

AIR COOLED R.F. POWER TRIODE

Forced-air cooled coaxial power triode in metal-ceramic construction primarily intended for use as R. F. class AB linear broadband amplifier in TV transposer service at frequencies up to 1000 MHz.

QUICK REFERENCE DATA

Transposer service (combined sound and vision)			
Frequency	f	470 to 860	MHz
Anode voltage	V_a	3000	V
Output power in the load (sync)	W_l	220	W
Power gain	G	16,5	dB

HEATING : indirect, by a. c. (50 Hz to 400 Hz) or d. c. ; oxide coated cathode.

Heater voltage	V_f	6,0 to 6,3	$V \pm 5\% \text{ } ^1$
Heater current	I_f	4,8 to 5,8	A
Cathode heating time	T_h min.	180	s

CAPACITANCES

Anode to grid	C_{ag}	6,8 to 8	pF
Grid to cathode and heater	$C_{g/kf}$	20 to 30	pF
Anode to cathode and heater	$C_{a/kf}$	90 to 180	FF

TYPICAL CHARACTERISTICS

Anode voltage	V_a	3	kV
Anode current	I_a	400	mA
Transconductance	S	70	mA/V
Amplification factor	μ	90	

TEMPERATURE LIMITS

Absolute max. temperature measured at reference points	t max.	250	$^{\circ}\text{C}$
--	----------	-----	--------------------

To obtain optimum life, this temperature should not exceed 200 $^{\circ}\text{C}$.

¹) The heater voltage must be adjusted between 6,0 and 6,3 V.

For optimum performance (linearity) the voltage set must be maintained within $\pm 2\%$ for transposer service, or $\pm 5\%$ for other applications.

COOLING

Anode: forced air

W_a (W)	t_i (°C)	q_{min} (m ³ /min)	P_1 (mm H ₂ O)
1800	25	2,5	22

Other terminals: low velocity air flow.

When only the heater voltage is applied, the heater and heater/cathode terminals should also be cooled.

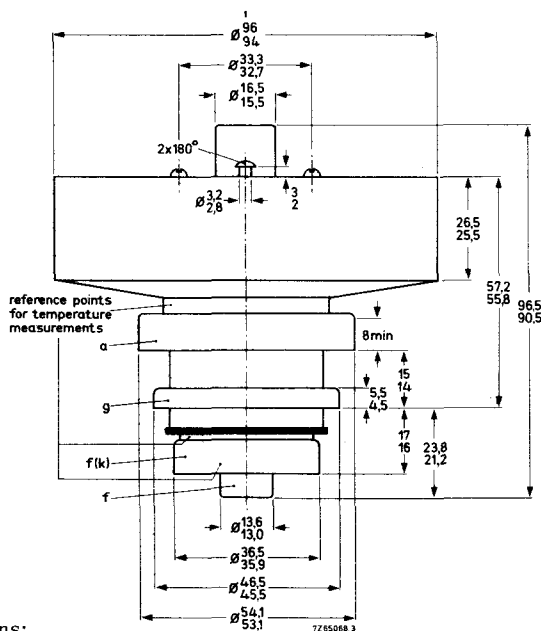
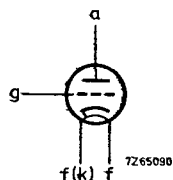
Cooling air and voltages may be switched off simultaneously.

MECHANICAL DATA

Dimensions in mm

Net weight : approx. 1000 g

Mounting position: any



The radiator and the terminals are situated within concentric cylinders of the following dimensions:

Radiator	97,0 dia
Anode terminal	55,1 dia
Grid terminal	47,0 dia
Heater/cathode terminal	37,0 dia
Heater terminal	14,5 dia

R.F. CLASS AB AMPLIFIER FOR TV TRANSPOSER SERVICE

grounded grid

LIMITING VALUES (Absolute max. rating system)

Frequency	f	up to	1000	MHz
Anode voltage	V_a	max.	3500	V
Grid voltage	$-V_g$	max.	200	V
Anode dissipation	W_a	max.	1800	W
Grid current	I_g	max.	± 5	mA
Cathode current	I_k	max.	550	mA ¹⁾

OPERATING CONDITIONS , grounded grid ²⁾³⁾

Standard		C. C. I. R - G	C. C. I. R - G	C. C. I. R - I	
Frequency	f	470 to 860	470 to 860	470 to 860	MHz
Anode voltage	V_a	3000	3000	3000	V
Grid voltage ⁴⁾	V_g	-30	-30	-30	V
Anode current, no signal	I_a	420	350	420	mA
Anode current at zero dB level (vision carrier)	I_a	650	550	650	mA
Grid current	I_g	≈ 0	≈ 0	≈ 0	mA
Driver output power (sync)	W_{dr}	7	8	7	W
Output power in load (sync)	W_l	220	220	220	W
Output power at $I_g = 0$	W_o	≥ 390	≥ 390	≥ 390	W
Power gain	G	16,5	16,0	16,5	dB
Intermodulation products	d	-57 ⁵⁾ < -55	-56 ⁵⁾ < -54	-55 ⁶⁾ < -53	dB

¹⁾ During a short period, for adjustment of the transmitter, I_k max. = 700 mA

²⁾ Negative modulation, positive synchronization, combined sound and vision.

³⁾ R.F. driving power should be applied after the heater and electrode voltages.

⁴⁾ To be adjusted for the stated no. signal anode current. Range values for equipment design -15 to -45 V.

⁵⁾ Three-tone test method (vision carrier -8 dB, sound carrier -10 dB, sideband signal -16 dB with respect to peak sync level = 0 dB.).

⁶⁾ Three-tone test method (vision carrier -8 dB, sound carrier -7 dB, sideband signal -17 dB with respect to peak sync level = 0 dB.).

