

TRIODE-PENTODE

Triode pentode intended for use in T.V. receivers; triode section as line-blocking oscillator, part of a multivibrator, sync separator, pulse amplifier or A.G.C. delay diode; pentode section with remote cut-off as video I.F. amplifier.

QUICK REFERENCE DATA

<u>Pentode section</u>			
Anode current	I_a	13	mA
Transconductance	S	12.6	mA/V
Amplification factor	$\mu_{g_2g_1}$	45	-
<u>Triode section</u>			
Anode current	I_a	14	mA
Transconductance	S	4.8	mA/V
Amplification factor	μ	17.5	-
Cathode peak current	I_{kp}	max. 50	mA

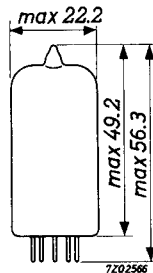
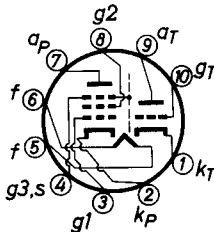
HEATING: Indirect by A.C. or D.C.; series supply

Heater current	I_f	300	mA
Heater voltage	V_f	8.5	V

DIMENSIONS AND CONNECTIONS

Dimensions in mm

Base: Decal



CAPACITANCES

Pentode section

Anode to all except grid No.1	$C_{a(g_1)}$	3.3 pF
Grid No.1 to all except anode	$C_{g_1(a)}$	6.0 pF
Grid No.1 to cathode	C_{kg_1}	3.7 pF
Anode to grid No.1	C_{ag_1}	0.0056 pF
Grid No.1 to grid No.2	$C_{g_1g_2}$	max. 0.008 pF

Triode section

Anode to all except grid	$C_{a(g)}$	3.0 pF
Grid to all except anode	$C_{g(a)}$	2.1 pF
Anode to grid	C_{ag}	2.0 pF

Between pentode and triode sections

Pentode anode to triode anode	C_{aPaT}	max. 0.015 pF
Pentode grid No.1 to triode anode	C_{g_1PaT}	max. 0.0012 pF
Pentode grid No.1 to triode grid	C_{g_1PgT}	max. 0.0015 pF

TYPICAL CHARACTERISTICS

Pentode section

Anode voltage	V_a	160 V
Grid No.3 voltage	V_{g_3}	0 V
Grid No.2 voltage	V_{g_2}	110 V
Grid No.1 voltage	V_{g_1}	-1.4 V
Anode current	I_a	13 mA
Grid No.2 current	I_{g_2}	5.3 mA
Transconductance	S	12.6 mA/V
Amplification factor	$\mu_{g_2g_1}$	45 -

Triode section

Anode voltage	V_a	100 V
Grid voltage	V_g	-2 V
Anode current	I_a	14 mA
Transconductance	S	4.8 mA/V
Amplification factor	μ	17.5 -

OPERATING CHARACTERISTICS

Pentode section as video I.F. amplifier (g_3 connected to earth)

Supply voltage	V_b	210	230	250	V
Anode resistor	R_a	3.9	5.6	6.8	$k\Omega$
Grid No.2 resistor	R_{g_2}	18	22	27	$k\Omega$
Cathode resistor	R_k	79	79	76	Ω
Anode current	I_a	13.2	13.2	12.8	mA
Grid No.2 current	I_{g_2}	5.4	5.4	5.2	mA
Transconductance	S	12.6	12.6	12.6	mA/V
Grid No.1 voltage at 0.1 S	V_{g_1}	-5.1	-5.4	-5.7	V
Grid No.1 voltage at 0.01 S	V_{g_1}	-19	-20.5	-22	V
Grid No.1 input resistance at 40 MHz	r_{g_1}	7.4	7.4	7.4	$k\Omega$

Triode section as line-blocking oscillator

Anode voltage	V_a	30	V
Peak cathode current	I_{k_p}	40	mA
Peak anode current	I_{a_p}	25	mA
Peak grid current	I_{g_p}	15	mA

Triode section as sync. separator

Anode supply voltage	V_{b_a}	130 to 150	V
Anode resistor	R_a	33	$k\Omega$
Grid current	I_g	1	μA
Anode current	I_a	min. 2	mA

