

Berechnung Leistung SLO20 (6V6 24 W)

SLO20 Trafo 250V-0V-250V 130mA (RK-SLO20_PT)
Übertrager mit $R_{aa} = 8000 \text{ Ohm}$ (TT-5E3-OT)
Drossel 10H 115 Ohm 125 mA (TT-CK10)

Berechnung :

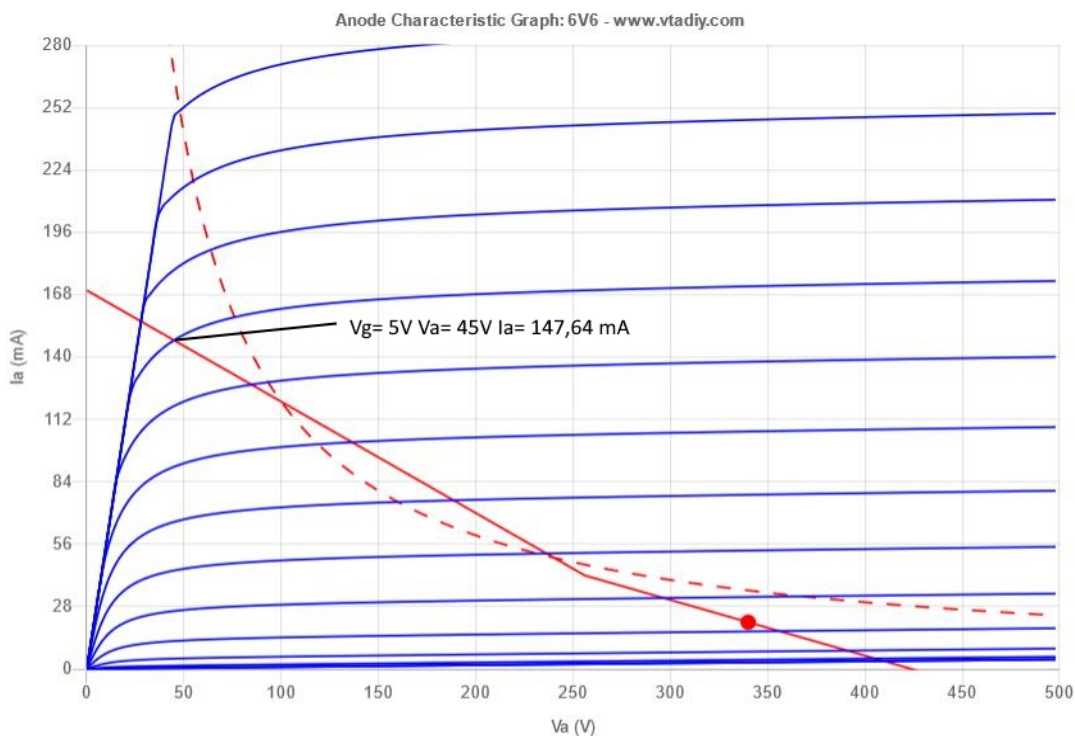
OT $R_a = 4000 \text{ Ohm}$ ($R_{aa} / 2$)
PT $U_a = 250V$

$P = U_a * I_a / R_a$
 $250V * 250V / 4000 \text{ Ohm} = 15,62 \text{ W eff}$

$I = P / U$
 $15,62 \text{ W} / 250 \text{ V} = 62,5 \text{ mA}$

Leistungsberechnung nach Loadline

Ergebnis aus der Kennlinie für Pentode 6V6 (12W)
(<https://www.vtadiy.com/loadline-calculators/loadline-calculator/#calculator>)



Operating mode:	☐ Ultralinear ☒ Pentode ☐ Triode	PP/SE:	☒ PP ☐ SE
V+ (V):	340	Grid Bias Voltage (V):	-23.45
Quiescent Operating Point:	$I_q(\text{mA})$: 21 $V_q(\text{V})$: 340.00	Output Power (W):	at max g_1 :24.34 at $g_1=0$:16.29 at class A/A2:1.76 at headroom:Set out. headroom
Load (Ohm):	☐ Resistive ☒ Reactive	8000	
Next stage AC Impedance (Ohm):		HD%:	Set out. headroom
Screen Voltage (V):	290		

Class AB Fixed Bias

50% Cool	17.65 mA	= 6 Watts
60% Average	21.18 mA	= 7.2 Watts
70% Max Safe Dissipation	24.71 mA	= 8.4 Watts

V+ (Plate Voltage) = **340 V**

I Bias = **21 mA**

OT Raa (Reaktiv) = **8000 Ohm**

Faktor 0.71 (71%)

Formel Prms (Dauerleistung Sinus)

Vrms = V+ - Vg (0V) * Faktor 340 V - 45 V * 0,71 = Vrms = 209,45 V

Irms = I g1 (0V) - I Bias * Faktor 147,64 mA - 21 mA * 0.71 = Irms = 89,91 mA

P= U * I = 209,45 V * 0,08991 A = **P = 18,83 W Sinus**

Selected transformer voltage: **250-0-250**

Calculated voltage at first capacitor (B+): **342,5 V Subtract 6 V**, if using choke.

Calculated filament current (typically the 6.3v secondary): **2,55A**

Calculated current: **120,04 mA at 8000R** 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