



Given:

Jfet Q2 $I_d = 7\text{mA}$

Q4 Mosfet $V_{gs} = 2.346\text{ V}$ for $I_{ds}=1.3\text{A}$

V across $R4 // P2 = V_{r14} + V_{gs} + V_{r12} = 2.346 + 0.6 = 2.946\text{V}$

Since Q4 base current is very very low then $V_{r14} \ll V$ and is negligible

$$R_{total} = V/I_d$$

$$R_{total} = 2.946/0.007 = 420.86\text{ ohms}$$

$$R_{total} = R4 // R_{p2}$$

$R_{p2} = P2$ resistance setting to generate $V = 2.946\text{V}$ across $R4//P2$

$$(R4 * R_{p2}) / (R4 + R_{p2}) = R_{total}$$

$$(1,000 * R_{p2}) / (1,000 + R_{p2}) = 420.86$$

$$1,000 * R_{p2} = 420.86 * (1,000 + R_{p2})$$

$$1,000R_{p2} = 420,860 + 420.86R_{p2}$$

$$1,000R_{p2} - 420.86R_{p2} = 420,860$$

$$579.14R_{p2} = 420,860$$

$$R_{p2} = 420,860 / 579.14$$

$$R_{p2} = 726.7\text{ ohms} \sim 727\text{ ohms}$$

NOTE: Follow NP's "Initial Adjustment" on the F5 manual by making sure P2 start at minimum or 0 ohm and slowly adjusting until R_{p2} value is reached by monitoring $V_{R12}=0.6\text{V}$ or V across $R4//P2 = 2.946\text{V}$. Adjust P1 the same way.