

Berechnung Leistung SLO30 (gewählt 6600R)

SLO30 Trafo 300V-0V-300V 200mA (TT-MA36_PT)
Übertrager mit Raa = 6600 Ohm (TT-OTJTM45D)
Übertrager mit Raa = 8000 Ohm (TT-OTJTM45D)
Drossel 10H 115 Ohm 125 mA (TT-CK10)

Berechnung :

OT Ra = **3300 Ohm** (Raa / 2)
PT Ua = 300 V (Ueff) gemessen 305 V

$P = U_a * U_a / R_a$
 $305 \text{ V} * 305 \text{ V} / 3300 \text{ Ohm} = 28,2 \text{ W eff}$

$I = P / U$
 $27,28 \text{ W} / 305 \text{ V} = 92,4 \text{ mA}$

OT Ra = **4000 Ohm** (Raa / 2)
PT Ua = 300V

$P = U_a * U_a / R_a$
 $305 \text{ V} * 305 \text{ V} / 4000 \text{ Ohm} = 23,3 \text{ W eff}$

$I = P / U$
 $23,3 \text{ W} / 305 \text{ V} = 76,4 \text{ mA}$

Class AB Fixed Bias

50% Cool	29.04 mA	= 11.5 Watts
60% Average	34.85 mA	= 13.8 Watts
70% Max Safe Dissipation	40.66 mA	= 16.1 Watts

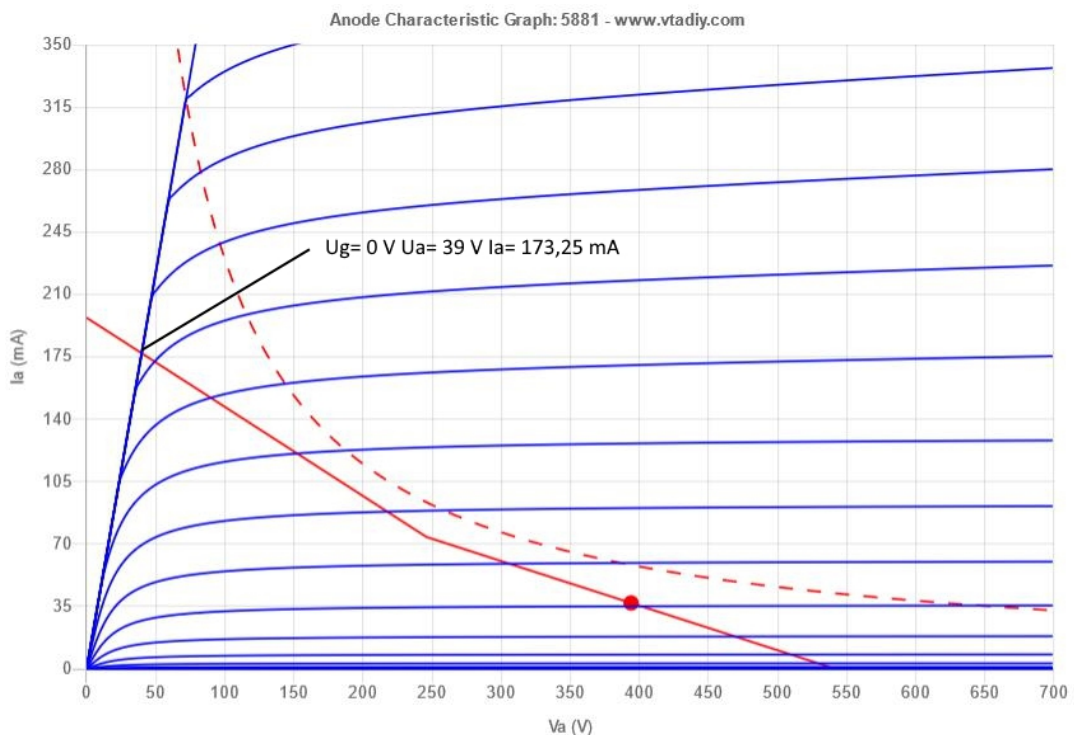
eingestellt 37 mA

Leistungsberechnung nach Loadline

Ergebnis aus der Kennlinie für Pentode 5881 (23W)

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

Loadline 8000R



Select a Tube: 5881 [Print this Graph!](#) [Check full list of available tubes](#)

Operating mode: ☐ Ultralinear ☒ Pentode ☐ Triode PP/SE: ☒ PP ☐ SE

V+ (V): 394 Grid Bias Voltage (V): -29.56

Quiescent Operating Point: Iq(mA): 37 Vq(V): 394.00 Output Power (W): at max g1:31.34 at g1=0:31.34 at class A/A2:5.47 at headroom:Set out. headroom

Load (Ohm): ☐ Resistive ☒ Reactive 8000

Next stage AC Impedance (Ohm): HD%: Set out. headroom

Screen Voltage (V): 320

V+ (Plate Voltage) = **394 V**
I Bias = **37 mA**
OT Raa (Reaktiv) = **8000 Ohm**
Faktor 0.71 (71%)

