

## TRIODE-HEPTODE

Triode-heptode; triode section intended for use as pulse amplifier and heptode section for use as noise gated sync. separator.

QUICK REFERENCE DATA			
<u>Triode section</u>			
Anode current	$I_a$	9	mA
Transconductance	$S$	8.8	mA/V
Amplification factor	$\mu$	50	-
<u>Heptode section</u>			
Grid No.1 voltage	$V_{g1}$	0 -1.8	0 V
Grid No.3 voltage	$V_{g3}$	0 0 -1.8	V
Anode current	$I_a$	1500 20 20	$\mu$ A

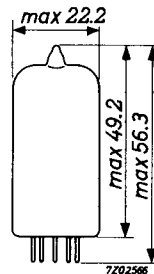
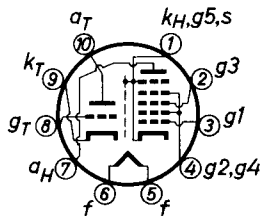
**HEATING:** Indirect by A.C. or D.C.; series supply

Heater current	$I_f$	300	mA
Heater voltage	$V_f$	8.5	V

### DIMENSIONS AND CONNECTIONS

Dimensions in mm

Base: decal



**CAPACITANCES**Heptode section

Grid No.1 to all except anode	$C_{g_1(a)}$	4.4 pF
Anode to all except grid No.1	$C_{a(g_1)}$	5.4 pF
Anode to grid No.1	$C_{ag_1}$	max. 0.1 pF
Anode to grid No.3	$C_{ag_3}$	max. 0.25 pF
Grid No.1 to grid No.3	$C_{g_1g_3}$	0.3 pF

Triode section

Grid to all except anode	$C_g(a)$	3.3 pF
Anode to all except grid	$C_a(g)$	1.7 pF
Anode to grid	$C_{ag}$	1.8 pF

Between heptode and triode sections

Heptode grid No.1 to triode grid	$C_{g_1HgT}$	max. 0.005 pF
Heptode grid No.1 to triode anode	$C_{g_1HaT}$	max. 0.010 pF
Heptode grid No.3 to triode grid	$C_{g_3HgT}$	max. 0.020 pF
Heptode anode to triode anode	$C_{aHaT}$	max. 0.150 pF

## TYPICAL CHARACTERISTICS

Triode section

Anode voltage	$V_a$	100	200	V
Anode current	$I_a$	9.0	0.1	mA
Grid voltage	$V_g$	-1	-7 (<11)	V
Transconductance	S	8.8	-	mA/V
Amplification factor	$\mu$	50	-	

Heptode section

Anode voltage	$V_a$	14	14	14	V
Grids No.2 and 4 voltage	$V_{g_2, g_4}$	14	14	14	V
Grid No.3 voltage	$V_{g_3}$	0	0	-1.8 (<2.2)	V
Grid No.1 voltage	$V_{g_1}$	0	-1.8	0	V
Anode current	$I_a$	1500	20	20	$\mu A$
Grids No.2 and 4 current	$I_{g_2+g_4}$	1300	-	-	$\mu A$

## OPERATING CHARACTERISTICS

Heptode section as sync. separator

Anode voltage	$V_a$	14	1	14	14	V
Grids No.2 and 4 voltage	$V_{g_2, g_4}$	14	14	14	14	V
Grid No.3 voltage	$V_{g_3}$	-	-	+25	-1.9 (<2.3)	V
Grid No.1 voltage	$V_{g_1}$	-	-	-2	-	V
Anode current	$I_a$	750	>300	20	20	$\mu A$
Grid No.3 current	$I_{g_3}$	1	1	-	-	$\mu A$
Grid No.1 current	$I_{g_1}$	100	100	-	100	$\mu A$

