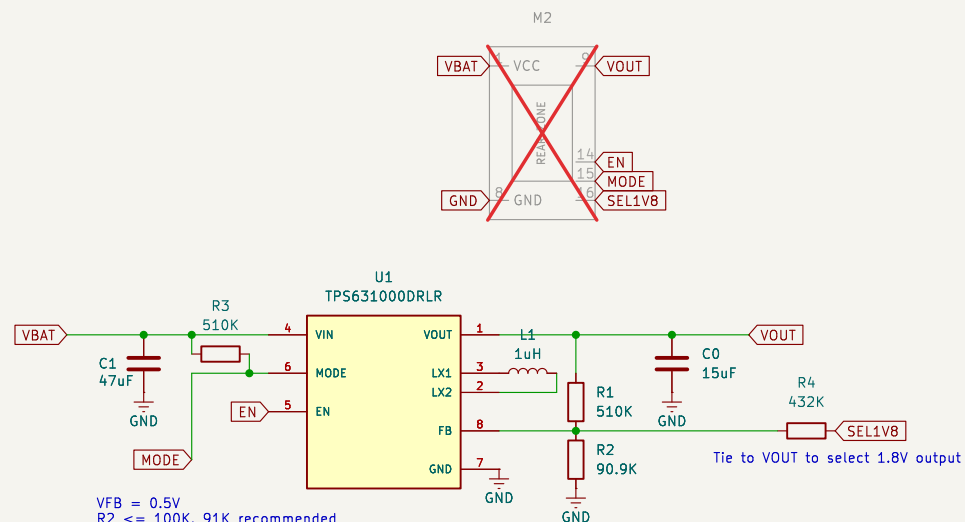


Mega65Modular Low current DC/DC v0.1  
gardners  
License: CERN-OHL-S v2  
Year: 2025

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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.

$1/R_P = 1/R + 1/R$   
 $1/260K = 1/R + 1/511K$   
 $1/R = 1/234K - 1/511K$   
 $1/R = \sim 1/436K$   
 $R = \sim 436K$

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

### 3D top side