

AIR COOLED R.F. POWER TETRODE

QUICK REFERENCE DATA				
Freq. (Mhz)	Class B amplifier		Class AB 3SB	
	V_a (V)	W_{load} (W)	V_a (V)	$W_{o PEP}$ (W)
220 30	3000	1000	3000	> 1050

HEATING : indirect by a.c. or d.c.; oxide-coated cathode, matrix type

Heater voltage	V_f	5.0	$V \pm 3\%$
Heater current	I_f	18 < 20	A A
Waiting time	T_w min.	5	min

CAPACITANCES

Anode to cathode and heater	$C_{a/kf}$	< 0.08	pF
Anode to grid no.1	C_{aG1}	< 0.1	pF
Anode to grid no.2	C_{aG2}	13 to 17	pF
Grid no.1 to cathode and heater	$C_{G1/kf}$	33 to 42	pF
Grid no.1 to grid no.2	C_{G1G2}	48 to 64	pF
Grid no.2 to cathode and heater	$C_{G2/kf}$	< 1.7	pF

TYPICAL CHARACTERISTICS

Anode voltage	V_a	3	kV
Grid no.2 voltage	V_{G2}	550	V
Anode current	I_a	500	mA
Transconductance	S	20	mA/V
Amplification factor	μ_{G2G1}	7.5	

K.F. CLASS AB SINGLE SIDE BAND AMPLIFIER suppressed carrier

LIMITING VALUES (Absolute limits)

Frequency	f	up to	50	MHz
Anode voltage	V_a	max.	3.5	kV
Anode input power	W_{i_a}	max.	3.0	kW
Anode dissipation	W_a	max.	1.5	kW
Anode current	I_a	max.	1.0	A
Grid No.2 voltage	V_{g2}	max.	1	V
Grid No.2 dissipation	W_{g2}	max.	50	W
Grid No.2 current	I_{g2}	max.	50	mA
Negative grid No.1 voltage	$-V_{g1}$	max.	500	V
Grid No.1 current	I_{g1}	max.	0	mA
Grid No.1 circuit resistance	R_{g1}	max.	5	k Ω

OPERATING CONDITIONS

Frequency	f	1 to 30	MHz	
Anode voltage	V_a	3.0	kV	
Grid No.2 voltage	V_{g2}	500	V	
Grid No.1 voltage	V_{g1}	-55	V	
		zero signal	single tone signal	double tone signal
Peak driving voltage	V_{g1p}	0	48 (<53)	46 (<51) V
Anode current	I_a	380	750	570 mA
Grid No.2 current	I_{g2}	-5	-20	-15 mA
Grid No.1 current	I_{g1}	0	0	0 mA
Grid No.1 resistor	R_{g1}	2	2	2 k Ω
Per output power	W_{dr}	0	< 5	< 5 W
Anode input power	W_{i_a}	1140	2250	1710 W
Anode dissipation	W_a	1140	1050	1100 W
Output power in load	W_p	0	1050	- W
PEP output power in load	W_p	0	-	1050 ²⁾ W
Intermodulation distortion				
1 MHz. of the 3rd order	d_3	-	-	< -38 dB ²⁾
of the 5th order	d_5	-	-	< -36 dB ²⁾
30 MHz. of the 3rd order	d_3	-	-	< -36 dB ²⁾
of the 5th order	d_5	-	-	< -36 dB ²⁾

2) Maximum values encountered at any level of drive voltage up to full drive referred to the amplitude of either of the two equal tones at that level.

TEMPERATURE LIMITS (Absolute limits)

Temperature of all seats (see also outline drawing)	t_s	max.	200 °C
Air inlet temperature	t_i	max.	45 °C

COOLING

Forced air cooling for the anode. For cooling characteristics see page 5. Low velocity air flow for the ceramic to metal seals.

Cooling will also be necessary when only the heater voltage is applied to the tube.

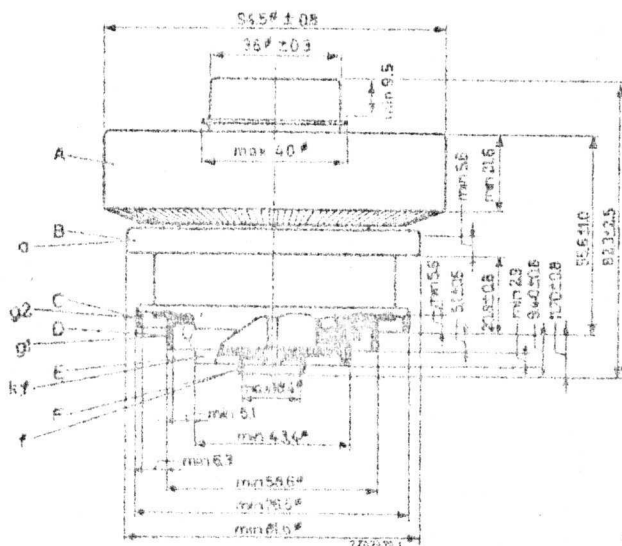
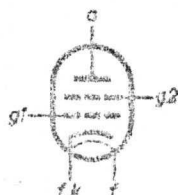
MECHANICAL DATA

