

Minimum input voltage:  $V_{in\_min} = 11.4 \text{ V}$

Maximum output voltage:  $V_{out\_max} = 25 \text{ V}$

Inductor value:  $L = 47 \times 10^{-6} \text{ H}$

Switching frequency:  $F_{sw} = 500 \text{ kHz}$

Diode forward voltage:  $V_d = 0.6 \text{ V}$

Minimum current limit:  $I_{sw\_min} = 0.56A$

Efficiency:  $\eta = 0.85$

Inductor peak to peak current ripple:

$$I_{LR} = \frac{1}{[L \times F_{sw} \times (\frac{1}{V_{out\_max}} + \frac{1}{V_d} - \frac{1}{V_{in\_min}} + \frac{1}{V_{in\_min}})]} = 0.269A$$

Maximum output current:

$$I_{out\_max} = V_{in\_min} \times \left( I_{sw\_min} - \frac{I_{LR}}{2} \right) \times \frac{\eta}{V_{out\_max}} = 0.165A$$