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

Triode section

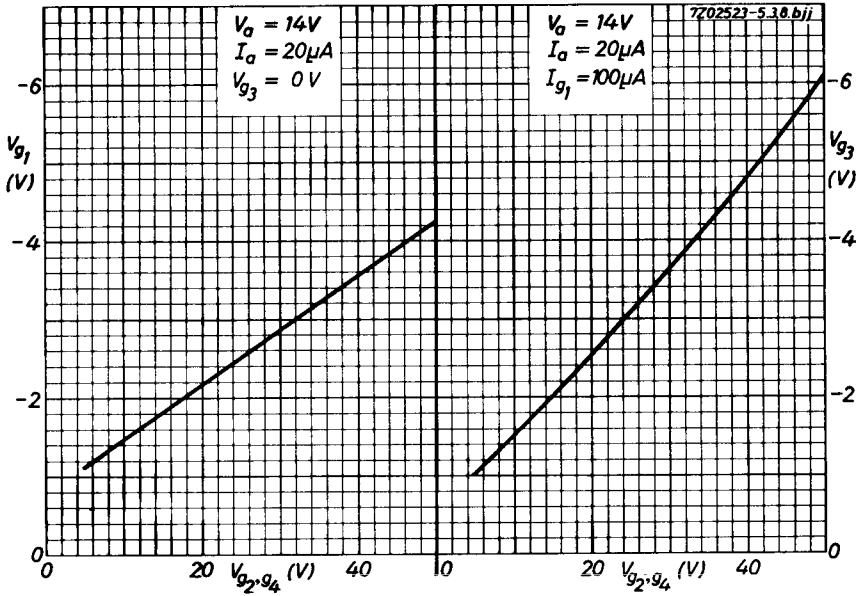
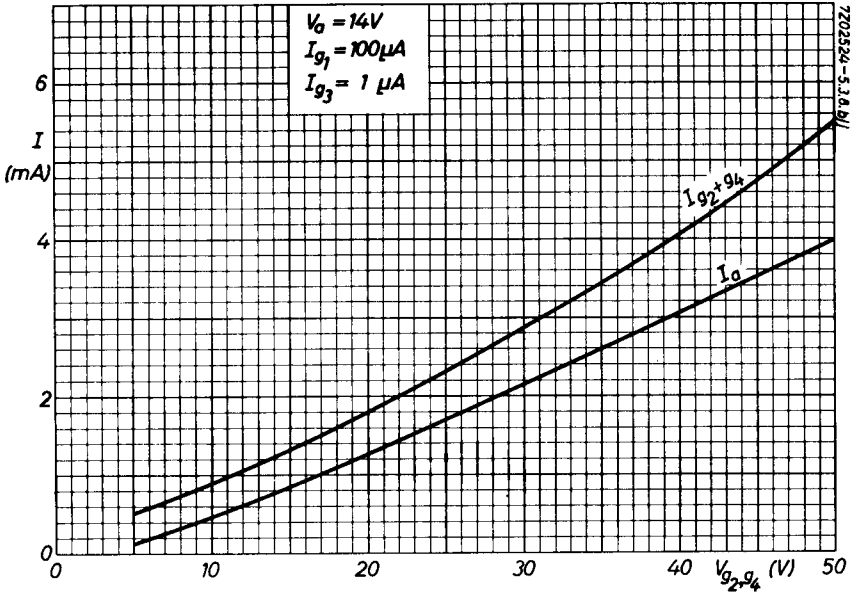
Anode voltage	$V_{a0}$	max. 550 V
	$V_a$	max. 250 V
Anode dissipation	$W_a$	max. 1.5 W
Cathode current	$I_k$	max. 20 mA
Grid resistor (fixed bias)	$R_g$	max. 2 M $\Omega$
(automatic bias)	$R_g$	max. 3 M $\Omega$
Grid voltage, negative peak	$-V_{g_p}$	max. 200 V
Cathode to heater voltage	$V_{kf}$	max. 70 V <sup>1)</sup> +100 V <sub>RMS</sub>

