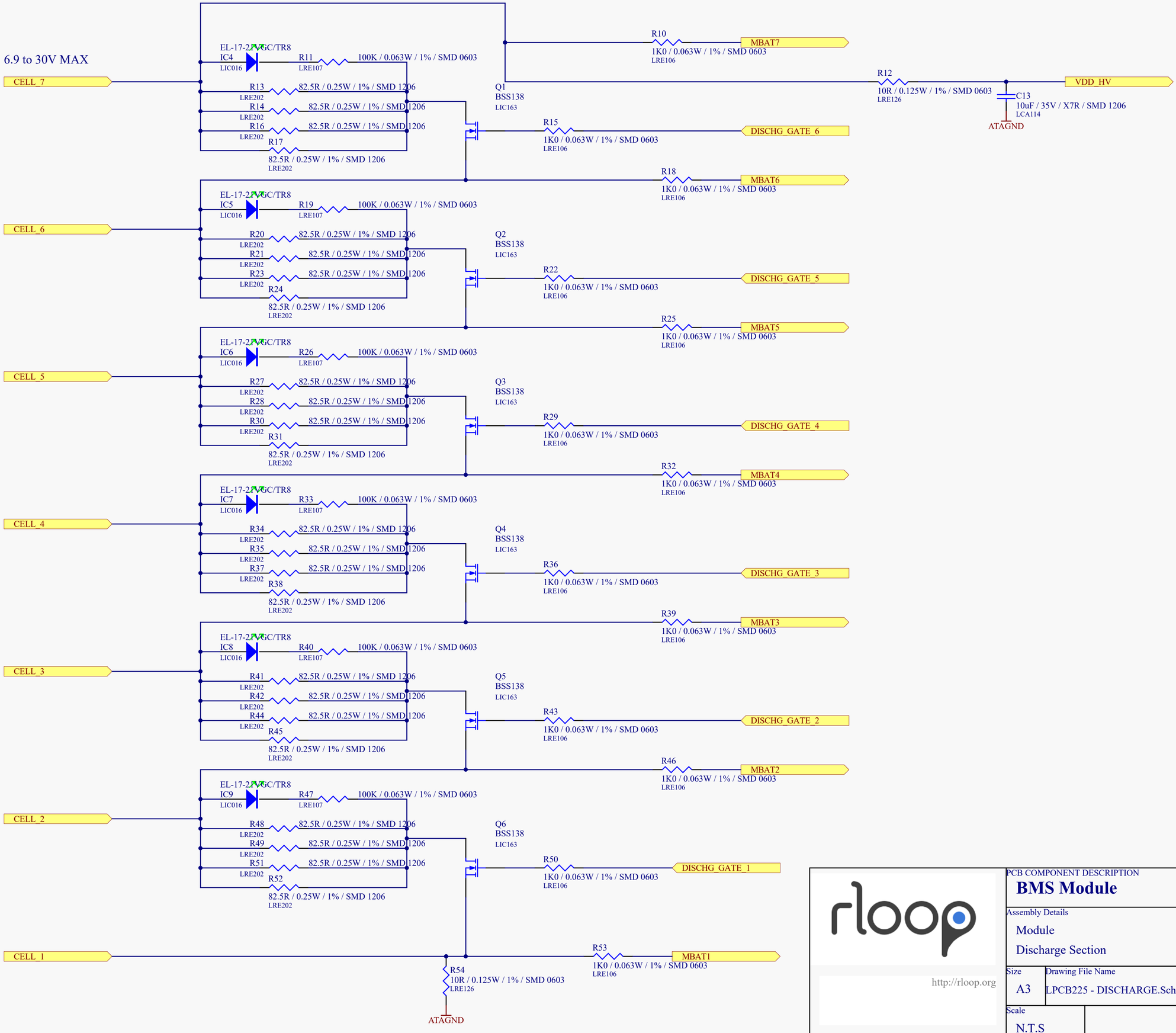
PCB COMPONENT DESCRIPTION	BMS Module
LDL NUMBER	LPCB225
Assembly Details	Module Main Controller
Size	A3
Drawing File Name	LPCB225 - CONTROLLER.SchDoc
Revision	1
Scale	N.T.S
Sheet Details	Sheet: 3 Of: 6



