R.F. DOUBLE TRIODE

Double triode with variable transconductance intended for use as V.H.F. cascode amplifier in television receivers.

QUICK REFERENCE DATA			
Anode current	I_a	15	mA
Transconductance	S	12.5	mA/V
Amplification factor	μ	31	-

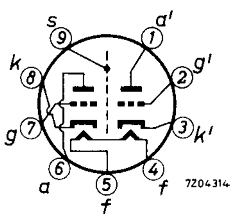
HEATING: Indirect by A.C. or D.C.; series supply

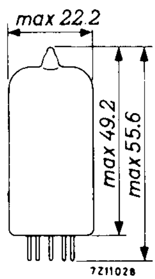
Heater current	I_f	300	mA
Heater voltage	V_f	7.6	V

DIMENSIONS AND CONNECTIONS

Dimensions in mm

Base: Noval





CAPACITANCES

		with external screen 22.2 mm diam.	without external screen	
Grid to cathode + heater + screen	$C_{g/kfs}$	3.5	3.5	pF
Anode to cathode + heater + screen	$C_{a/kfs}$	2.3	1.7	pF
Anode to grid	C_{ag}	1.9	1.9	pF
Grid to heater	C_{gf}	max. 0.28	max. 0.28	pF
Cathode to grid + heater + screen	$C_{k'/g'fs}$	6.0	6.0	pF
Anode to grid, heater + screen	$C_{a'/g'fs}$	4.0	3.4	pF
Anode to cathode	$C_{a'k'}$	0.17	0.18	pF
Cathode to heater	$C_{k'f}$	2.7	2.7	pF
Anode to grid	$C_{a'g'}$	1.9	1.9	pF
Anode to anode	$C_{aa'}$	max. 0.015	max. 0.045	pF
Grid to anode other unit	$C_{ga'}$	max. 0.004	max. 0.004	pF

TYPICAL CHARACTERISTICS (each unit)

Anode voltage	V_a	90	V
Grid voltage	V_g	-1.4	V
Anode current	I_a	15	mA
Transconductance	S	12.5	mA/V
Internal resistance	R_i	2.5	kΩ
{ Grid voltage	V_g	-5	V
{ Transconductance	S	0.625	mA/V
{ Grid voltage	V_g	-9	V
{ Transconductance	S	0.125	mA/V

LIMITING VALUES (Design centre rating system) (Each unit)

Anode voltage	V_{a_o}	max.	550	V
	V_a	max.	130	V
Anode dissipation	W_a	max.	1.8	W
Grid voltage	$-V_g$	max.	50	V
Grid resistor				
unit a, g, k	R_g	max.	1	MΩ
unit a', g', k'	$R_{g'}$	max.	0.5	MΩ
Cathode current	I_k	max.	22	mA
Cathode to heater voltage				
unit a, g, k	V_{kf}	max.	80	V
unit a', g', k' (cathode positive)	$V_{k'f}$	max.	180	V [1]

REMARKS

In order not to exceed the maximum permissible anode voltage when the tube is controlled, it is necessary to use a voltage divider for the grid of the grounded grid section.

The system a, g, k should be used as the grounded cathode input section and the system a', g', k' as the grounded grid output section.

