

LINE OUTPUT PENTODE

Pentode intended for use as line output tube in television receivers.

QUICK REFERENCE DATA

Anode peak voltage	V_{ap}	max. 7 kV
Cathode current	I_k	max. 200 mA
Drive at $V_{ap} = 7$ kV		min. 120 V

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

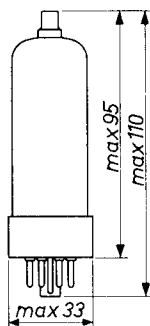
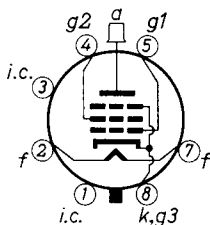
Heater current	I_f	300 mA
Heater voltage	V_f	25 V

DIMENSIONS AND CONNECTIONS

Base: Octal

Top cap: Type 1

Dimensions in mm



CAPACITANCES

Anode to all except grid No. 1

$C_{a(g_1)}$ 8 pF

Grid No. 1 to all except anode

$C_{g_1(a)}$ 17.5 pF

Anode to grid No. 1

C_{ag_1} max. 1.1 pF

TYPICAL CHARACTERISTICS

Anode voltage	V_a	100 V
Grid No.2 voltage	V_{g2}	100 V
Grid No.1 voltage	V_{g1}	-8.2 V
Anode current	I_a	100 mA
Grid No.2 current	I_{g2}	7 mA
Transconductance	S	14 mA/V
Amplification factor	μ_{g2g1}	5.6
Internal resistance	R_i	5 k Ω

REMARKS

On pages D to M curves are given for nominal new tubes. On designing a line output circuit it has to be taken into account that due to tube spread and deterioration during life the current may be reduced by 25%.

When the tube is operated below the knee of its I_a - V_a characteristic the screen grid series resistor must have a minimum value of 2.2 k Ω to avoid the occurrence of Barkhausen oscillations.

