

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

Pentode section

Anode current	I_a	13 mA
Transconductance	S	12.6 mA/V
Amplification factor	$\mu_{g_2g_1}$	45 -

Triode section

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

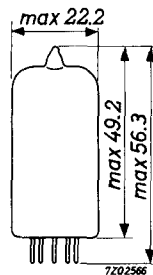
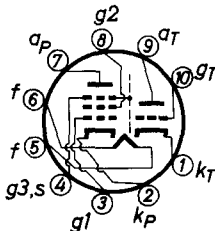
HEATING: Indirect by A.C. or D.C.; series supply

Heater current	I_f	300 mA
Heater voltage	V_f	8.5 V

DIMENSIONS AND CONNECTIONS

Dimensions in mm

Base: Decal



CAPACITANCESPentode section

Anode to all except grid No.1	$C_{a(g_1)}$	3.3 pF
Grid No.1 to all except anode	$C_{g1(a)}$	6.0 pF
Grid No.1 to cathode	C_{kg1}	3.7 pF
Anode to grid No.1	C_{ag1}	0.0056 pF
Grid No.1 to grid No.2	C_{ag1}	max. 0.008 pF
	C_{g1g2}	1.7 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_{g1PaT}	max. 0.0012 pF
Pentode grid No.1 to triode grid	C_{g1PgT}	max. 0.0015 pF

TYPICAL CHARACTERISTICSPentode section

Anode voltage	V_a	160 V
Grid No.3 voltage	V_{g3}	0 V
Grid No.2 voltage	V_{g2}	110 V
Grid No.1 voltage	V_{g1}	-1.4 V
Anode current	I_a	13 mA
Grid No.2 current	I_{g2}	5.3 mA
Transconductance	S	12.6 mA/V
Amplification factor	μ_{g2g1}	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 CHARACTERISTICSPentode 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 Ω
Grid No.2 resistor	R_{g2}	18	22	27	k Ω
Cathode resistor	R_k	79	79	76	Ω
Anode current	I_a	13.2	13.2	12.8	mA
Grid No.2 current	I_{g2}	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_{g1}	-5.1	-5.4	-5.7	V
Grid No.1 voltage at 0.01 S	V_{g1}	-19	-20.5	-22	V
Grid No.1 input resistance at 40 MHz	r_{g1}	7.4	7.4	7.4	k Ω

Triode section as line-blocking oscillator

Anode voltage	V_a	30	V
Peak cathode current	I_{kp}	40	mA
Peak anode current	I_{ap}	25	mA
Peak grid current	I_{gp}	15	mA

Triode section as sync. separator

Anode supply voltage	V_{ba}	130 to 150	V
Anode resistor	R_a	33	k Ω
Grid current	I_g	1	μ A
Anode current	I_a	min. 2	mA

