Mega65Modular Low current DC/DC v0.1
gardners
License: CERN-OHL-S v2
Year: 2025

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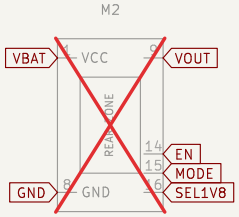

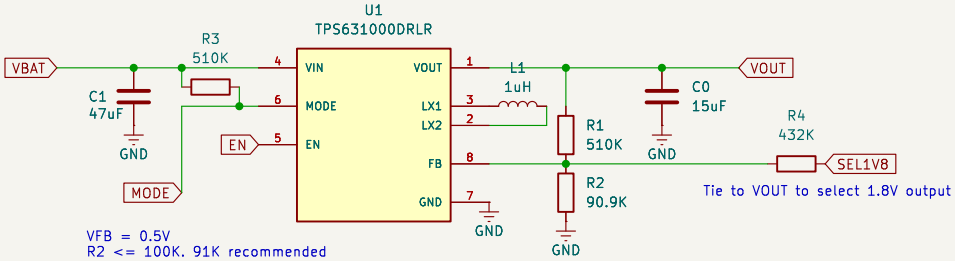

VFB = 0.5V
R2 <= 100K. 91K recommended

R1 = R2 × (VOUT / VFB − 1)
1.8V : R1 = R2 * (1.8 / 0.5 − 1) = R2 * 2.6 = 234K
3.3V : R1 = R2 * (3.3 / 0.5 − 1) = R2 * 5.6 = 511K

So SEL1V8 should tie FB to VOUT with a resistor that in parallel to 511K yields 234K.

1/RP = 1/R + 1/R
1/260K = 1/R + 1/511K
1/R = 1/234K − 1/511K
1/R = ~1/436K
R = ~436K

Actual values = 90.9K, 510K, so VFB = 0.5V at junction means
VOUT = (1 + 510K/90.9K) * 0.5V = 3.305V
And with SEL1V8 tied to VOUT:
1/R = 1/510K + 1/432K = 233.8K
VOUT = (1 + 233.8K/90.9K) * 0.5V = 1.79V
Close enough...

3D top side

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