

LM3508 vs LM3509 question about calculation formula

LM3508 datasheet 14page calculate (9)

$$L > \frac{V_{IN} \times (V_{OUT} - V_{IN})}{2 \times f_{SW} \times L \times V_{OUT} \times \left(I_{PEAK} - \frac{I_{LED_MAX} \times V_{OUT}}{\eta \times V_{IN}} \right)}$$

(9)

LM3509 datasheet 22page calculate (8)

$$L > \frac{V_{IN} \times (V_{OUT} - V_{IN})}{2 \times f_{SW} \times V_{OUT} \times \left(I_{PEAK} - \frac{I_{LED_MAX} \times V_{OUT}}{\eta \times V_{IN}} \right)}$$

(8)

Why does LM3508 formula 9 include Inductor?