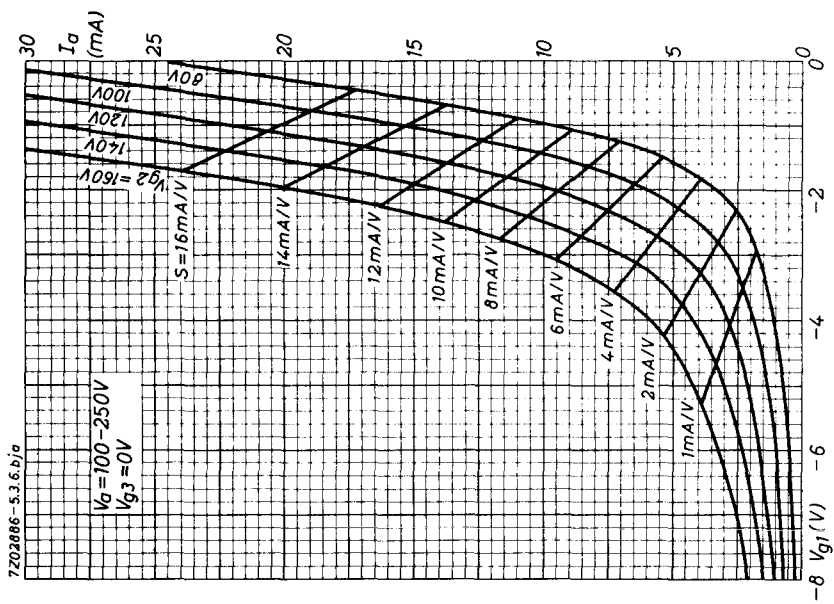
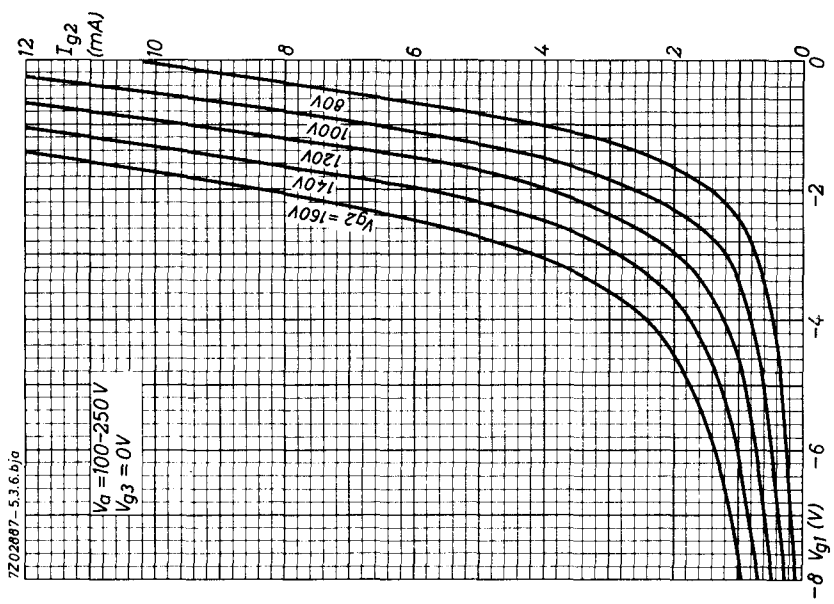
LIMITING VALUES (Design centre rating system)Pentode section