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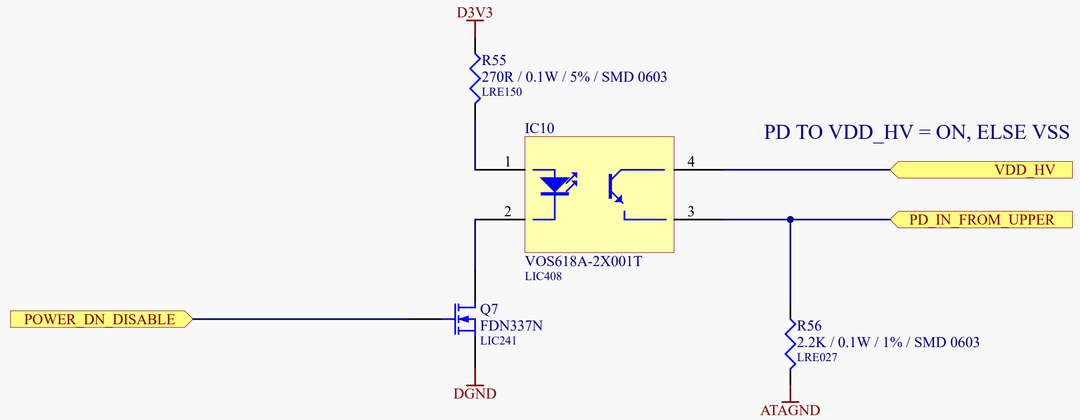
PCB COMPONENT DESCRIPTION: **BMS Module**		LDL NUMBER: **LPCB225**
Assembly Details: Module / Discharge Section		
Size: A3	Drawing File Name: LPCB225 - DISCHARGE.SchDoc	Revision: 1
Scale: N.T.S		Sheet Details: Sheet: 4 Of: 6



MOUNT ONLY ON TOP BOARD

Power-down Mode
In power-down mode all blocks of the IC are switched off.
The circuit can be switched from Power-down to ON mode or back via the PD_N input. If the pin is connected to VDDHV via an external optocoupler, for example, the circuit is in ON mode. If several Atmel ATA6870N are stacked, the power-down signal must be only provided for the IC on the top level of the stack. The next lower IC receives this information from the PD_N_OUT output of its upper IC. The PD_N_OUT pin must be connected to either the PD_N pin of the next lower Atmel ATA6870N or to AVSS.

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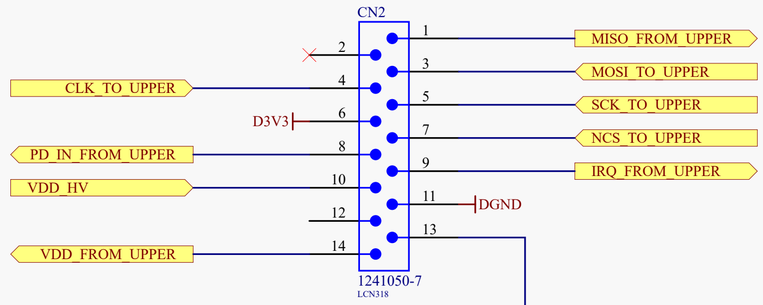
PCB COMPONENT DESCRIPTION: **BMS Module**		LDL NUMBER: **LPCB225**
Assembly Details: Module / Power Down Controller		
Size: A3	Drawing File Name: LPCB225 - POWER DOWN CONTROLLER.SchDoc	Revision: 1
Scale: N.T.S		Sheet Details: Sheet: 5 Of: 6

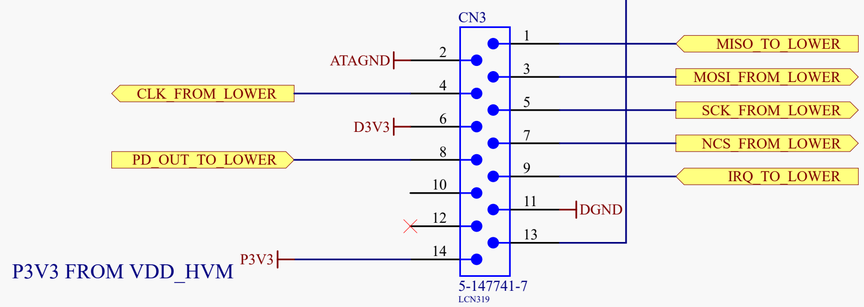
VDD_HV FROM LOWER BECOMES ATAGND ON UPPER



HEADER PINS - CONNECT TO UPPER

ALLOWS PWR_DN ON TOP BOARD TO BE CONTROLLER BY BASE MASTER

POWER_DN_DISABLE



SOCKET - CONNECT TO LOWER

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PCB COMPONENT DESCRIPTION: **BMS Module**		LDL NUMBER: **LPCB225**
Assembly Details: Module; Stackup Connectors		
Size: A3	Drawing File Name: LPCB225 - STACK CONNECTORS.SchDoc	Revision: 1
Scale: N.T.S		Sheet Details: Sheet: 6 Of: 6