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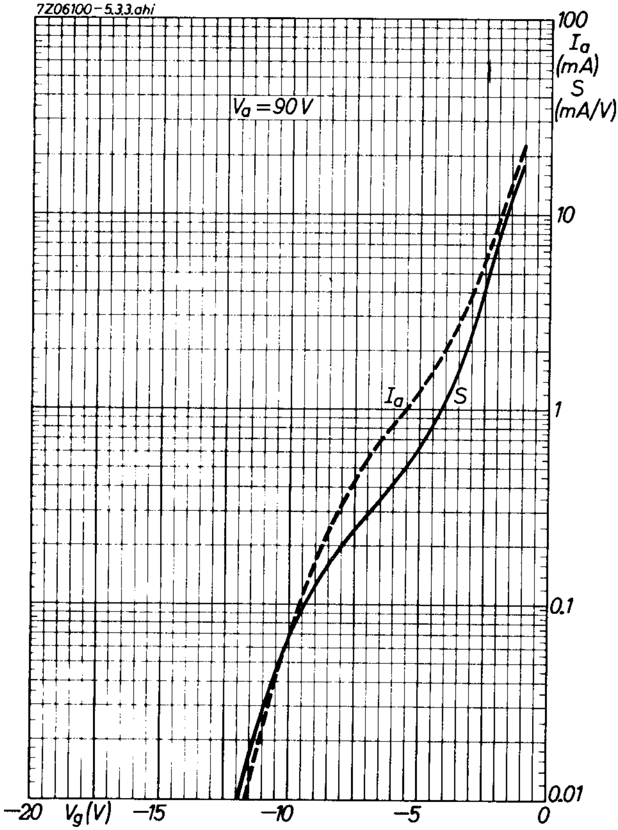
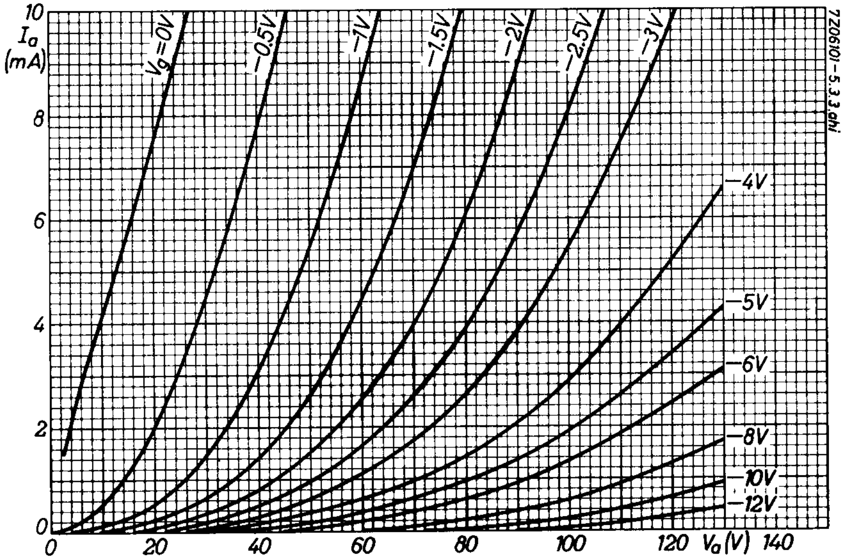
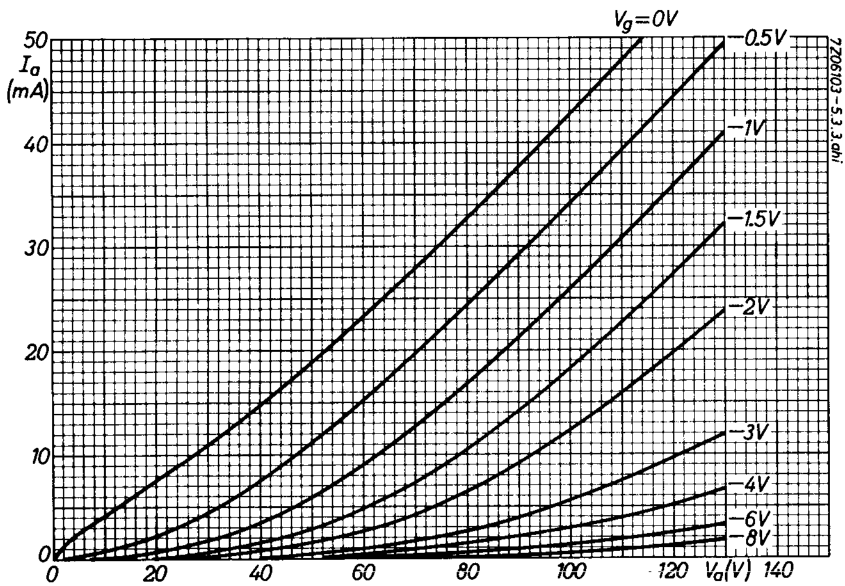
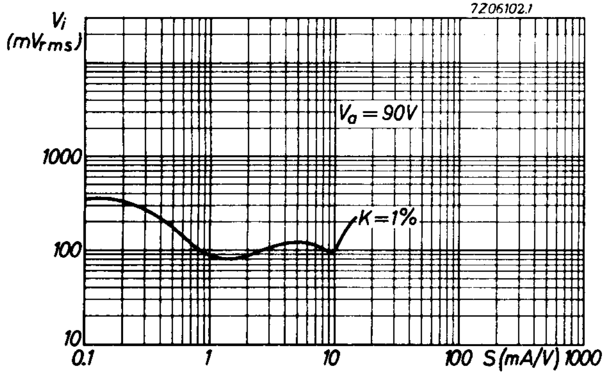
[1]) D.C. component max. 130 V.


7Z06100-5.3.3.ahi
$V_a = 90\,V$
100
I_a
(mA)
S
(mA/V)
10
1
0.1
0.01
I_a
S
−20
V_g (V)
−15
−10
−5
0


10
I_a
(mA)
8
6
4
2
0
0
20
40
60
80
100
120
V_a(V)
140
V_g=0V
−0.5V
−1V
−1.5V
−2V
−2.5V
−3V
−4V
−5V
−6V
−8V
−10V
−12V
7Z06101−5.3.3.ahi


50
I_a
(mA)
40
30
20
10
0
0
20
40
60
80
100
120
V_a(V)
140
V_g=0V
−0.5V
−1V
−1.5V
−2V
−3V
−4V
−6V
−8V
7Z06103−5.3.3.ahi


7Z06102.1
V_i (mV_{rms})
1000
100
10
$V_a = 90V$
$K = 1\%$
0.1
1
10
100
S (mA/V)
1000

PHILIPS

Data handbook

Electronic components and materials

PCC189

page	sheet	date
1	1	1969.12
2	2	1969.12
3	3	1969.01
4	4	1969.01
5	5	1969.01
6	6	1969.12
7	FP	1999.07.31