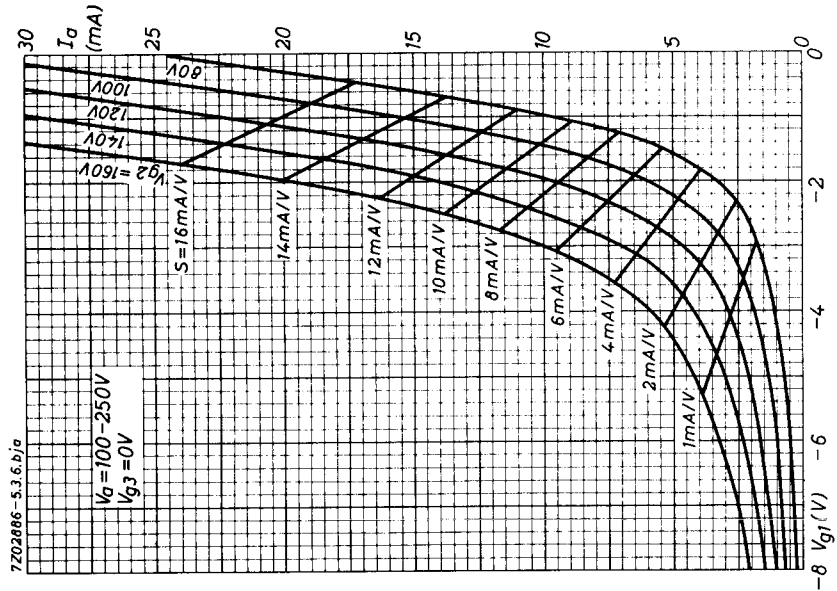
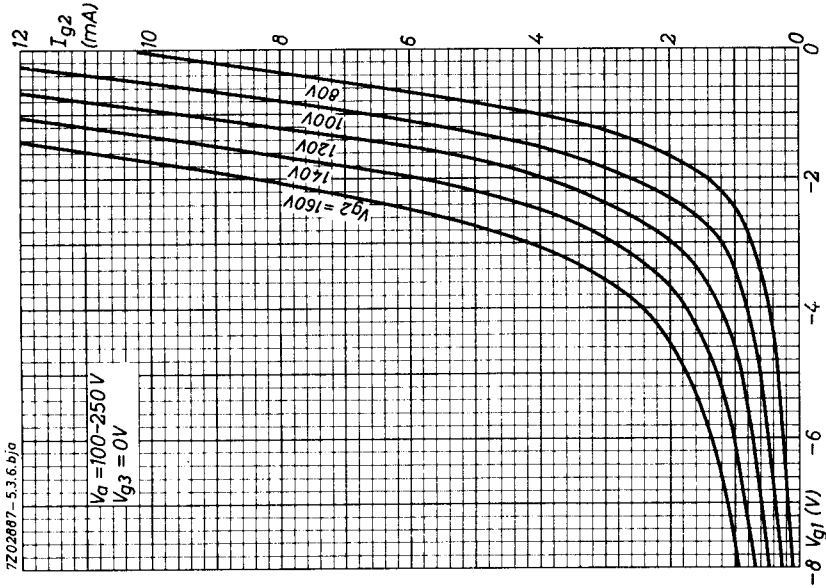
LIMITING VALUES (Design centre rating system)Pentode section