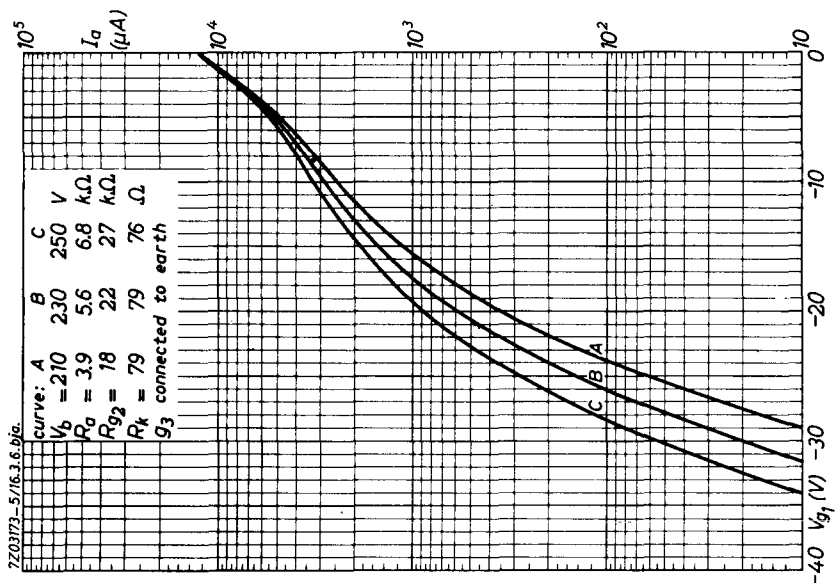
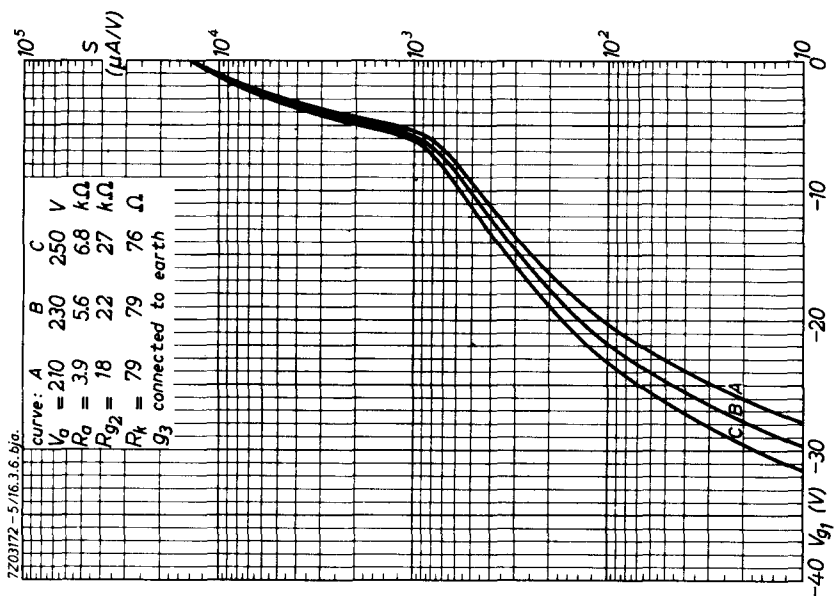
Anode voltage	V_{a_o}	max. 550 V
	V_a	max. 250 V
Anode dissipation	W_a	max. 2.1 W
Grid No.2 voltage	$V_{g_{2o}}$	max. 550 V
	V_{g_2}	max. 250 V
Grid No.2 dissipation	W_{g_2}	max. 0.7 W
Grid No.1 resistor	R_{g_1}	max. 1 $M\Omega$
Cathode current	I_k	max. 20 mA
Cathode to heater voltage	V_{kf}	max. 150 V

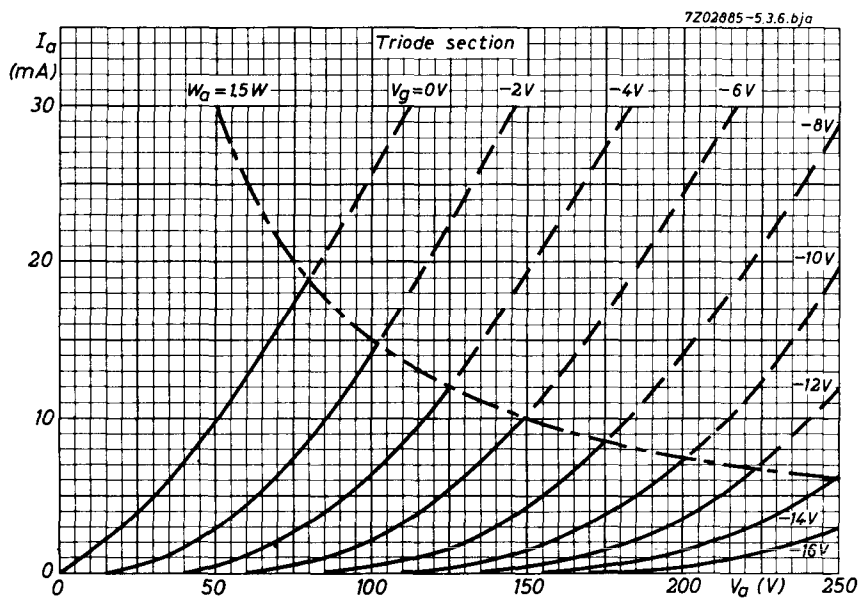
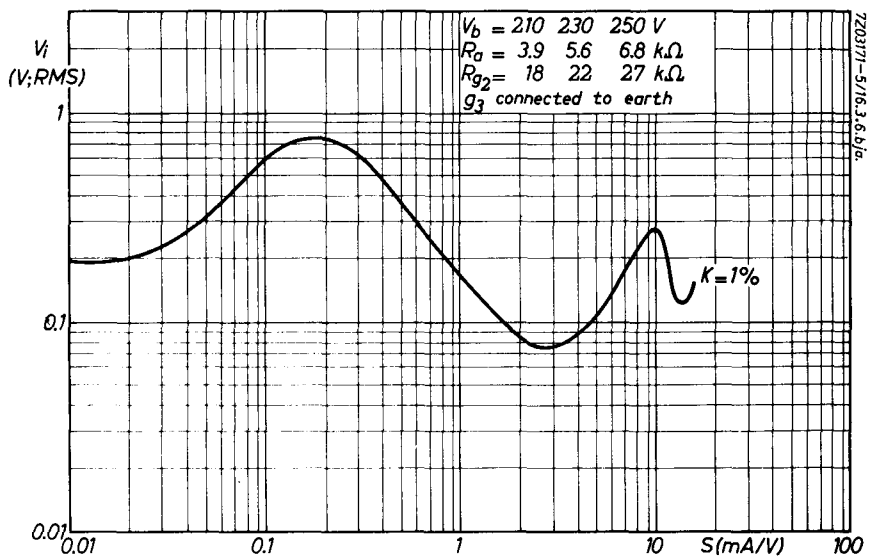
Triode section

