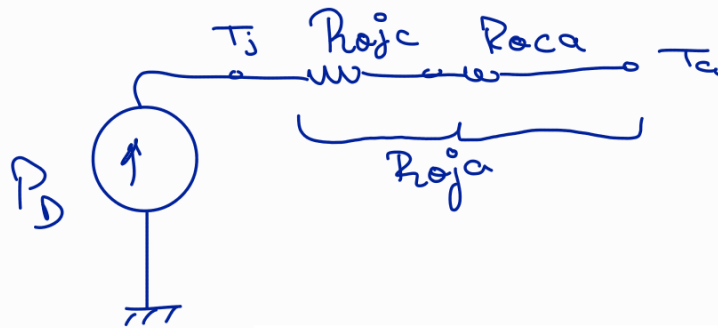


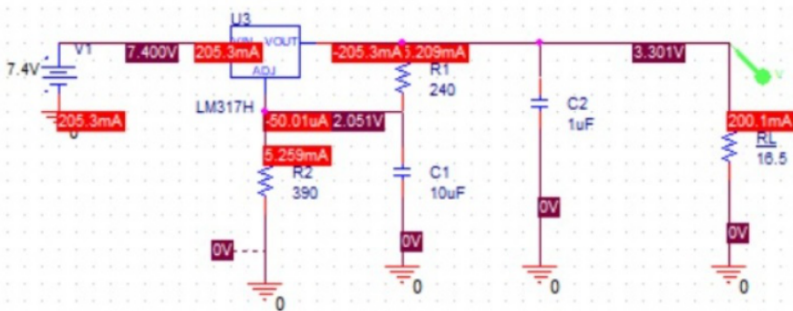
Análisis térmico regulador 3,3V:

$$P_D = (V_{in} - V_o) I_o = (8V - 3.3V) \cdot 0.2A = 0.94W$$



7.4 Thermal Information

| THERMAL METRIC ⁽¹⁾ | | LM317 | | | | UNIT |
|-------------------------------|--|------------------|-----------------|-----------------|-----------------|------|
| | | DCY (SOT-223) | KCS (TO-220) | KCT (TO-220) | KTT (TO-263) | |
| | | 4 PINS | 3 PINS | 3 PINS | 3 PINS | |
| $R_{\theta JA}$ | Junction-to-ambient thermal resistance | 66.8 | 23.5 | 37.9 | 38.0 | °C/W |



$$T_{j_{LM317}} = P \cdot R_{\theta ja} + 30^{\circ}C$$

$$= 0.94 \cdot 23.5 + 30$$

$$= 52.09^{\circ}C < T_{j_{MAX}} (150^{\circ}C/W)$$

Luego no se precisa disipador y se obtienen los 3.3V deseados.

Cálculo valores teóricos:

$$3.3V = 1.25 \left(1 + \frac{R_2}{240} \right) + R_2 \cdot 50 \cdot 10^{-6}$$

$R_2 = 390 \Omega$ (se utilizará un potenciómetro para un mejor ajuste.)

