The design equations of LLC-SRC were listed as:

$$\begin{cases} n = \dfrac{V_{in-nor}}{2V_{o-nor}} \\ C_s = \dfrac{I_o}{4nf_{\min}(V_{c-\max} - nV_{o-nor})} \\ L_s = \dfrac{1}{4\pi^2 f_o^{\,2} C_s} \\ L_m = \dfrac{\pi^2}{4}\dfrac{f_o / f_{\min} - 1}{1 - V_{in-\min}/(2nV_{o-\max})} L_s \\ f_{max} = \dfrac{f_o}{\sqrt{1 + \dfrac{L_m}{L_s}\left(1 - \dfrac{V_{in-\max}}{2nV_{o-\min}}\right)}} \\ I_{p,RMS} = \dfrac{\sqrt{2}}{4}\sqrt{\left(\dfrac{\pi I_o}{n}\right)^2 + \left(\dfrac{nV_o}{2L_m f_o}\right)^2} \end{cases}$$

Wherein:

$V_{in\text{-}nor}$, $V_{in\text{-}min}$, $V_{in\text{-}max}$ are normal, minimums and maximum input voltage.

$V_{o\text{-}nor}$, $V_{o\text{-}min}$, $V_{o\text{-}max}$ are normal, minimums and maximum output voltage.

I_o is rated output voltage.

f_o is the switching frequency at normal condition which is given by designer.

f_{min} is minimums switching frequency which is given by designer..

$V_{c\text{-}max}$ is maximum allowed voltage across resonant capacitor C_s.

n is transformer turn ratio of primary turns to secondary turns

C_s is resonant capacitor

L_s is resonant inductance

L_m is magnetizing inductance

f_{max} is maximum switching frequency.

$I_{p,RMS}$ is RMS value of primary resonant current