

## TRIODE-PENTODE

Triode pentode; triode section intended for use as reactance tube, pentode section intended for use as sine wave oscillator or pulse shaper in television receivers.

### QUICK REFERENCE DATA

<u>Pentode section</u>		
Anode current	$I_a$	6 mA
Transconductance	S	5.5 mA/V
Amplification factor	$\mu_{g_2g_1}$	47 -
Internal resistance	$R_i$	400 k $\Omega$
<u>Triode section</u>		
Anode current	$I_a$	3.5 mA
Transconductance	S	3.5 mA/V
Amplification factor	$\mu$	70 -

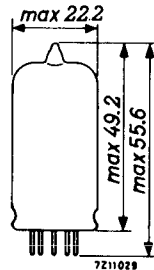
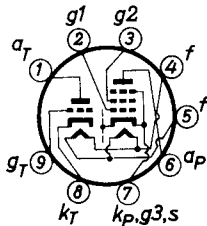
**HEATING:** Indirect by A.C. or D.C.; series supply

Heater current	$I_f$	300 mA
Heater voltage	$V_f$	9 V

### DIMENSIONS AND CONNECTIONS

Dimensions in mm

Base: Noval



**CAPACITANCES**

Pentode section

Grid No.1 to all except anode	$C_{g1(a)}$	5.4 pF
Anode to grid No.1	$C_{ag1}$	0.06 pF
Grid No.1 to heater	$C_{g1f}$	max. 0.1 pF

Triode section

Grid to all except anode	$C_{g(a)}$	2.4 pF
Anode to grid	$C_{ag}$	1.5 pF
Grid to heater	$C_{gf}$	max. 0.1 pF

**TYPICAL CHARACTERISTICS**

Pentode section

Anode voltage	$V_a$	100	100	200	100	V
Grid No.2 voltage	$V_{g2}$	100	100	200	100	V
Grid No.1 voltage	$V_{g1}$	-1	0	max. -16	max. -1.3	V
Anode current	$I_a$	6	12.5	0.01	-	mA
Grid No.2 current	$I_{g2}$	1.7	3.5	-	-	mA
Transconductance	$S$	5.5	-	-	-	mA/V
Internal resistance	$R_i$	400	-	-	-	k $\Omega$
Amplification factor	$\mu_{g2g1}$	47	-	-	-	-
Grid No.1 current	$I_{g1}$	-	-	-	0.3	$\mu$ A

Triode section

Anode voltage	$V_a$	200	200	200	V
Grid voltage	$V_g$	-2	-	max. -1.3	V
Anode current	$I_a$	3.5	10	-	mA
Transconductance	$S$	3.5	-	-	mA/V
Internal resistance	$R_i$	20	-	-	k $\Omega$
Amplification factor	$\mu$	70	-	-	-
Grid current	$I_g$	-	10	0.3	$\mu$ A

**LIMITING VALUES** (Design centre rating system)Pentode section

Anode voltage	$V_{a0}$	max.	550 V
	$V_a$	max.	250 V
Anode dissipation	$W_a$	max.	1.2 W
Grid No.2 voltage	$V_{g20}$	max.	550 V <sup>1)</sup>
	$V_{g2}$	max.	250 V
Grid No.2 dissipation	$W_{g2}$	max.	0.8 W
Grid No.1 voltage	$-V_{g1}$	max.	220 V <sup>1)</sup>
Grid resistor, fixed bias	$R_{g1}$	max.	0.56 M $\Omega$
	automatic bias	$R_{g1}$	max.
Cathode current, average	$I_k$	max.	15 mA
	peak	$I_{kp}$	max.
$T_{imp} = \text{max. } 30 \mu\text{s}, \delta = \text{max. } 0.3$			
Cathode to heater voltage	$V_{kf}$	max.	100 V <sup>2)</sup>
Grid circuit impedance	$Z_{g1}$ (f = 50 Hz)	max.	300 k $\Omega$ <sup>2)</sup>

