a) DEBE ENTREGAR 25W AL PARLANTE DE 8 Ω

$$P_L = I_{ef}^2 R_L = \left(\frac{\hat{I}_L}{\sqrt{2}}\right)^2 \cdot R_L = 25W$$

$$\Rightarrow \boxed{\hat{I}_L = \sqrt{\frac{2 P_L}{R_L}} = \sqrt{\frac{2 \cdot 25W}{8\Omega}} = 2,5A}$$

$$\boxed{\hat{V}_L = \hat{I}_L R_L = 2,5A \cdot 8\Omega = 20V}$$

→ DISEÑO DE V_F:

$$V_F \geq \hat{V}_L + \hat{I}_L R_{18} + V_{CE_{MIN}} = 20V + 2,5A \cdot 1\Omega + 2V$$

$$\boxed{\text{ADOPTO } V_{CE_{MIN}} = 2V} \qquad V_L \geq 24,5V$$

CRITERIO PARA TODOS LOS TR. DE POTENCIA

$$\text{ADOPTO } \boxed{V_F = 25V}$$

OBSERVACION: (DE TEORIA CASO IDEAL ($V_L = V_F$))

$$P_{L_{MAX}} = \frac{V_{L_{ef}}^2}{R_L} = \frac{\left(\frac{\hat{V}_L}{\sqrt{2}}\right)^2}{R_L} = \frac{\hat{V}_L^2}{2R_L} \overset{V_L = V_F}{=} \frac{V_F^2}{2R_L} = 39W > 25W$$

REAL

$$P_F = V_F \underset{\text{MEDIA}}{\bar{I}_L} = V_F \frac{2}{\pi} \hat{I}_L = \frac{2}{\pi} V_F \frac{\hat{V}_L}{R_L}$$

$$P_{F_{MAX}} = \frac{2}{\pi} V_F \frac{\hat{V}_L}{R_L}\Bigg|_{\hat{V}_L = V_F} = \frac{2}{\pi} \frac{V_F^2}{R_L} = 49,8W$$