The min. drive at $V_{ap} = 5$ kV is 100 V

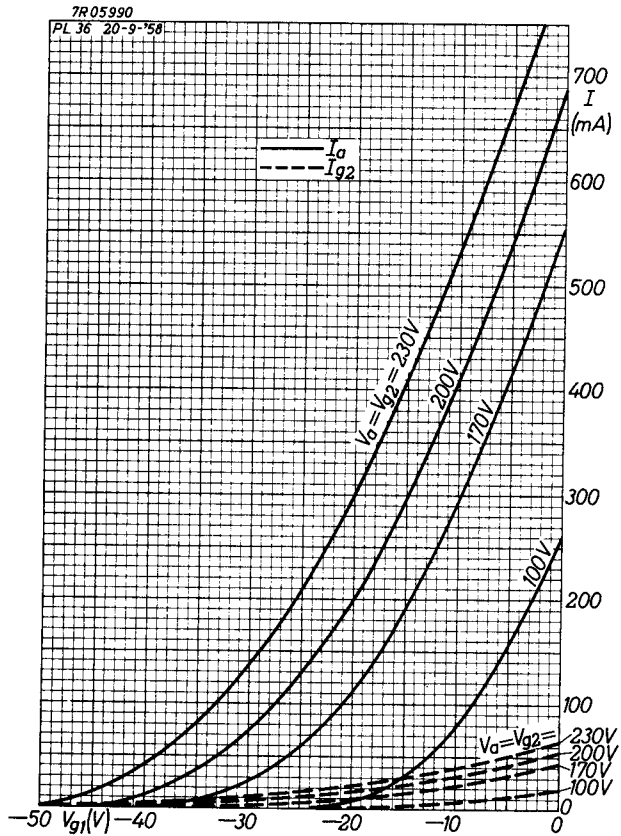
and at $V_{ap} = 7$ kV 120 V

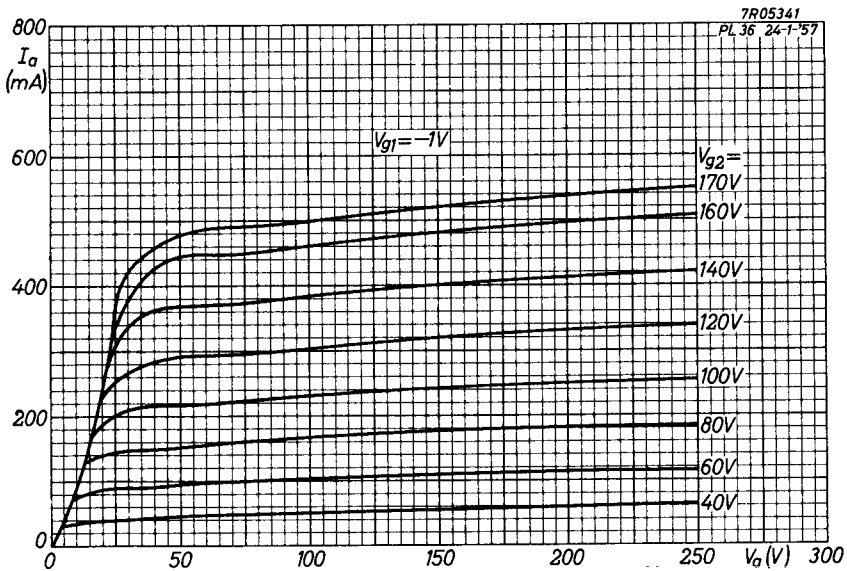
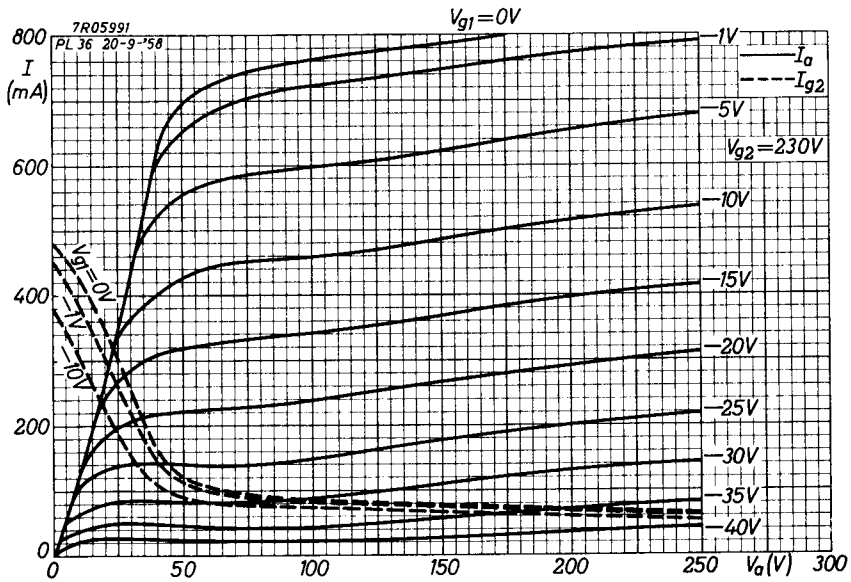
LIMITING VALUES (Design centre rating system)

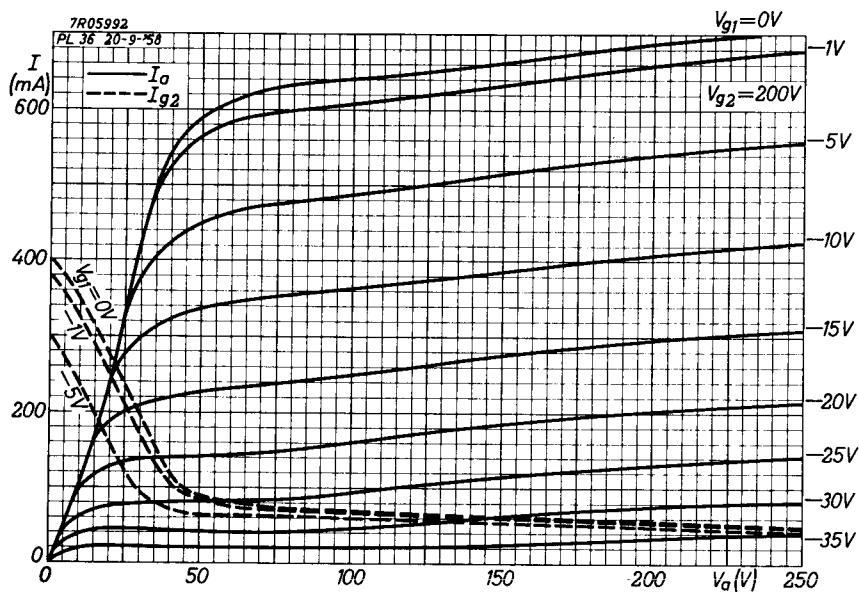
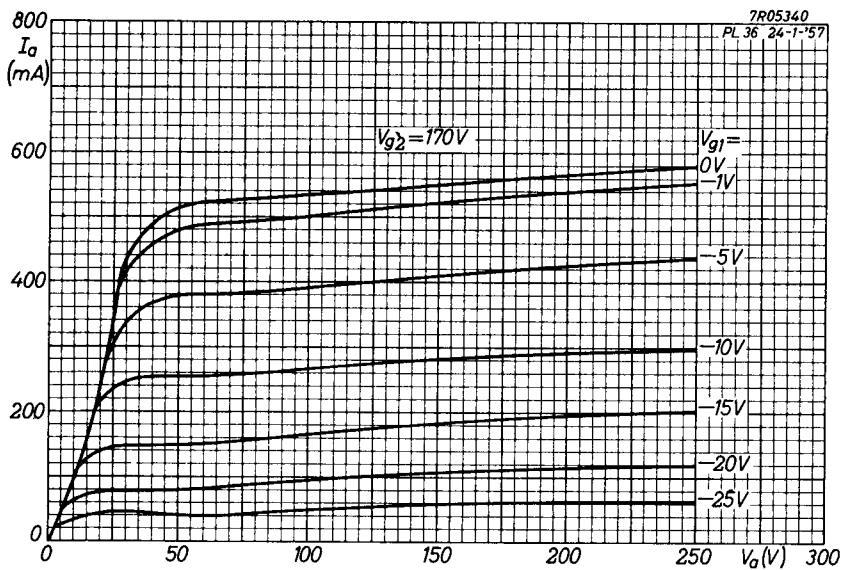
Anode voltage	V_{a0}	max. 550 V
	V_a	max. 250 V
Anode peak voltage		
positive	V_{ap}	max. 7 kV ¹⁾
negative	$-V_{ap}$	max. 1.5 kV ¹⁾
Grid No.2 voltage	V_{g20}	max. 550 V
	V_{g2}	max. 250 V
Grid No.1 peak voltage	V_{g1p}	max. 1 kV ¹⁾
Anode dissipation	W_a	} See page 7
Grid No.2 dissipation	W_{g2}	
Anode + grid No.2 dissipation	$W_a + W_{g2}$	
Cathode current	I_k	max. 200 mA
Grid No.1 resistor	R_{g1}	max. 0.5 M Ω ²⁾
Cathode to heater voltage		
A.C. value	V_{kf}	max. 250 V _{RMS}
D.C. value, k pos.	V_{kf}	max. 250 V
D.C. value, k neg.	V_{kf}	max. 200 V

