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 broad-band amplifier in T.V. transposer service at frequencies up to 960 MHz.

QUICK REFERENCE DATA			
Frequency	Transposer service (combined sound and vision)		
	V_a	W_f(sync)	Power gain
(MHz)	(V)	(W)	(dB)
470 - 860	2000	100	16

HEATING: indirect by A.C. (50 Hz to 400 Hz) or D.C.; oxide coated cathode.

Heater voltage For transposer application a heater voltage deviation within ± 2% is recommended	V_f	6.3	V ± 5%
Heater current	I_f	5.4	A
Cathode heating time	T_h	min. 180	s

CAPACITANCES

Anode to grid	C_{ag}	7.8	pF
Grid to cathode and heater	$C_{g/kf}$	27	pF
Anode to cathode and heater	$C_{a/kf}$	0.15	pF

TYPICAL CHARACTERISTICS

Anode voltage	V_a	2	kV
Anode current	I_a	250	mA
Transconductance	S	70	mA/V
Amplification factor	μ	80	

TEMPERATURE LIMITSTS

Absolute max. temperature measured at reference point	t	250	°C

Data based on pre-production tubes.

COOLING

Anode: forced air

W_a (W)	t_i (°C)	q_{min} (m^3/min)	p_i (mmH_2O)
900	25	1.5	50

Other terminals: low velocity air-flow.

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

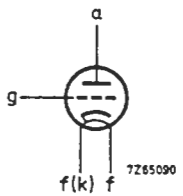
Cooling air and voltages may be switched of simultaneously.

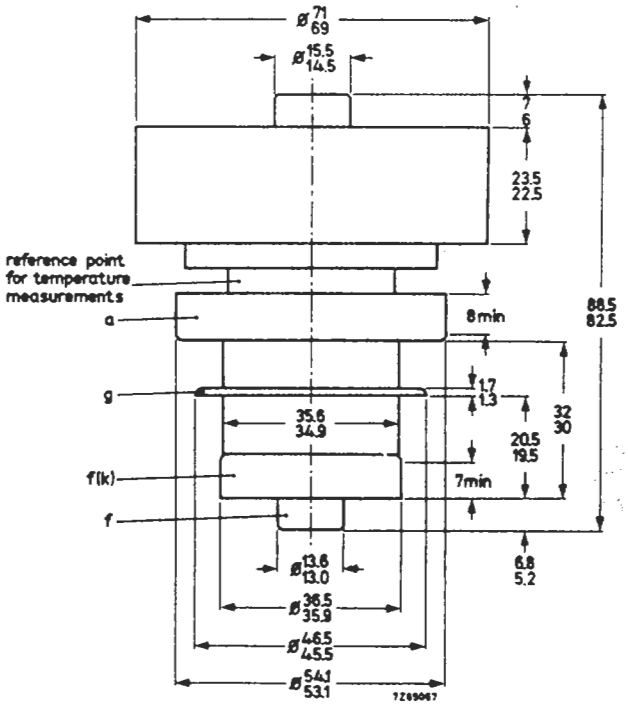
MECHANICAL DATA

Dimensions in mm

Net weight: approx.

Mounting position: any





YD1333

R.F. CLASS AB AMPLIFIER FOR TELEVISION TRANSPOSER SERVICE grounded grid

LIMITING VALUES (Absolute max. rating system)

Frequency	f	up to	960	MHz
Anode voltage	V_a	max.	3500	V
Grid voltage	$-V_g$	max.	200	V
Anode dissipation	W_a	max.	900	W
Grid dissipation	W_g	max.	0.5	W
Cathode current	I_k	max.	550	mA

OPERATING CONDITIONS grounded grid — CCIR Standard G 1)

Frequency	f	470 to	860	MHz
Anode voltage	V_a	2000		V
Grid voltage 2)	V_g	-20		V
Anode current, no-signal condition	I_a	250		mA
Anode current	I_a	410		mA
Grid current	I_g	0		mA
Driving power (sync)	W_{dr}	2.5		W
Output power in load (sync)	W_l	100		W
Power gain	G	16		dB
Intermodulation products 3)	d	$\leq$ 56		dB

1) Negative modulation, positive synchronisation, combined sound and vision.
2) To be adjusted for the stated no-signal anode current.
Range values -10 V to -30 V.
3) Three tone test method (vision carrier -8 dB, sound carrier -10 dB, sideband signal - 16 dB with respect to the sum signal amplitude of the composite signal).

COOLING

Anode: forced air

W_a W	t_i °C	q_{min} m³/min	p_i Pa
1000	25	0,7	20

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.

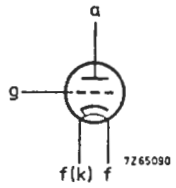
MECHANICAL DATA

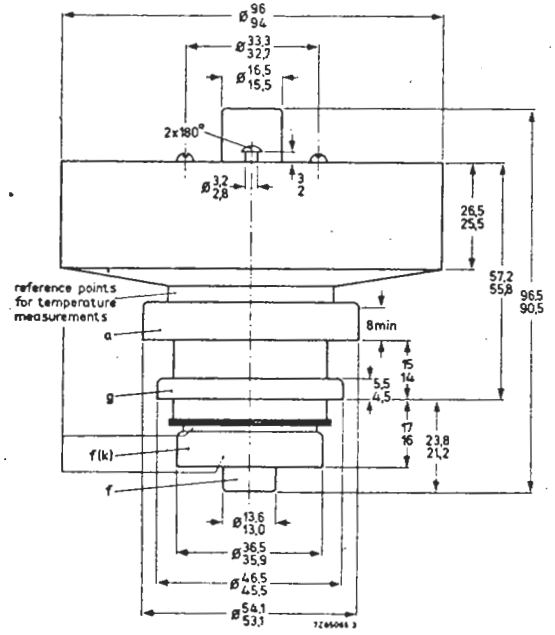
Dimensions in mm

Net mass: approx. 1000 g

Mounting position: any

Accessories: Band IV and V amplifier circuit assembly type 40771





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 maximum 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	(note 1)

OPERATING CONDITIONS, grounded grid (notes 2, 3)

Standard		CCIR-G	
Frequency	f	470 to 860	MHz
Bandwidth (−1 dB)	B	9	MHz
Anode voltage	V_a	2500	V
Grid voltage (note 4)	V_g	−25	V
Anode current, no signal (note 5)	I_a	200 to 300	mA
Anode current at zero dB level (vision carrier)	I_a	420 (< 500)	mA
Grid current	I_g	≈ 0	mA
Driver output power (sync)	W_{dr}	4	W
Output power in load (sync)	W_ℓ	110	W
Power gain	G	16,5	dB
Intermodulation products	d	−60 <−58	dB dB

Notes

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 zero-signal anode current stated on the measuring report supplied with each tube.
   Range values for equipment design −10 to −40 V.
   The stated no-signal anode current results in optimum linearity.
5. Three-tone method (vision carrier −8 dB, sound carrier −10 dB, sideband signal −16 dB with respect to peak sync level = 0 dB).