

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	μ	50	-	
<u>Heptode section</u>				
Grid No.1 voltage	V_{g_1}	0	-1.8	0 V
Grid No.3 voltage	V_{g_3}	0	0	-1.8 V
Anode current	I_a	1500	20	20 μA

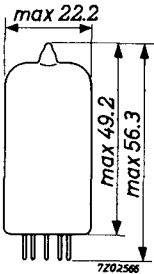
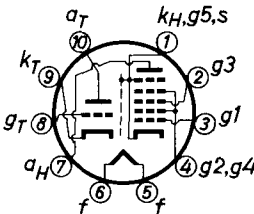
HEATING: Indirect by A.C. or D.C.; series supply

Heater current	I_f	300	mA
Heater voltage	V_f	8.5	V

DIMENSIONS AND CONNECTIONS

Dimensions in mm

Base: decal



CAPACITANCESHeptode 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	μ	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	μ A
Grids No.2 and 4 current	$I_{g_2+g_4}$	1300	-	-	μ 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	μ A
Grid No.3 current	I_{g_3}	1	1	-	-	μ A
Grid No.1 current	I_{g_1}	100	100	-	100	μ A

LIMITING VALUES (Design centre rating system)

Triode section

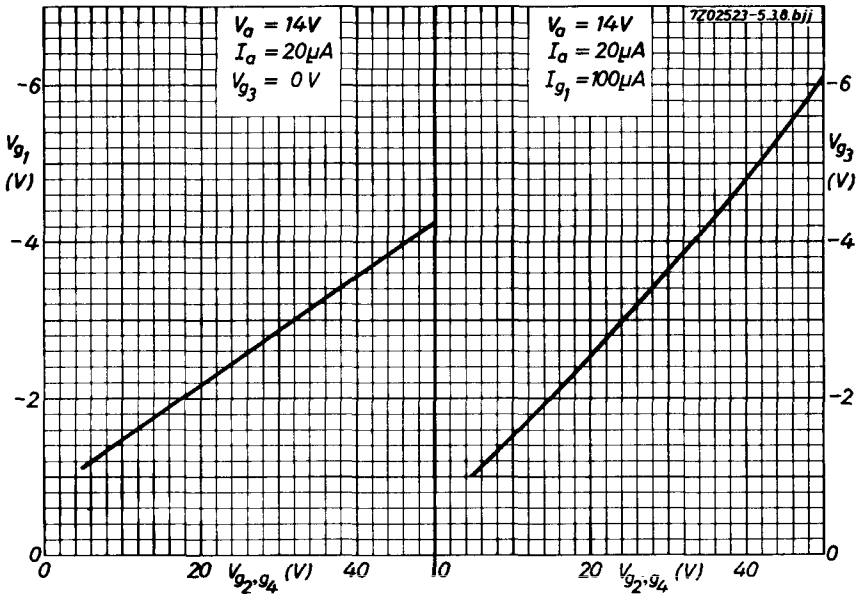
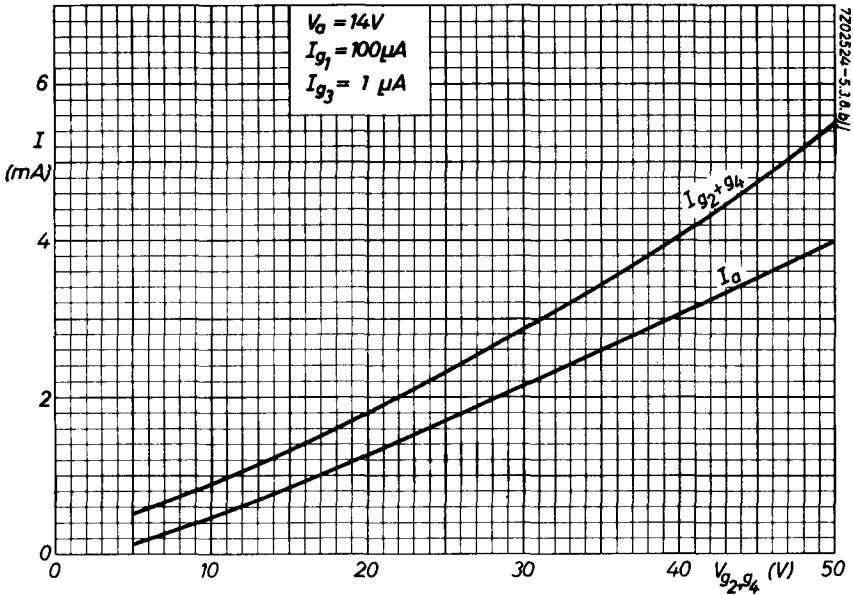
Anode voltage	V_{a0}	max.	550 V
	V_a	max.	250 V
Anode dissipation	W_a	max.	1.5 W
Cathode current	I_k	max.	20 mA
Grid resistor (fixed bias)	R_g	max.	2 MΩ
(automatic bias)	R_g	max.	3 MΩ
Grid voltage, negative peak	$-V_{g_p}$	max.	200 V
Cathode to heater voltage	V_{kf}	max.	70 V ¹⁾ +100 V _{RMS}