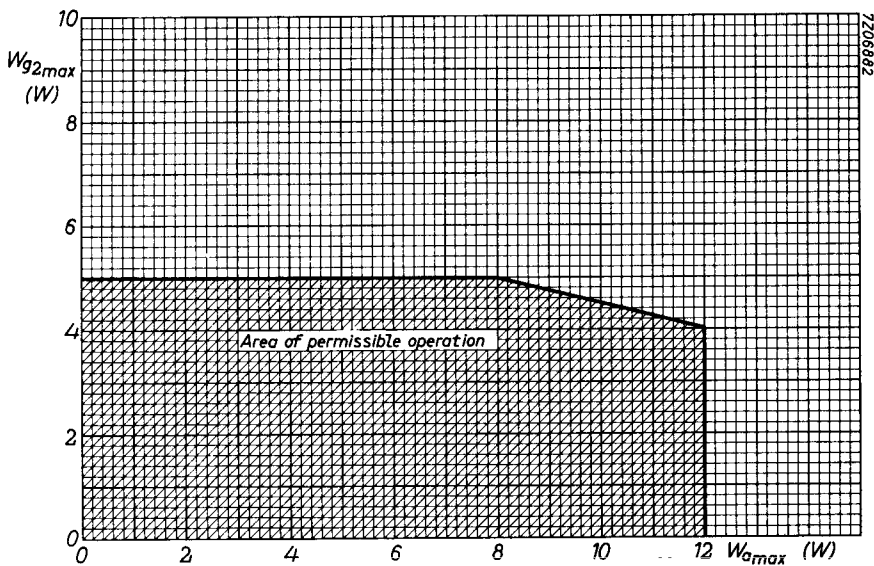
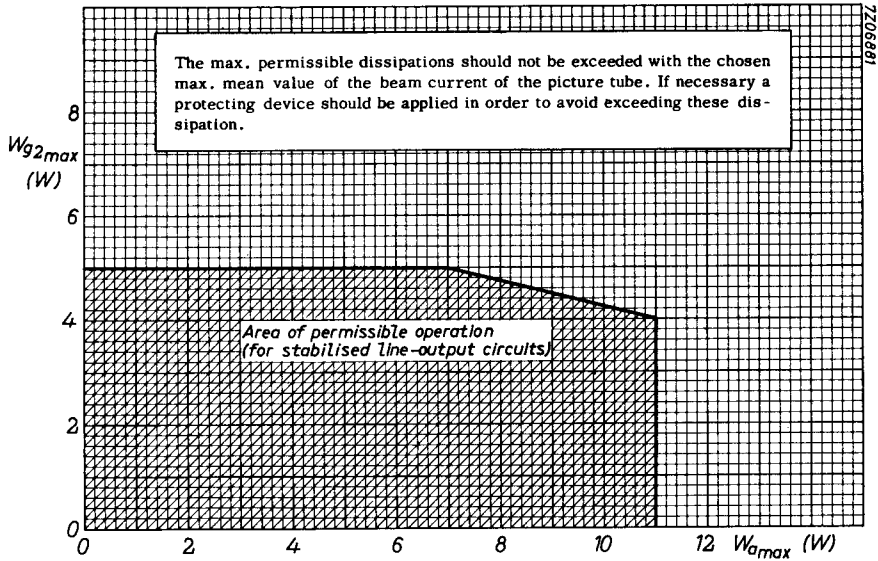
¹⁾ Valid for application in line output circuits where the max. pulse duration is 22% of a cycle with a max. of 18 μ s.

²⁾ R_{g1} = max. 2.2 M Ω for line output application only.









PHILIPS

Data handbook



**Electronic
components
and materials**

PL36

page	sheet	date
1	1	1969.01
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4	4	1969.01
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6	6	1969.01
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8	FP	1999.03.19