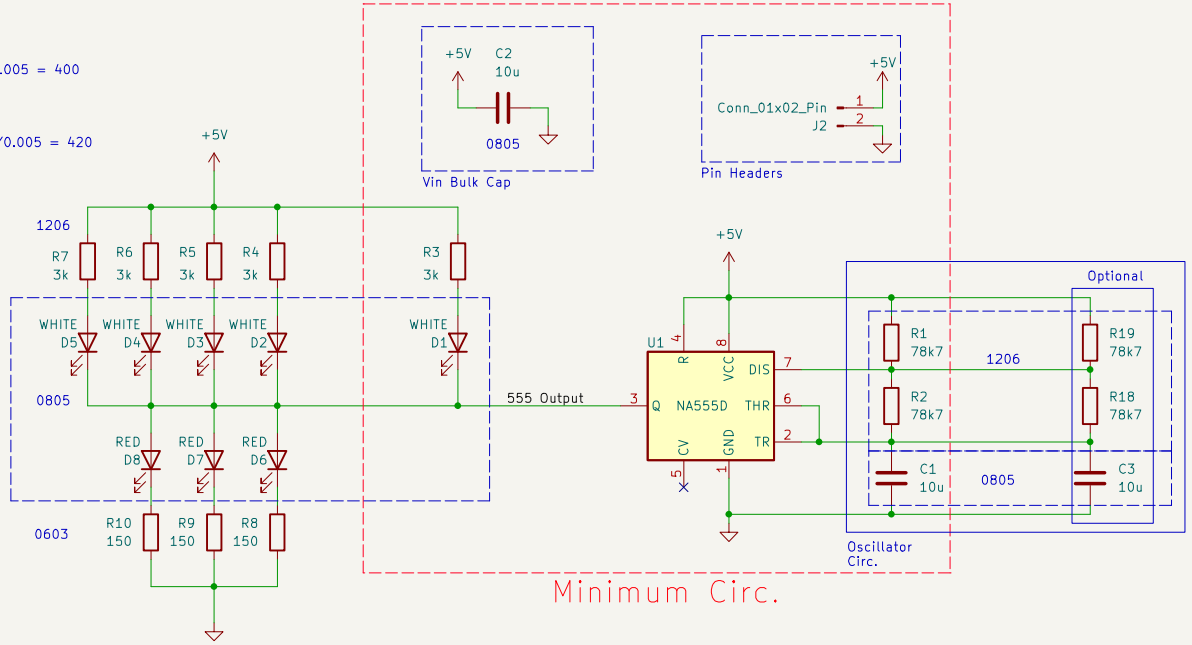
ElecSoc Soldering Practice Card

RED Leds
Vf = 3V
If = 5mA
Rled = (Vs - Vf)/If = (5 - 3)/0.005 = 400

White Leds
Vf = 2.9
If = 5m
Rled = (Vs - Vf)/If = (5 - 2.9)/0.005 = 420

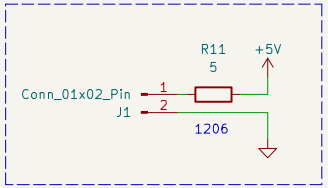


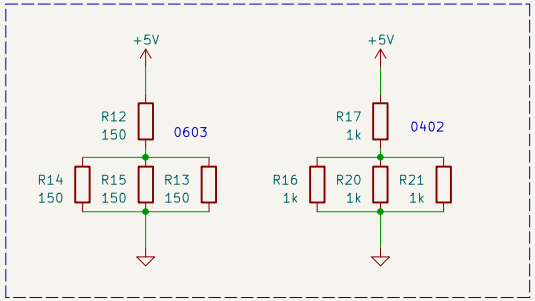
Resistors and capacitance values for oscillator
T = 0.693*(R1+2*R2)*C1
= 0.693 * 3 * 78.7k * 10u
= 1.636s

If optional caps added:
T = 0.693*(R1+2*R2)*C1
= 0.693 * 3 * 78.7k * 10u
= 1.636s
T = 0.693*(R1+2*R2)*(C1+C3)
= 0.693 * 3 * 78.7k * 20u
= 3.272s

If optional resistors added:
T = 0.693*(R1+2*R2)*C1
= 0.693 * 3 * 78.7k * 10u
= 1.636s
T = 0.693*(R1/2+2*R2/2)*C1
= 0.693 * 3 * 78.7k/2 * 10u
= 0.818s

If all components placed, result is the original period
T = 0.693*(R1/2+2*R2/2)*C1*2
= 0.693*(R1+2*R2)*C1





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KiCad E.D.A. 8.0.3		Id: 1/1