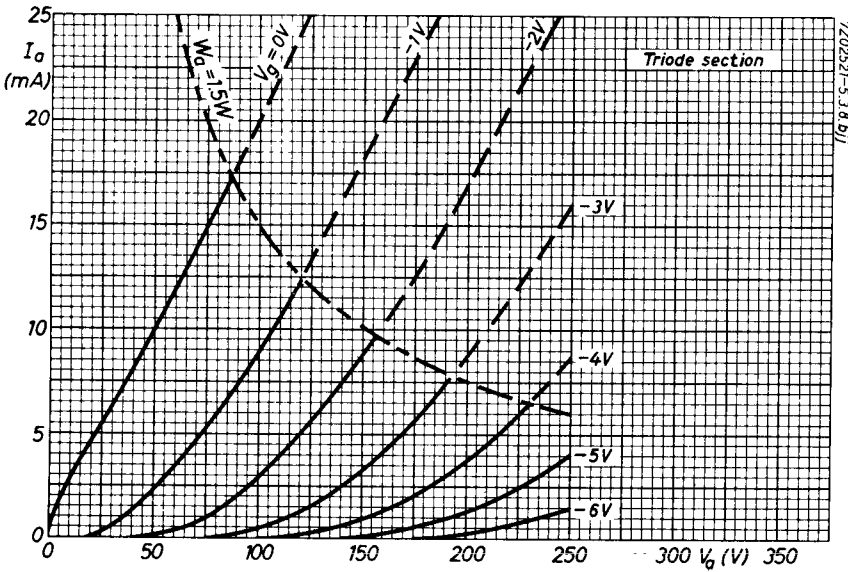
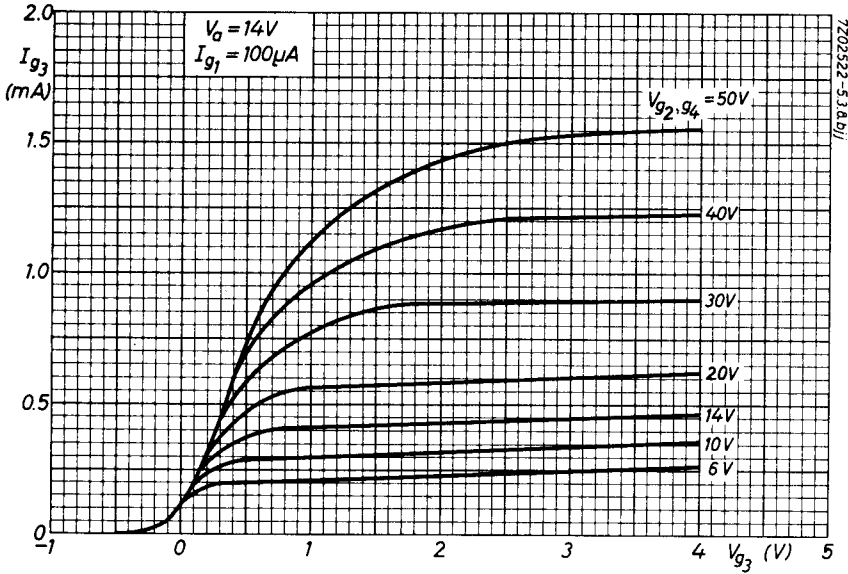
Heptode section

Anode voltage	$V_{a0}$	max. 550 V
	$V_a$	max. 100 V
Grids No.2 and 4 voltage	$V_{(g_2, g_4)_0}$	max. 550 V
	$V_{g_2, g_4}$	max. 50 V <sup>2)</sup>
Anode dissipation	$W_a$	max. 0.5 W
Grids No.2 and 4 dissipation	$W_{g_2+g_4}$	max. 0.5 W
Cathode current	$I_k$	max. 8 mA
Grid No.1 resistor	$R_{g_1}$	max. 3 M $\Omega$
Grid No.3 resistor	$R_{g_3}$	max. 3 M $\Omega$
Grid No.1 voltage, negative peak	$-V_{g_{1p}}$	max. 100 V
Grid No.3 voltage, negative peak	$-V_{g_{3p}}$	max. 150 V
Cathode to heater voltage	$V_{kf}$	max. 100 V

1) Cathode positive with respect to heater.

2) The grids No.2 and 4 voltage should not be less than 6 V with an average tube under the worst probable operating conditions.





# PHILIPS

Data handbook



Electronic  
components  
and materials

## PCH200

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