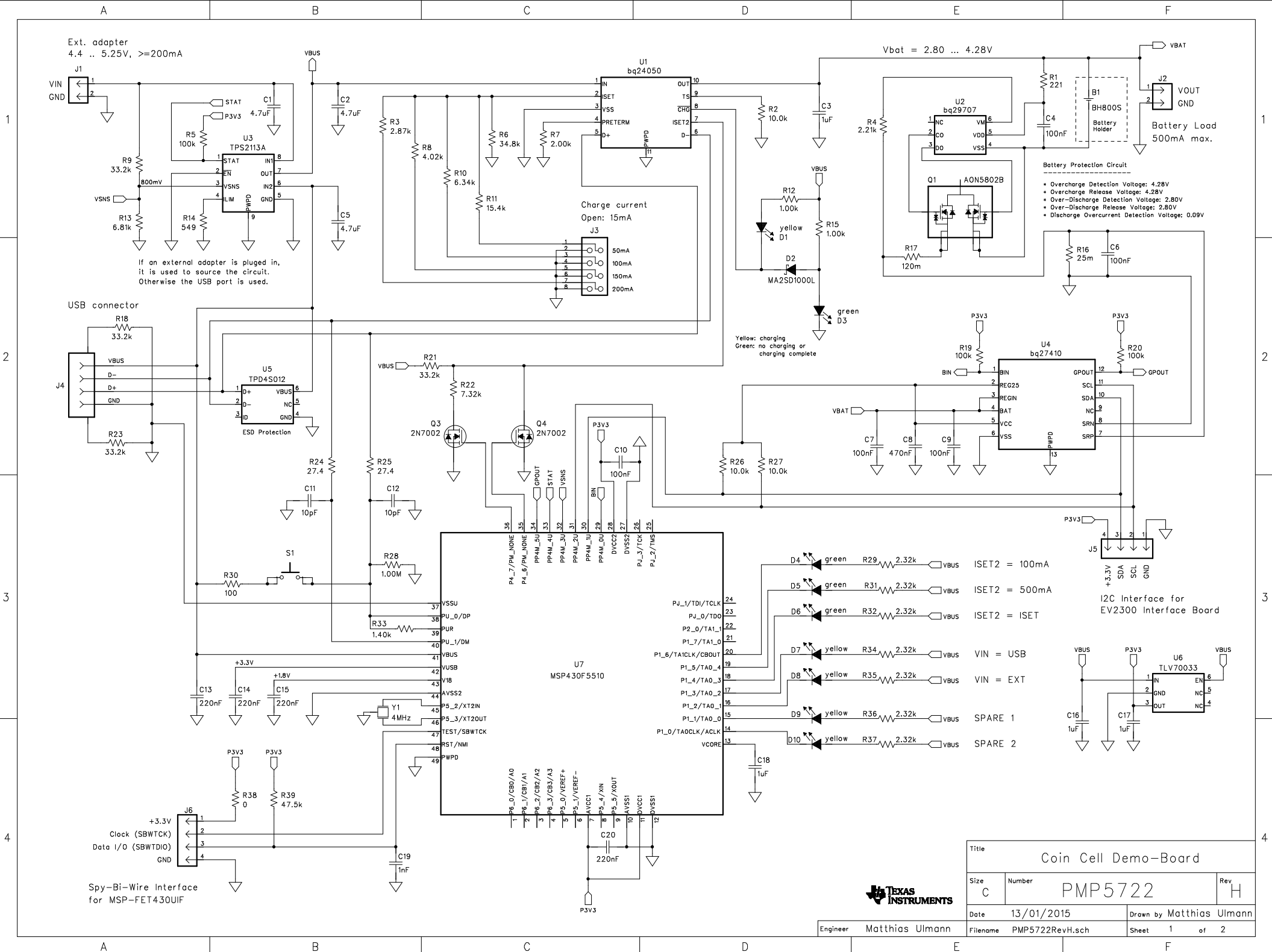




bq24050 – Battery Charger

Temperature sense – Pin 9 / TS

- * Connect NTC (10k0hm @ 25 deg) from battery pack
- * Connect 10k0hm when temp. sensing is not needed
- * Pull high/float: disable temp. monitoring, timers & termination
-> puts IC in TTDM
- * Pull low: disable IC
- * Connect 250k0hm to prevent TTDM when battery pack with NTC is removed

Charge current – Pin 2 / ISET

- * $I_{LOAD} = K_{ISET} / R_{ISET}$
- * $K_{ISET} = 350..520..680 @ I_{LOAD} = 10..25mA$
 $K_{ISET} = 480..527..600 @ I_{LOAD} = 25..50mA$
 $K_{ISET} = 510..540..570 @ I_{LOAD} = 50..800mA$
- * $R_{ISET} = 34.8k0hm @ 15mA$
 $R_{ISET} = 10.7k0hm @ 50mA$
 $R_{ISET} = 5.36k0hm @ 100mA$
 $R_{ISET} = 3.57k0hm @ 150mA$
 $R_{ISET} = 2.67k0hm @ 200mA$

Pre-charge current/Current termination threshold – Pin 4 / PRETERM

- * Setting termination level: $R_{PRETERM} = KTERM * \% ISET$
- * $KTERM = 200$
- * Pre-charge current = 2x Termination current level
- * $R_{PRETERM} = 1.00k @ 5\% \text{ of } ISET$
 $R_{PRETERM} = 2.00k @ 10\% \text{ of } ISET$
 $R_{PRETERM} = 4.00k @ 20\% \text{ of } ISET$

Charging indicator – Pin 8 / CHG

- * YELLOW – Charging (low)
- * GREEN: No charging or charging complete (high)

Input current limit – Pin 7 / ISET2

- * Sets the input current limit when a charging adapter is detected during startup (D+ and D- shorted)
 - Pull low: ISET max.
 - Float: 100mA max.
 - Pull high: 500mA max.
- * When a USB host is detected, the current limit is set to 100mA.
- * To change the current limit from 100mA on an USB host, the state of pin ISET2 has to be changed after startup.
When the change was detected, the control of the current limit is given back to pin ISET2 (ISET/100mA/500mA).

bq29707 – Battery Protection

- * Overcharge detection: 4.280V
- * Overcharge release voltage: 4.280V
- * Over-discharge detection voltage: 2.80V
- * Over-discharge release voltage: 2.80V
- * Discharge overcurrent detection voltage: 0.09V
 - Sense resistance: $0.09V/0.5A = 180m0hm$
 - 17..23..30m0hm per FET
 - Sense resistor: 120m0hm
 - Current limit: 500..542..584mA

Battery

Battery

- * VARTA CP1254: 50mAh, 4.20V, 50mA charge current
- * VARTA CP1654: 100mAh, 4.20V, 100mA charge current

Notes

- * Built on PMP5722 Rev.F
- * REWORK NEEDED FOR REV.H
Add connection VBAT between battery and Pin 4 (VBAT) of U4 (bq27410)



Title			
Coin Cell Demo-Board			
Size	Number	Rev	
C	PMP5722	H	
Date	13/01/2015	Drawn by Matthias Ulmann	
Engineer	Matthias Ulmann	Filename	PMP5722RevH.sch
		Sheet	2 of 2

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