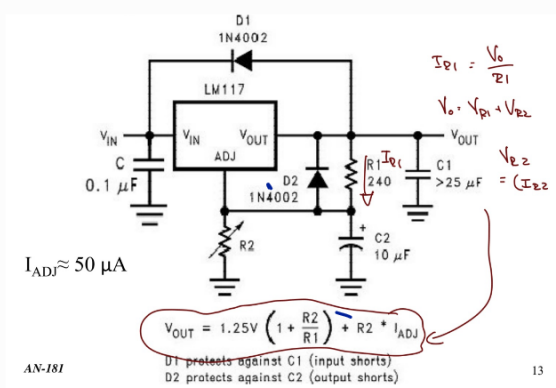
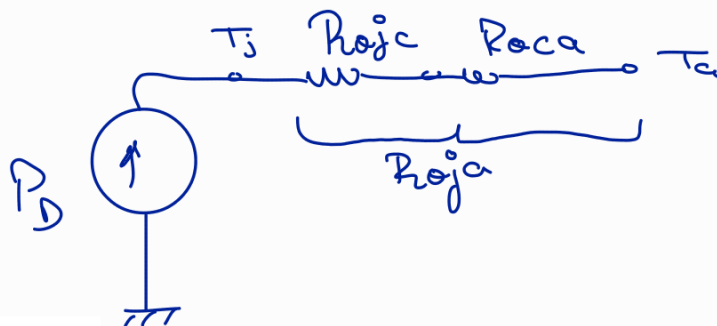


Análisis térmico regulador 3,3V:

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



7.4 Thermal Information, LM117

THERMAL METRIC ⁽¹⁾	LM117		UNIT
	NDS (TO-3)	NDT (TO)	
$R_{\theta JA}$	39	186	°C/W
$R_{\theta JC(top)}$	2	21	°C/W

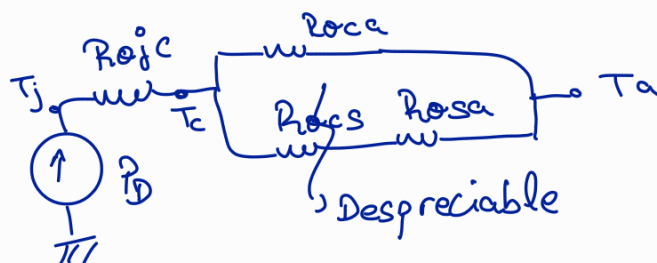
(1) For more information about traditional and new thermal metrics, see the *Semiconductor and IC package thermal metrics application report*.
(2) No heatsink.

$$T_{j_{LM117}} = P_D \cdot R_{\theta ja} + 30^\circ C$$

$$= 0.94 \cdot 186 + 30$$

$$= 204.84^\circ C > T_{j_{MAX}} (150^\circ C/W)$$

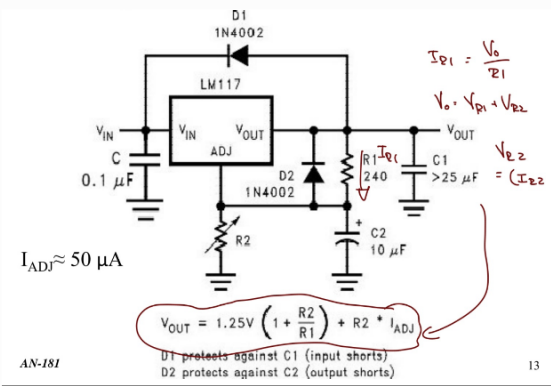
luego si que será preciso utilizar un disipador tal que:



$$R_{\theta ca} = R_{\theta ja} - R_{\theta jc} = 186 - 21 = 165^\circ C/W$$

$$T_j = P_D \left(R_{\theta jc} + \frac{R_{\theta ca} \cdot R_{\theta sa}}{R_{\theta ca} + R_{\theta sa}} \right) + T_a$$

$$R_{\theta sa} < 136.64^\circ C/W$$



Cálculo valores teóricos :

$$3,3V = 1,25 \left(1 + \frac{R2}{10^3} \right) + R2 \cdot 50 \cdot 10^{-6}$$

$$R2 = 1577 \Omega$$