H.F. TRIODE

Triode intended for use as H.F. amplifier, oscillator, mixer and in frame deflection circuits and line deflection circuits of TV receivers.

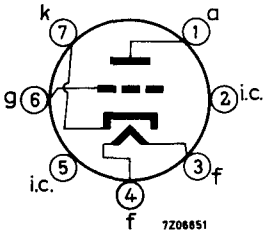
QUICK REFERENCE DATA			
Anode current	I_a	12	mA
Transconductance	S	7.2	mA/V
Amplification factor	μ	67	-

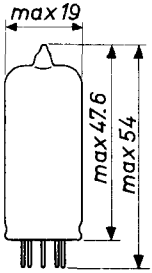
HEATING: Indirect by A.C. or D.C.; series supply

Heater current	I_f	300	mA
Heater voltage	V_f	3.1	V

DIMENSIONS AND CONNECTIONS Dimensions in mm

Base: 7 pin miniature





LIMITING VALUES (Design centre rating system)

Anode voltage	V_{a_o}	max.	550	V
	V_a	max.	250	V
Anode dissipation	W_a	max.	2.5	W
Grid voltage	$-V_g$	max.	50	V
Cathode current, average	I_k	max.	15	mA
peak	I_{k_p}	max.	150	mA [3]
Cathode to heater voltage (k pos.)	V_{kf}	max.	250	V [1]
(k neg.)	V_{kf}	max.	250	V
	(D.C. component max. 100 V)			
Grid resistor (automatic bias)	R_g	max.	1	MΩ

OPERATING CONDITIONS AS BLOCKING OSCILLATOR

To take into account the tube tolerances, the decrease of the characteristics during life and the decrease of the emission at underheating, the circuit should be designed so that acceptable performance is obtained with a cathode peak current of 100 mA [2] (150 mA [3]). It is recommended to limit the peak current of new tubes by an automatic amplitude limiting circuit e.g. by the use of non by-passed grid and anode resistors.

[1]) During the warm-up period of the tubes V_{kf} (k pos.) (D.C. component) max. 315 V.

[2]) Pulse duration 4% of a cycle and max. 0.8 ms.

[3]) Pulse duration 1% of a cycle and max. 0.2 ms.

CAPACITANCES

Grounded cathode circuit

without external shield

Input	C_i	2.8	pF
Output	C_o	0.55	pF
Anode to grid	C_{ag}	1.8	pF

With external shield 19.5 mm diameter

Anode to cathode, heater and shield	$C_{a/kfs}$	1.4	pF
Cathode to grid, heater and shield	$C_{k/gfs}$	4.7	pF
Anode to grid, heater and shield	$C_{a/gfs}$	2.9	pF

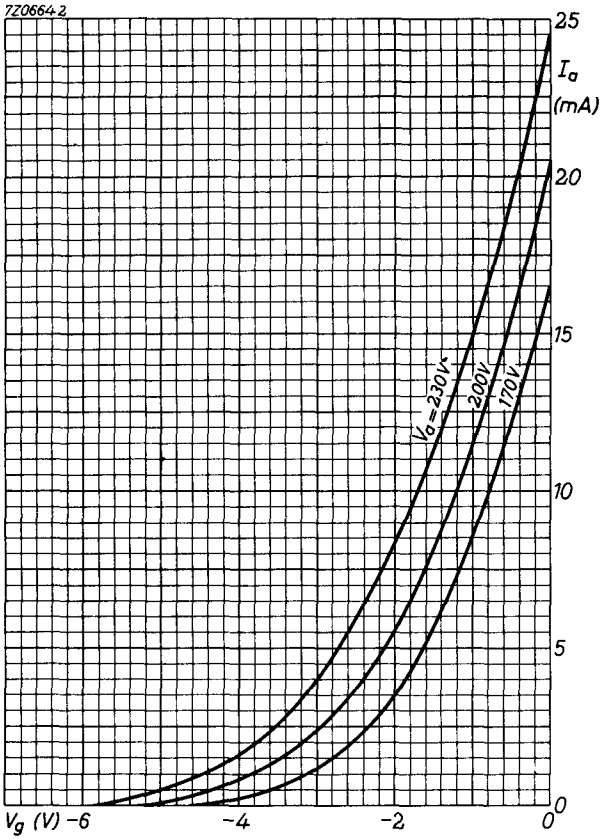
Grounded grid circuit

without external shield

Input	C_i	4.6	pF
Output	C_o	2.0	pF
Anode to cathode	C_{ak}	0.24	pF
Cathode to heater	C_{kf}	2.0	pF
Grid to heater	C_{gf}	max. 0.15	pF

TYPICAL CHARACTERISTICS

Anode voltage	V_a	100	170	200	230	V
Grid voltage	V_g	-0.9	-1.0	-0.9	-1.6	V
Anode current	I_a	3.0	8.5	12.0	10.5	mA
Transconductance	S	3.8	6.0	7.2	6.0	mA/V
Amplification factor	μ	58	65	67	62	-
Equivalent noise resistance	R_{eq}		0.5	0.4	0.5	kΩ


7Z06642
25
I_a
(mA)
20
15
10
5
0
V_a=230V
200V
170V
V_g (V) −6
−4
−2
0

PHILIPS

Data handbook

Electronic components and materials

PC92

page	sheet	date
1	1	1969.01
2	2	1969.01
3	3	1969.01
4	4	1969.01
5	FP	1999.07.30