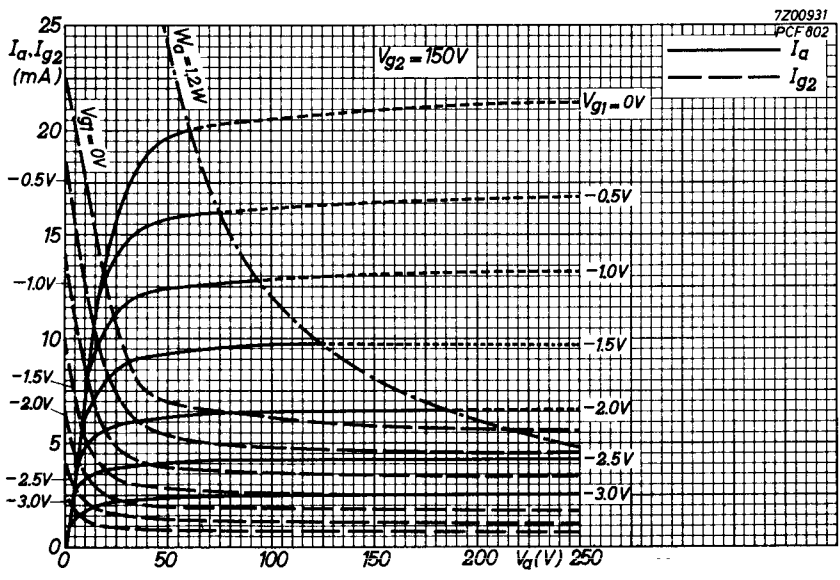
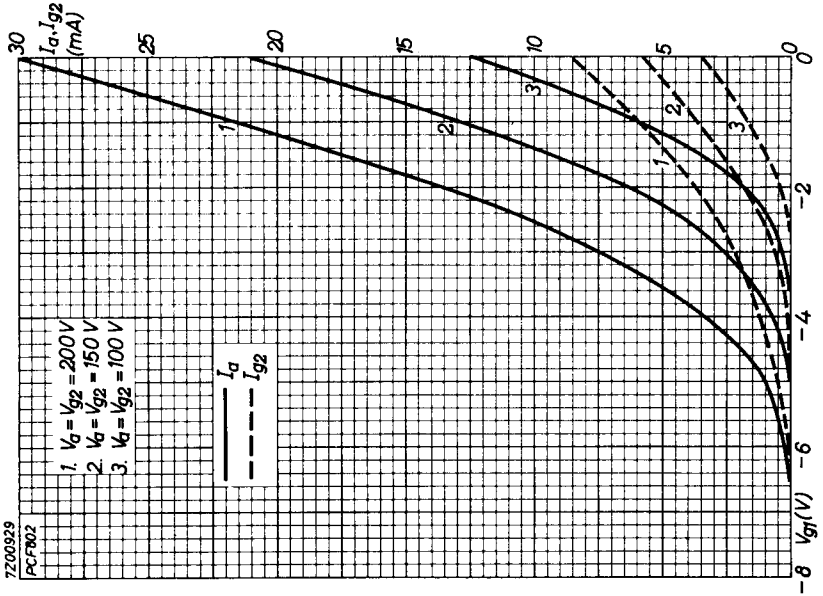
Triode section

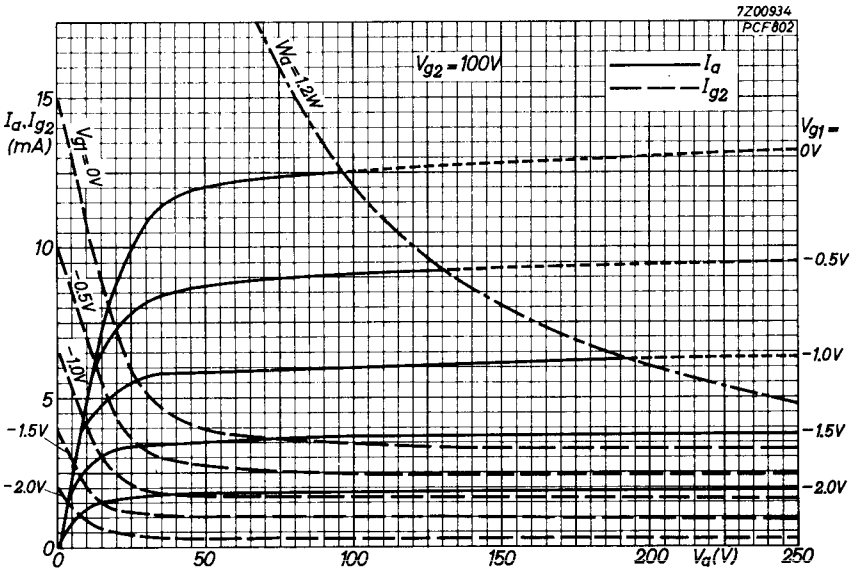
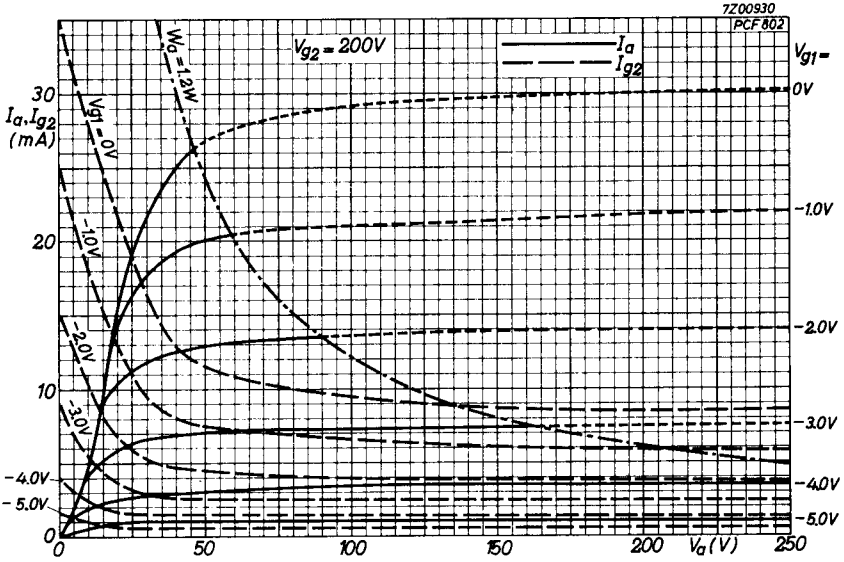
Anode voltage	$V_{a0}$	max.	550 V
	$V_a$	max.	250 V
Anode dissipation	$W_a$	max.	1.4 W
Grid resistor, fixed bias	$R_g$	max.	3 M $\Omega$
Cathode current	$I_k$	max.	10 mA
Cathode to heater voltage	$V_{kf}$	max.	100 V <sup>3)</sup>
Grid circuit impedance	$Z_g$ (f = 50 Hz)	max.	50 k $\Omega$ <sup>3)</sup>