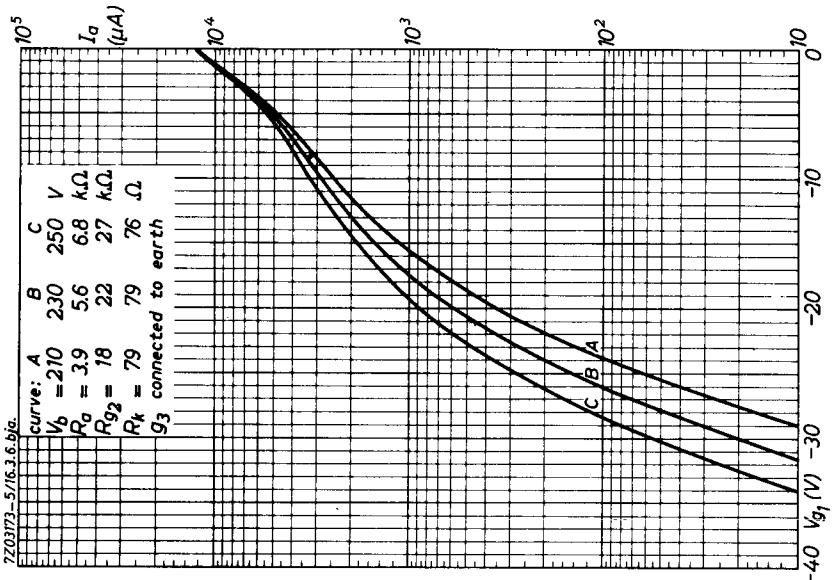
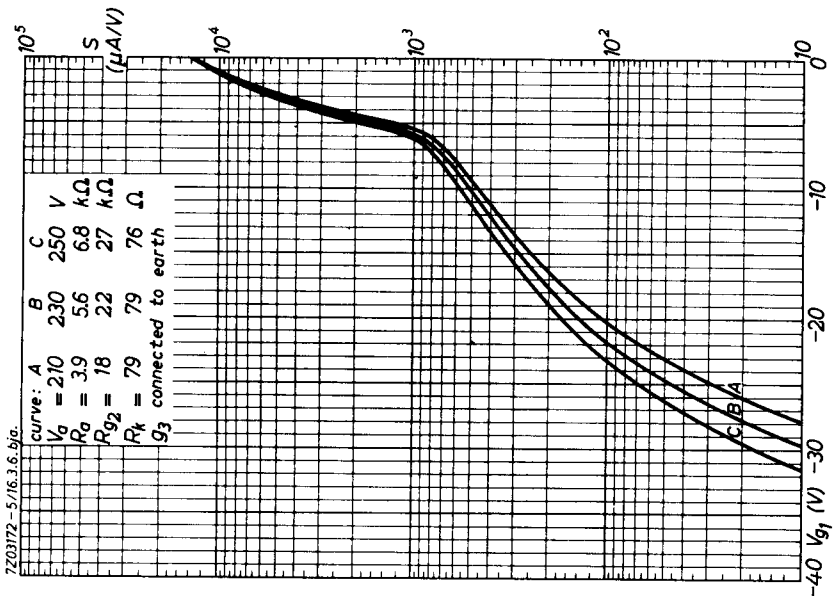
Anode voltage	V_{a0}	max. 550 V
	V_a	max. 250 V
Anode dissipation	W_a	max. 2.1 W
Grid No.2 voltage	V_{g20}	max. 550 V
	V_{g2}	max. 250 V
Grid No.2 dissipation	W_{g2}	max. 0.7 W
Grid No.1 resistor	R_{g1}	max. 1 M Ω
Cathode current	I_k	max. 20 mA
Cathode to heater voltage	V_{kf}	max. 150 V

