I_L = Load current = 3.1A

Inductor design = $L = \frac{[V_{in} - V_{out}]D}{\Delta I \times f}$

V_{in} = 48V

V_{out} = 24V

$D = 0.5$

$\Delta I = 0.25 * I_{out}$

f = 500kHz

If we consider the full load current capability of Regulator.

$$L = \frac{[48-24] \times 0.5}{0.25 \times 5 \times 500 \times 10^3} = 1.92 \times 10^{-5} H$$

But if we use this inductor $\Delta I = \frac{24 \times 0.5}{1.92 \times 10^{-5} \times 500 \times 10^3} = 1.25$

But our Load current is = 3.1A

$\therefore$ % ripple = $\frac{1.25}{3.1} = 0.40$ which is 40%.