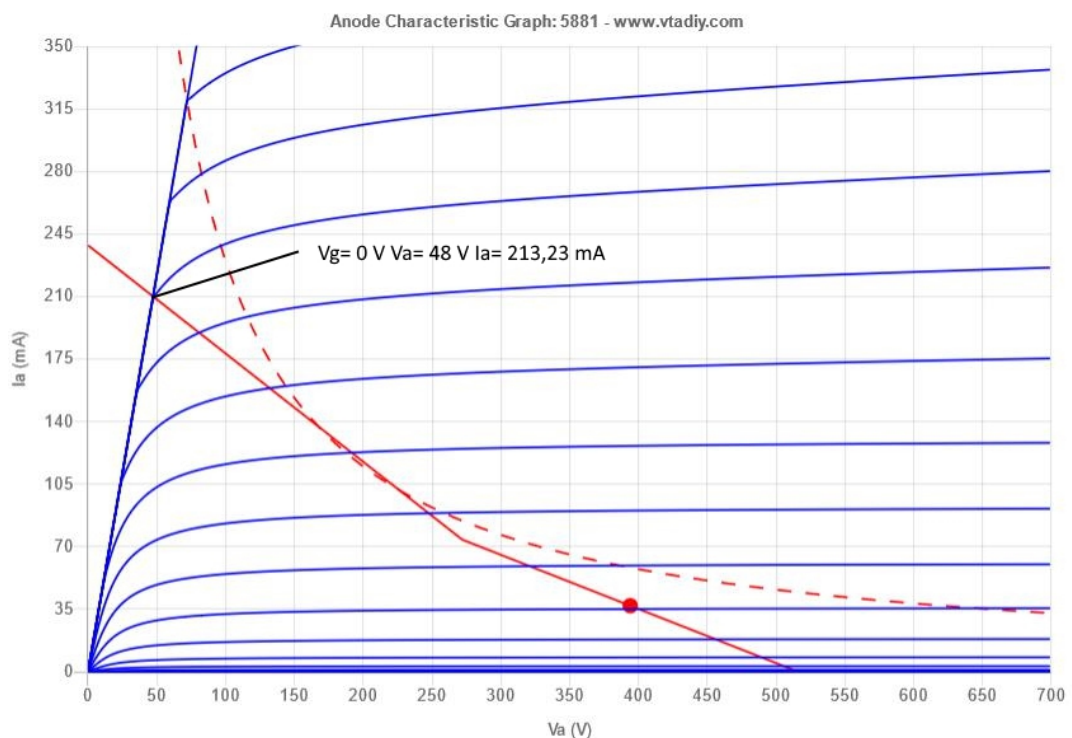
Formel Prms (Dauerleistung Sinus)
 $V_{rms} = V+ - V_g (0V) * \text{Faktor} \quad 394 \text{ V} - 39 \text{ V} * 0,71 = V_{rms} = 252,05 \text{ V}$
 $I_{rms} = I_{g1} (0V) - I_{Bias} * \text{Faktor} \quad 173,25 \text{ mA} - 37 \text{ mA} * 0.71 = I_{rms} = 96,73 \text{ mA}$

$P = U * I = 252,05 \text{ V} * 0,09673 \text{ A} = \mathbf{P = 24,38 \text{ W Sinus}}$

Selected transformer voltage: **305-0-305**
Calculated voltage at first capacitor (B+): **417.85V**. Subtract 6V, if using choke.
Calculated filament current (typically the 6.3v secondary): **3.45A**
Calculated current: **140.76mA 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

Leistungsberechnung nach Loadline

Loadline 6600R



Select a Tube: 5881 [Print this Graph!](#) [Check full list of available tubes](#)

Operating mode: ☐ Ultralinear ☒ Pentode ☐ Triode PP/SE: ☒ PP ☐ SE

V+ (V): 394 Grid Bias Voltage (V): -29.56

Quiescent Operating Point: Iq(mA): 37 Vq(V): 394.00 Output Power (W): at max g1:36.41 at g1=0:36.28 at class A/A2:4.52 at headroom:Set out. headroom

Load (Ohm): ☐ Resistive ☒ Reactive 6600

Next stage AC Impedance (Ohm): HD%: Set out. headroom

Screen Voltage (V): 320

V+ (Plate Voltage) = 394 V
 I Bias = 37 mA
 OT Raa (Reaktiv) = **6600 Ohm**
 Faktor 0.71 (71%)

Formel Prms (Dauerleistung Sinus)
 $V_{rms} = V+ - V_g (0V) * \text{Faktor}$ $394 \text{ V} - 48 \text{ V} * 0,71 = V_{rms} = 245,66 \text{ V}$
 $I_{rms} = I_{g1} (0V) - I_{Bias} * \text{Faktor}$ $213,23\text{mA} - 37 \text{ mA} * 0.71 = I_{rms} = 125,12 \text{ mA}$

$P = U * I = 244,66 \text{ V} * 0,12512 \text{ A} = \mathbf{P = 30,73 \text{ W Sinus}}$

Selected transformer voltage: **305-0-305**
 Calculated voltage at first capacitor (B+): **417.85V**. Subtract 6V, if using choke.
 Calculated filament current (typically the 6.3v secondary): **3.45A**
 Calculated current: **162.22mA at 6600R** 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