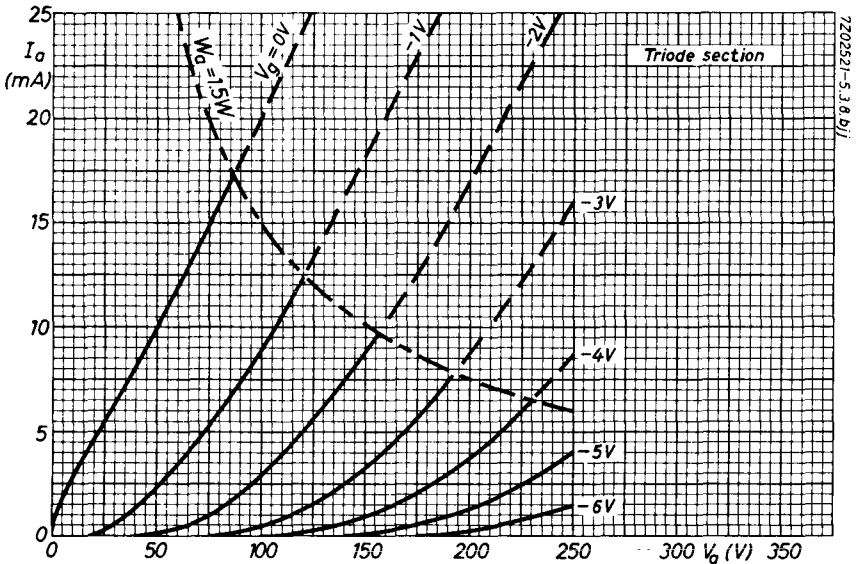
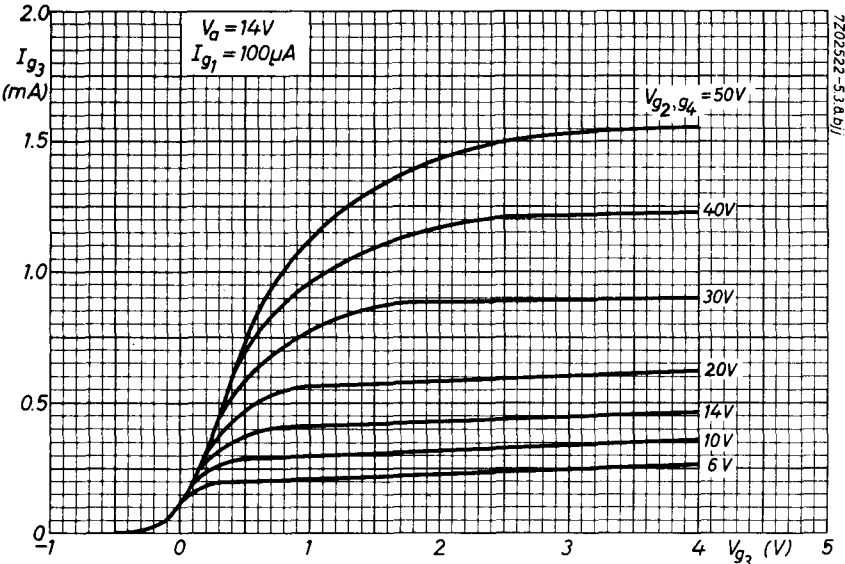
Heptode section

Anode voltage	V_{a0}	max.	550 V
	V_a	max.	100 V
Grids No.2 and 4 voltage	$V_{(g2, g4)_0}$	max.	550 V
	$V_{g2, g4}$	max.	50 V ²⁾
Anode dissipation	W_a	max.	0.5 W
Grids No.2 and 4 dissipation	W_{g2+g4}	max.	0.5 W
Cathode current	I_k	max.	8 mA
Grid No.1 resistor	R_{g1}	max.	3 MΩ
Grid No.3 resistor	R_{g3}	max.	3 MΩ
Grid No.1 voltage, negative peak	$-V_{g1_p}$	max.	100 V
Grid No.3 voltage, negative peak	$-V_{g3_p}$	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

page	sheet	date
1	1	1969.01
2	2	1969.01
3	3	1969.01
4	4	1969.01
5	5	1969.01
6	6	1969.01
7	FP	1999.08.01