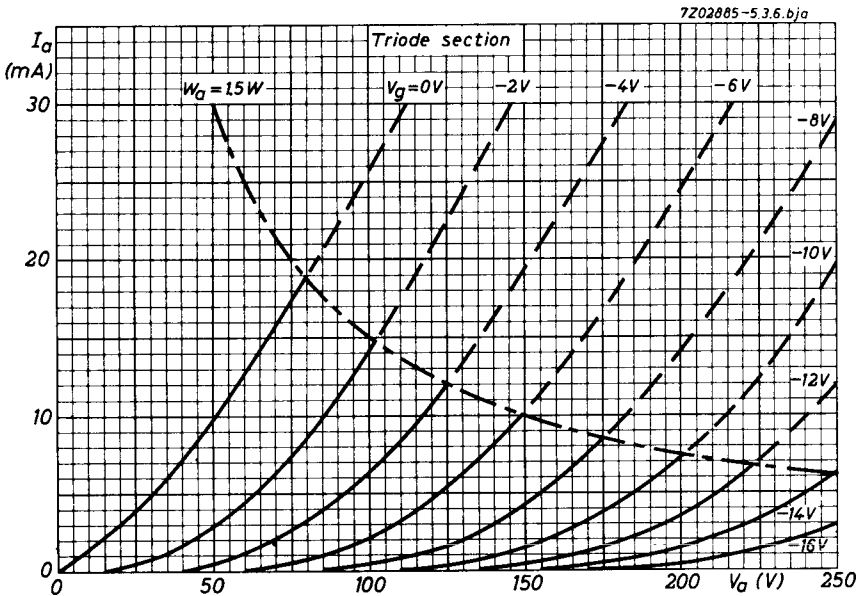
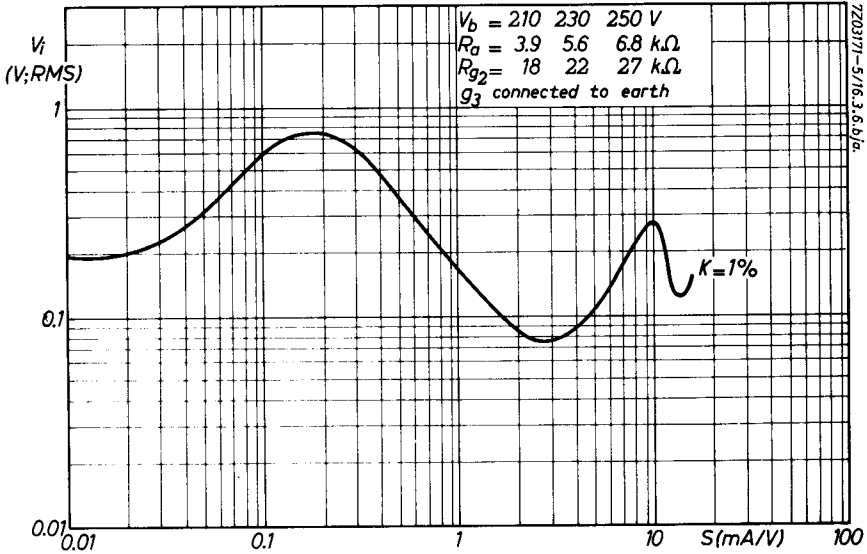
Triode section

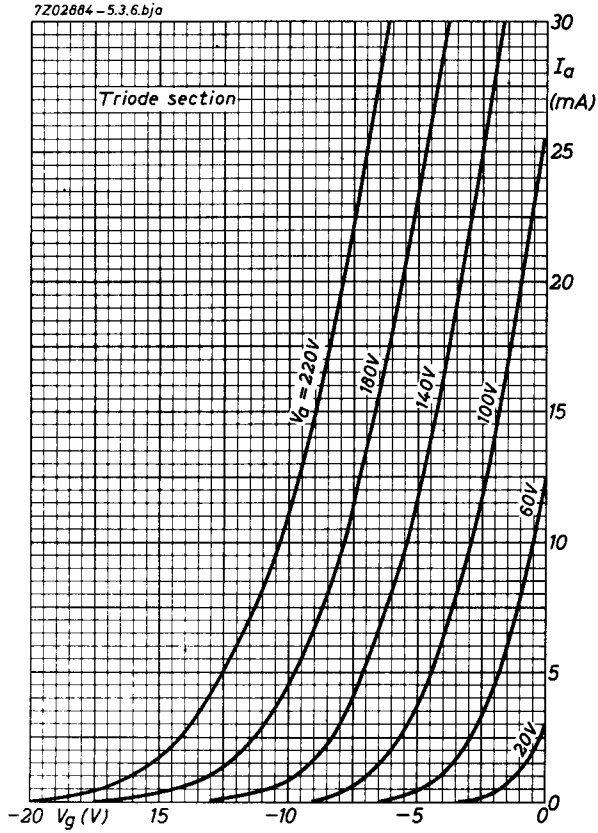
Anode voltage	V_{a0}	max. 550 V
	V_a	max. 250 V
Anode dissipation	W_a	max. 1.5 W
Grid resistor	R_g	max. 1 M Ω
Cathode current	I_k	max. 18 mA
Peak cathode current	I_{kp}	max. 50 mA ¹⁾
Cathode to heater voltage	V_{kf}	max. 150 V

¹⁾ Maximum pulse duration 10% of a cycle but max. 10 μ s.









PHILIPS

Data handbook



Electronic
components
and materials

PCF201

page	sheet	date
1	1	1969.12
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8	8	1969.12
9	FP	1999.08.01