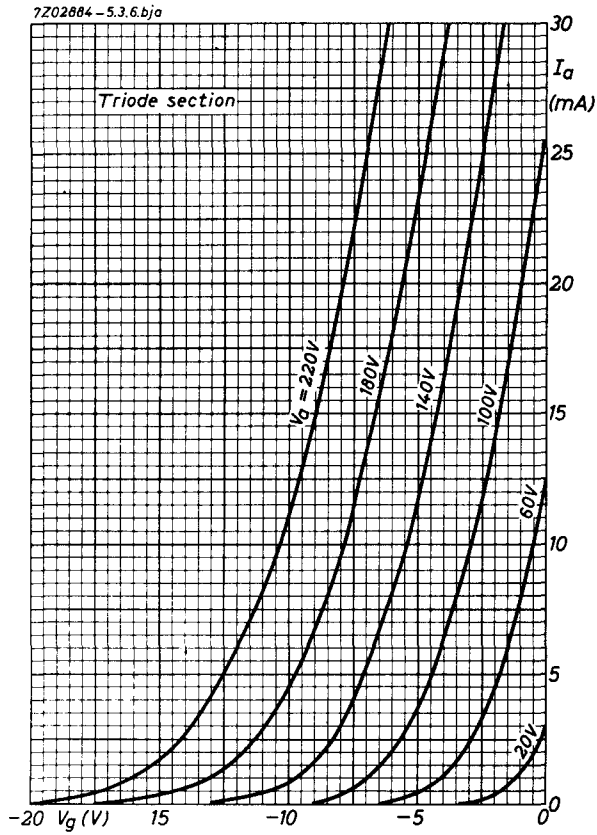
Anode voltage	V_{a_o}	max. 550 V
	V_a	max. 250 V
Anode dissipation	W_a	max. 1.5 W
Grid resistor	R_g	max. 1 $M\Omega$
Cathode current	I_k	max. 18 mA
Peak cathode current	I_{k_p}	max. 50 mA ¹⁾
Cathode to heater voltage	V_{kf}	max. 150 V

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









PHILIPS

Data handbook



**Electronic
components
and materials**

PCF201

page	sheet	date
1	1	1969.12
2	2	1969.12
3	3	1969.12
4	4	1969.12
5	5	1969.12
6	6	1969.12
7	7	1969.12
8	8	1969.12
9	FP	1999.08.01