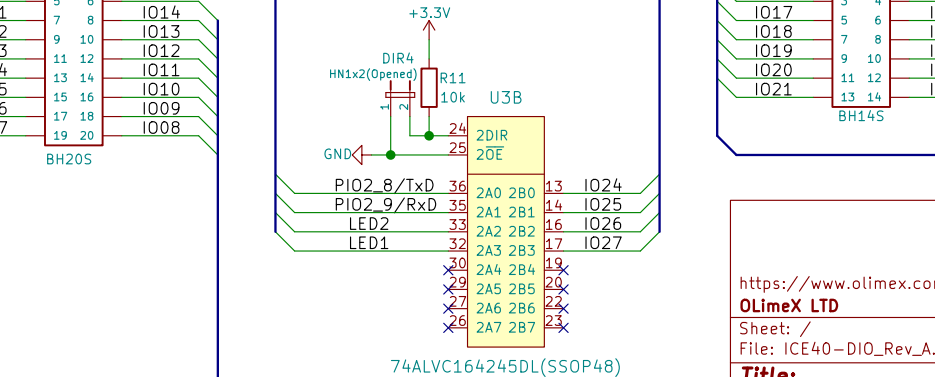
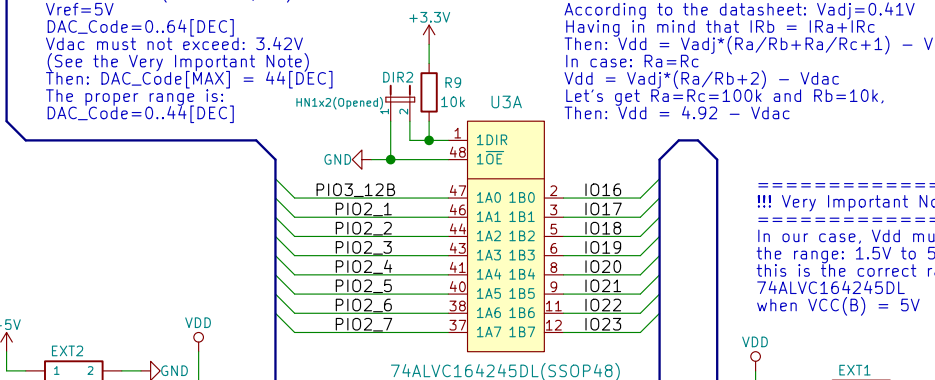
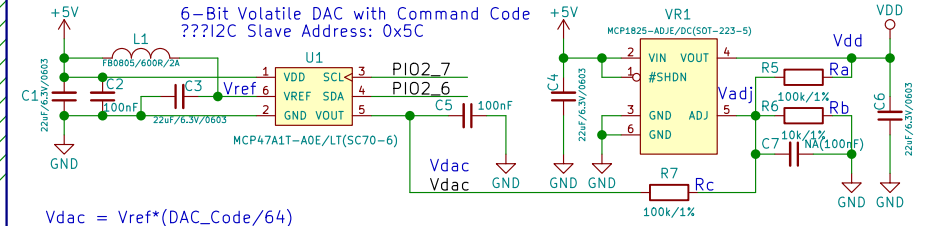
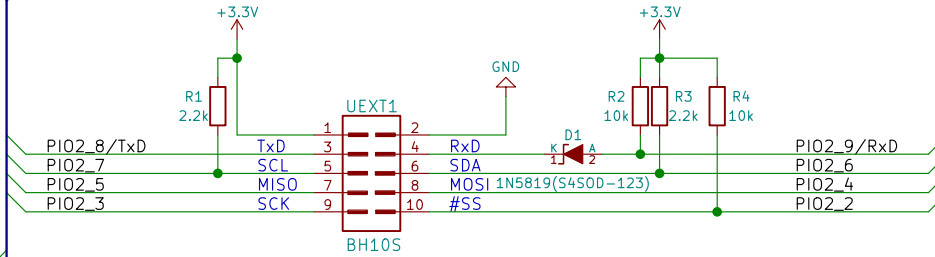
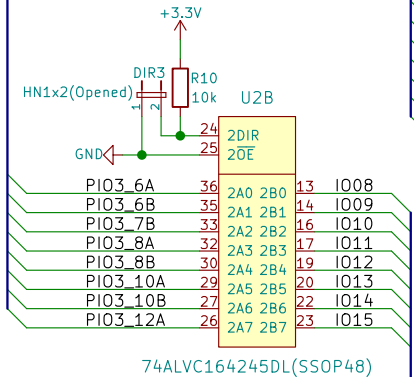
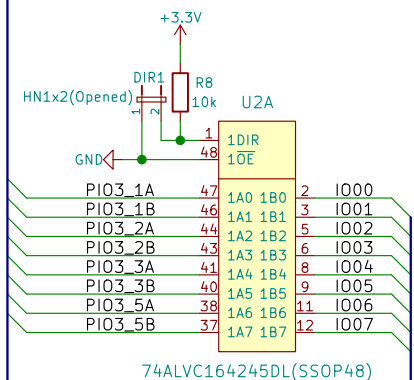
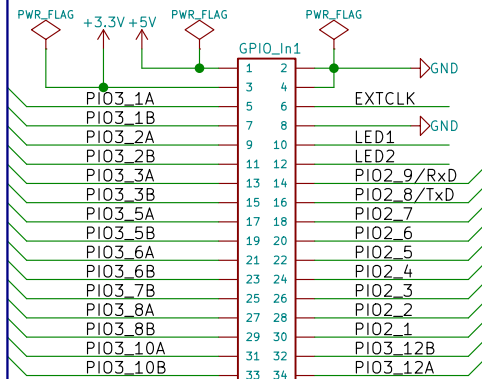
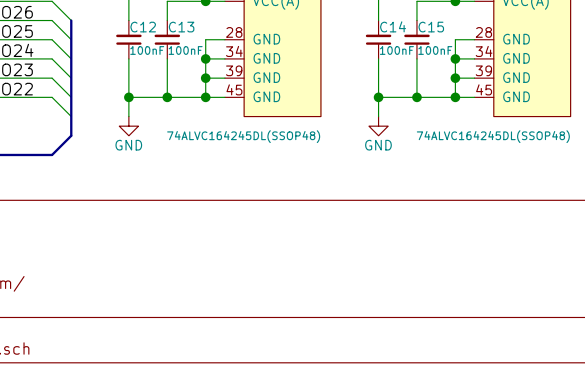
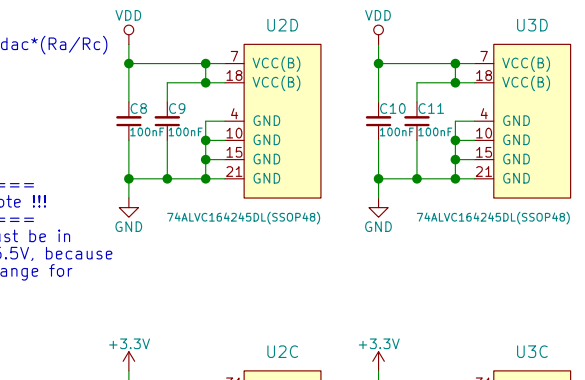
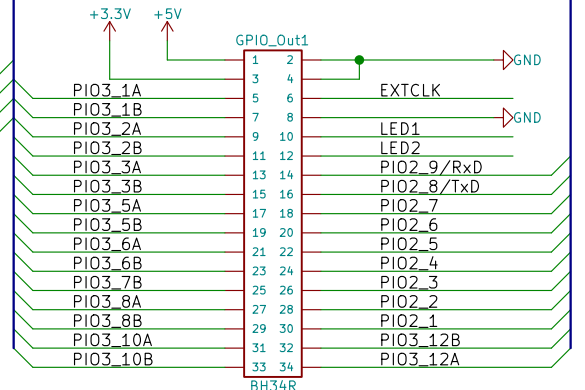


