Clock Component Calculations (LTC6902)

$$f_{out} = \frac{10\,mHz}{N \cdot m}\left(\frac{20k\Omega}{R_{set}}\right) \qquad 5khz \le f_{out} \le 20MHz$$

$$N = \begin{cases} 100 & \text{Div Pin} = V^+ \\ 10 & \text{Div Pin} = \text{open} \\ 1 & \text{Div Pin} = 0V \end{cases}$$

Setting $f = 400\,Khz$

- 4 phase output
- Since $50khz \le f \le 500\,khz$ set $N = 10$, leave open

$$M = \begin{cases} 4 & (4\text{ phase output}) \text{ Ph Pin} = V+ \\ 3 & (3\text{ phase output}) \text{ Ph pin} = \text{open} \\ 1 & (2\text{-phase output}) \text{ Ph pin} = 0V \end{cases}$$

Calculation for R_{set}:

$$R_{set} = 20k\Omega\left(\frac{10MHz}{N \cdot M \cdot f_{out}}\right)$$

$$R_{set} = 20k\Omega\left(\frac{10MHz}{10 \cdot 4 \cdot 400KHz}\right)$$

$$R_{set} = 12.5k\Omega$$

Fout Calculation:

$$f_{out} = \frac{10mHz}{N \cdot m}\left(\frac{20k\Omega}{R_{set}}\right)$$

$$R_{set} = 12.5k\Omega$$

$$f_{out} = \frac{10MHz}{10 \cdot 4}\left(\frac{20k\Omega}{12.5k\Omega}\right)$$

$$f_{out} = 400000\,Hz = 400KHz$$

Schematic: