

DOUBLE DIODE-TRIODE

Double diode-triode. Triode intended for use as A.F. amplifier.

QUICK REFERENCE DATA

Triode section

Anode current	I_a	1.0 mA
Transconductance	S	1.2 mA/V
Amplification factor	μ	70 -

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

Heater voltage

V_f 6.3 V

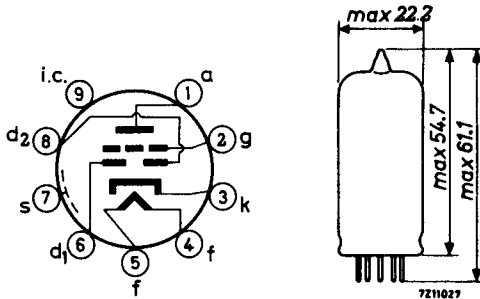
Heater current

I_f 230 mA

DIMENSIONS AND CONNECTIONS

Dimensions in mm

Base: Noval



CAPACITANCESTriode section

Grid to all except anode	$C_{g(a)}$	2.3 pF
Anode to all except grid	$C_{a(g)}$	2.3 pF
Anode to grid	C_{ag}	1.2 pF
Grid to heater	C_{gf}	max. 0.05 pF

Diode sections

Diode No. 1 to all	C_{d1}	0.9 pF
Diode No. 2 to all	C_{d2}	0.9 pF
Diode No. 1 to diode No. 2	C_{d1d2}	max. 0.2 pF
Diode No. 1 to heater	C_{d1f}	max. 0.25 pF
Diode No. 2 to heater	C_{d2f}	max. 0.05 pF

Between diode and triode sections

Diode No. 1 to grid	C_{d1g}	max. 0.007 pF
Diode No. 2 to grid	C_{d2g}	max. 0.007 pF
Diode No. 1 to anode	C_{d1a}	max. 0.005 pF
Diode No. 2 to anode	C_{d2a}	max. 0.010 pF

TYPICAL CHARACTERISTICSTriode section

Anode voltage	V_a	250 V
Grid voltage	V_g	-3 V
Anode current	I_a	1.0 mA
Transconductance	S	1.2 mA/V
Amplification factor	μ	70 -
Internal resistance	R_i	58 k Ω
Equivalent noise resistance (A.F.)	R_{eq}	max. 150 k Ω

OPERATING CHARACTERISTICS

Triode section as A.F. amplifier, circuit Fig.1

Supply voltage	V_b	250	250	250	250	V
Anode resistor	R_a	0.22	0.1	0.22	0.1	M Ω
Cathode resistor	R_k	1.8	1.2	0	0	k Ω
Grid resistor	R_g	1	1	22	22	M Ω
Grid resistor next stage	$R_{g'}$	0.68	0.33	0.68	0.33	M Ω
Anode current	I_a	0.70	1.15	0.76	1.40	mA
Voltage gain	V_o/V_i	51	43	52	44	-
Distortion:						
at output voltage $V_o = 5$ VRMS	d_{tot}	0.55	0.6	0.5	0.7	%
at output voltage $V_o = 10$ VRMS	d_{tot}	0.9	1.1	0.8	0.9	%

Microphony

No special precautions against microphony are required in circuits where the input voltage is min. 10 mV for 50 mW output of the output tube.

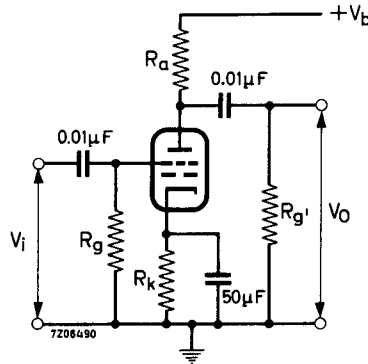


fig. 1

LIMITING VALUES (Design centre rating system)Triode section

Anode voltage	V_{a0}	max. 550 V
	V_a	max. 300 V
Anode dissipation	W_a	max. 0.5 W
Cathode current	I_k	max. 5 mA
Grid resistor	R_g	max. 3 M Ω
Cathode to heater voltage	V_{kf}	max. 100 V

Diode sections (each diode)

Diode voltage, negative peak	$-V_{dp}$	max. 350 V
Diode current, average	I_d	max. 0.8 mA
peak	I_{dp}	max. 5 mA
Cathode to heater voltage	V_{kf}	max. 100 V

Note

The use of a socket with skirt is advisable to reduce the capacitances between tube elements and external conductors.

PHILIPS

Data handbook



Electronic
components
and materials

EBC81

page	sheet	date
1	1	1970.01
2	2	1970.01
3	3	1970.01
4	4	1972.01
5	FP	1999.08.14