Extension In



Extension Out



6-Bit Volatile DAC with Command Code
???I2C Slave Address: 0x5C

$V_{dac} = V_{ref} * (DAC_Code / 64)$
 $V_{ref} = 5V$
 $DAC_Code = 0.64 [DEC]$
 V_{dac} must not exceed: 3.42V
 (See the Very Important Note)
 Then: $DAC_Code [MAX] = 44 [DEC]$
 The proper range is:
 $DAC_Code = 0.44 [DEC]$

According to the datasheet: $V_{adj} = 0.41V$
 Having in mind that $I_{RB} = I_{RA} + I_{RC}$
 Then: $V_{dd} = V_{adj} * (R_a / R_b + R_a / R_c + 1) - V_{dac} * (R_a / R_c)$
 In case: $R_a = R_c$
 $V_{dd} = V_{adj} * (R_a / R_b + 2) - V_{dac}$
 Let's get $R_a = R_c = 100k$ and $R_b = 10k$,
 Then: $V_{dd} = 4.92 - V_{dac}$

!!! Very Important Note !!!
 In our case, V_{dd} must be in the range: 1.5V to 5.5V, because this is the correct range for 74ALVC164245DL when $V_{CC}(B) = 5V$

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Sheet: /
 File: ICE40-DIO_Rev_A.sch

Title:

Size: A4 Date: Rev: A
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