giovedì 1 gennaio 2026 22:38

EQ. 2

$$SR\,(ON)\left(\frac{V}{ms}\right) = \frac{I_{INRUSH}\,(mA)}{C_{OUT}\,(\mu F)}$$

$$P_{D\,(INRUSH)} = 0{,}5 \cdot V_{IN} \cdot I_{INRUSH} =$$

$$= 0{,}5 \cdot 12V \cdot 0{,}596 =$$

$$3{,}57\ W$$

EQ. 3

$$C_{dVdT}\,(nF) = \frac{42000}{SR_{(ON)}\left(\frac{V}{ms}\right)}$$

EQ. 8

$$I_{INRUSH} = C_{OUT} \times \frac{V_W}{T_{dVdT}}$$

$$SR\,(ON) = \frac{C_{OUT} \times \frac{V_{IN}}{T_{dVdt}}}{C_{OUT}} = \frac{V_{IN}}{T_{dVdt}} = \frac{12V}{100ms} = 0{,}12\frac{V}{ms}$$

$$C_{dVdT} = \frac{42000}{0{,}12\frac{V}{ms}} = 350.000\,pF = 350nF \rightarrow 330\,nF$$

LO $SR_{(ON)} = 0{,}127$

$$I_{INRUSH} = 4700\mu F \cdot 0{,}12\frac{V}{ms} = 564\,mA \rightarrow 4700\,\mu F \cdot 0{,}127\frac{V}{ms} = 596\,mA$$

CON 3,5W → A 85° > 100ms