Dimensions in mm

Anode connector (for frequencies < 30MHz): 40689

Socket : 40704

Net weight : 90 g

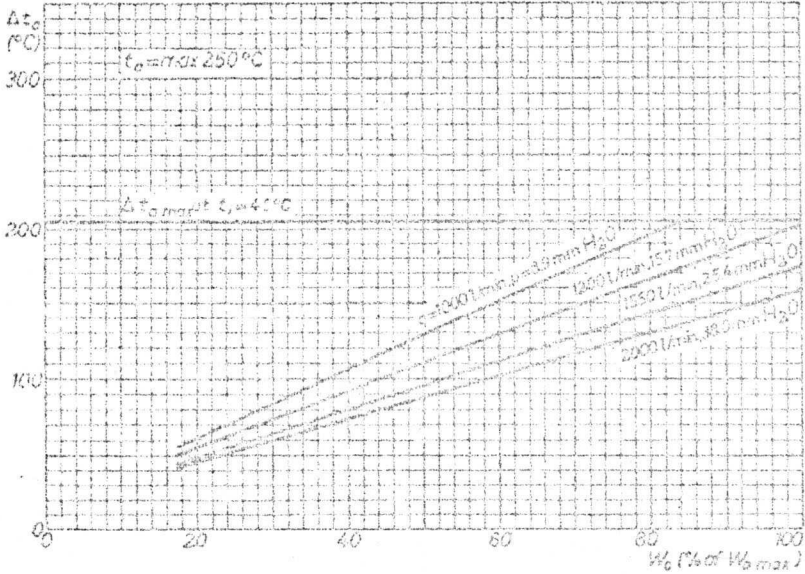


The radiator and the terminals lie inside or outside concentric cylinders with the following dimensions:

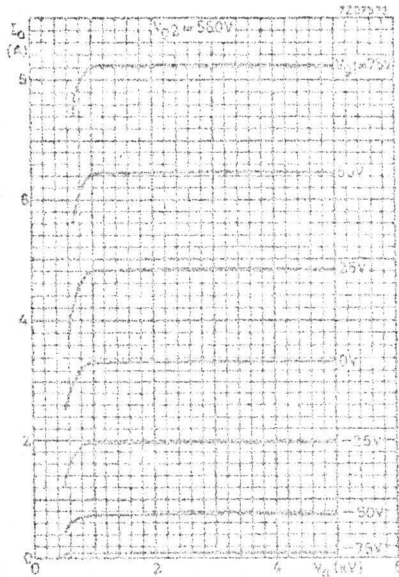
Radiator	A : inside	96.0 mm
Anode	B : inside	82.8 mm
Grid No.2 connection	C : inside	77.7 mm
Grid No.1 connection	D : inside	59.4 mm
Cathode and heater connection	E : inside	44.3 mm
Heater connection	F : outside	17.6 mm

Mounting position: any

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CLASS B AMPLIFIER

LIMITING VALUES (Absolute limits)

Frequency	f	up to	220	MHz
Anode voltage	V_a	max.	3500	V
		max.	2500	V 1)
Anode input power	W_{i_a}	max.	3	kW
		max.	2	kW 1)
Anode dissipation	W_a	max.	1.5	kW
Anode current	I_a	max.	1	A
Grid No.2 voltage	V_{g2}	max.	1000	V
Grid No.2 input power	$W_{i_{g2}}$	max.	50	W
Grid No.2 current	I_{g2}	max.	50	mA
	$-I_{g2}$	max.	50	mA
Negative grid No.1 voltage	$-V_{g1}$	max.	300	V
Grid No.1 current	I_{g1}	max.	10	mA
Grid No.1 circuit resistance	R_{g1}	max.	5	k Ω

OPERATING CHARACTERISTICS

Frequency	f	220	MHz
Anode voltage	V_a	3000	V
Grid No.2 voltage	V_{g2}	450	V
Grid No.1 voltage	V_{g1}	-60	V
Anode current	I_a	150	830 mA
Grid No.2 current	I_{g2}	-5	-20 mA
Grid No.1 current	I_{g1}	-	5 mA
Driver output power	W_{dr}	-	40 W
Anode input power	W_{i_a}	0.45	2.49 kW
Anode dissipation	W_a	0.45	1.35 kW
Output power in the load	W_p	0	1.0 kW

1) For AM.

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