

Berechnung Leistung SLO50

SLO30 Trafo 360V-0V-360V 200mA
Übertrager SLO50 mit $R_{aa} = 4400 \text{ Ohm}$
Drossel 10H 115 Ohm 125mA

(TT-SLO50-PW)
(TT-SLO50-OT)
(TT-CK10)

Berechnung Effektivwerte:

OT $R_a = 2200 \text{ Ohm}$

PT $U_a = 360V$

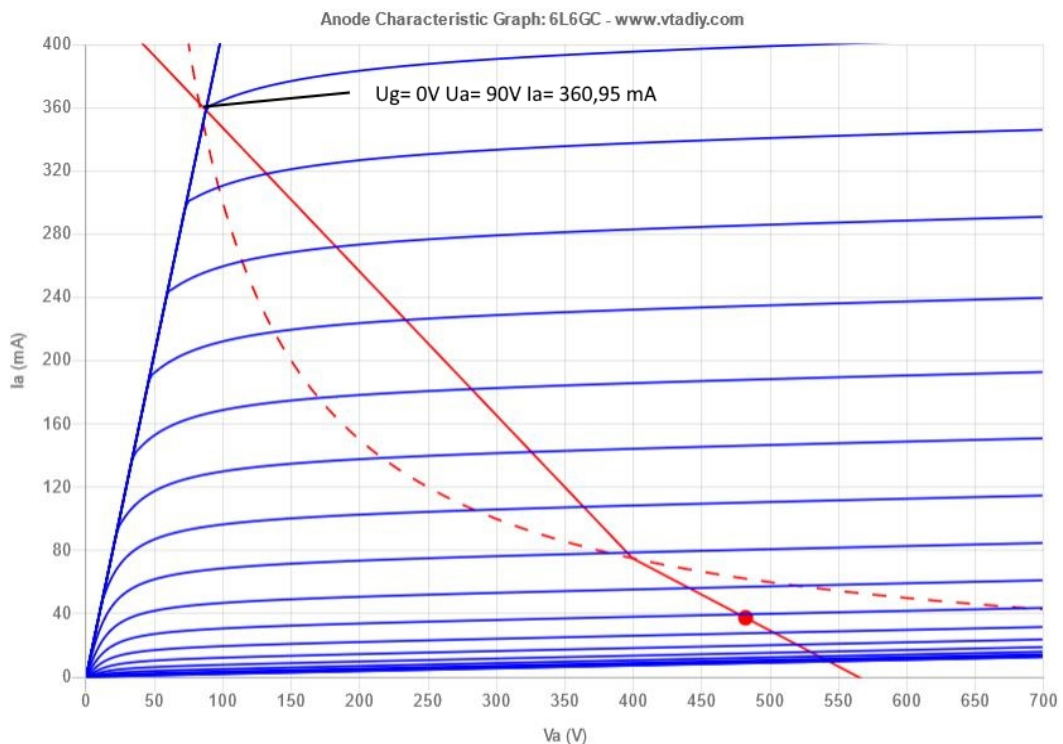
$$P = U_a \cdot I_a / R_a$$

$$360V \cdot 360V / 2200 \text{ Ohm} = 58,9 \text{ W}$$

$$I = P / U$$

$$58,9 \text{ W} / 360V = 163,6 \text{ mA}$$

Leistungsberechnung nach Loadline



(<https://www.vtadiy.com/loadline-calculators/loadline-calculator/#calculator>)

Operating mode:	☐ Ultralinear ☒ Pentode ☐ Triode	PP/SE:	☒ PP ☐ SE
V+ (V):	482	Grid Bias Voltage (V):	-50.00
Quiescent Operating Point:	Iq(mA): 37.5 Vq(V): 482.00	Output Power (W):	at max g1:70.71 at g1=0:70.71 at class A/A2:3.09 at headroom:Set out. headroom
Load (Ohm):	☐ Resistive ☒ Reactive		4400
Next stage AC Impedance (Ohm):		HD%:	Set out. headroom
Screen Voltage (V):	460		

Class AB Fixed Bias

50% Cool	31.12 mA	= 15 Watts
60% Average	37.34 mA	= 18 Watts
70% Max Safe Dissipation	43.57 mA	= 21 Watts

Ergebnis aus der Kennlinie für Pentode 6L6GC (30W)

V+ (Plate Voltage) = 482 V

I Bias = 37,5 mA

OT Raa (Reaktiv) = 4400 Ohm

Faktor 0.71 (71%)

Formel Prms (Dauerleistung Sinus)

Vrms = V+ - Vg (0V) * Faktor 482V - 90 V * 0,71 = Vrms = 278,32 V

Irms = I g1 (0V) - I Bias * Faktor 360,95 mA - 37,5 mA * 0.71 = Irms = 229,65 mA

P= U * I = 278,32 V * 0,22965 A = **P = 63,9 W Sinus**

Selected transformer voltage: **360-0-360**

Calculated voltage at first capacitor (B+): **493.2V**. Subtract 6V, if using choke.

Calculated filament current (typically the 6.3v secondary): 3.45A

Calculated current: **261.2mA at 4400R load** (10% plus factored in). Preamp valves current draw is estimated at typical 12AX7 max dissipation of 1.2W at 330V, i.e. 3.6mA per triode