



LOOKING INTO NODE \textcircled{Z}

$$\frac{(Ls+R) \left(\frac{1}{Cs} + R \right)}{Ls+R + \frac{1}{Cs} + R} = \frac{(Ls+R) (Rcs+1)}{Lcs^2 + 2Rcs + 1}$$

$$= \frac{LCRs^2 + R^2cs + Ls + R}{Lcs^2 + 2Rcs + 1}$$

$$= \frac{R \left(Lcs^2 + Rcs + \frac{L}{R}s + 1 \right)}{Lcs^2 + 2Rcs + 1}$$

$\textcircled{\text{REAL}}$ ONLY IF $RC = \frac{L}{R}$

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