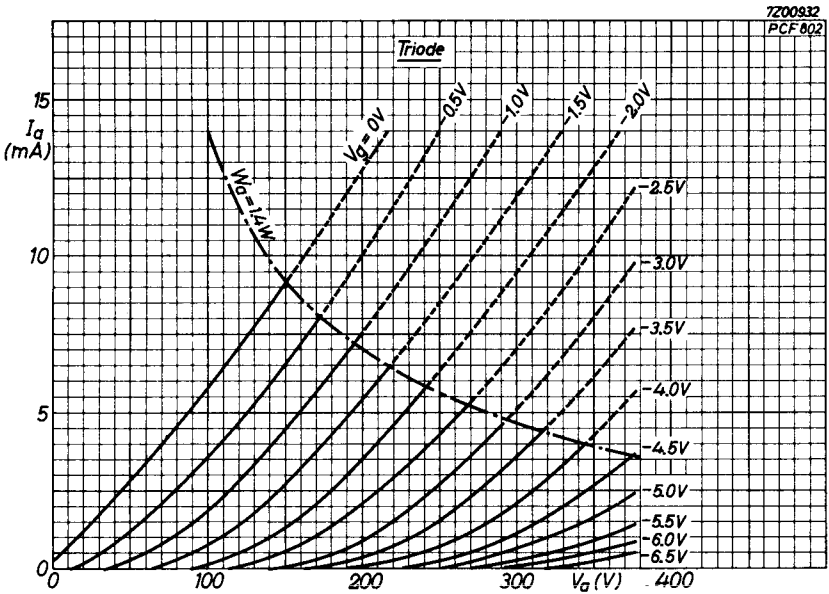
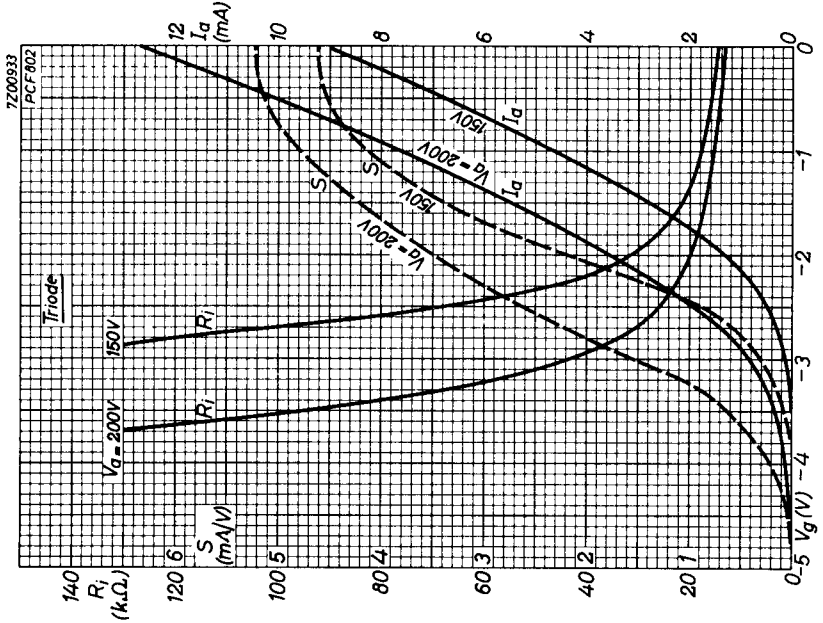
1) The instantaneous voltage between grid No.1 and grid No.2 should never exceed 550 V.

2) To avoid hum interference the A.C. component of  $V_{kf}$  should not exceed 65 V at the specified value of  $Z_{g1}$ .

3) To minimise hum interference decoupling of  $R_k$  is recommended. In circuits with undecoupled  $R_k$  the hum interference between grid and cathode will remain below 1000  $\mu\text{V}$  when the A.C. component of  $V_{kf}$  does not exceed 25 V and the  $R_k$  is not higher than 1.2 k $\Omega$  at the specified value of  $Z_g$ .







# PHILIPS

Data handbook



Electronic  
components  
and materials

## PCF802

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