

# TETRODE

# GU-74B

The GU-74B tetrode is used in wideband non-tunable amplifiers and for single-sideband power amplification in stationary and mobile RF equipment.

## GENERAL

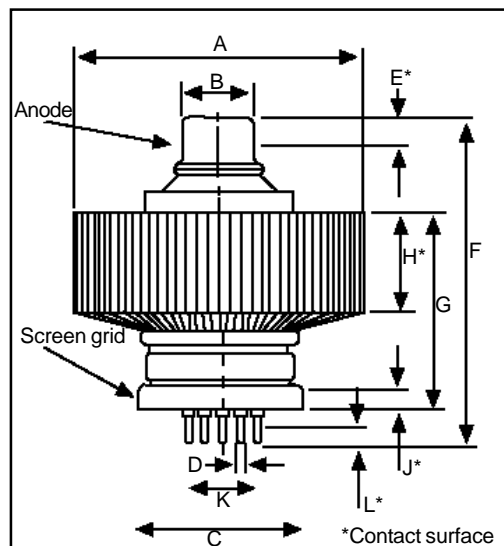
Cathode: indirectly heated, oxide-coated.  
 Envelope: metal ceramic.  
 Cooling: forced air.  
 Height: at most 90 mm.  
 Diameter: at most 71 mm.  
 Mass: at most 550 g.

## OPERATING ENVIRONMENTAL CONDITIONS

Vibration loads:  
 frequencies, Hz **1-200**  
 acceleration, m/s<sup>2</sup> **49**  
 Multiple impacts with acceleration, m/s<sup>2</sup> **392**  
 Ambient temperature, °C **-10 to +55**  
 Relative humidity at up to +25 °C, % **98**

## BASIC DATA Electrical Parameters

Heater voltage (AC or DC), V **12.6**  
 Heater current, A **3.3-3.9**  
 Mutual conductance (at anode voltage 1000 V, grid 2 voltage 300 V, grid 1 voltage change ±2.5 V, anode current 600 mA), mA/V **26-38**  
 Anode current (at anode voltage 250 V, grid 2 voltage 300 V), mA, at least **1400**  
 Negative bias voltage (at anode voltage 1000 V, grid 2 voltage 300 V, anode current 600 mA), absolute value, V **18-32**  
 Negative cutoff voltage (at anode voltage 2500 V, grid 2 voltage 300 V, anode current 15 mA), absolute value, V, at most **90**  
 Interelectrode capacitance, pF:  
 input **46-56**  
 output **9-13**  
 transfer, at most **0.09**  
 Cathode heating time (at heater voltage 12.6 V, anode voltage 1000 V, grid 2 voltage 300 V), s, at most **150**  
 Output power under conditions of class AB, (at anode voltage 2000 V, grid 2 voltage 300 V, grid 1 voltage - 60 V, grid 2 current at most 50 mA, frequency 0.1-1.0 MHz), W, least **550**  
 Relative level of combination components (at anode voltage 2000 V, grid 2 voltage 300 V, grid 1 voltage -70 V, grid 2 current at most 50 mA), dB:  
 third-order components, at most **-28**  
 fifth-order components, at most **-28**  
 Output power under conditions of class B (at anode voltage 1500 V, grid 2 voltage 275 V, grid 1 voltage -45 V, grid 2 current at most 60 mA), W, at least **500**  
 Output power under conditions of class AB, over 1000 h of service, W, at least **440**

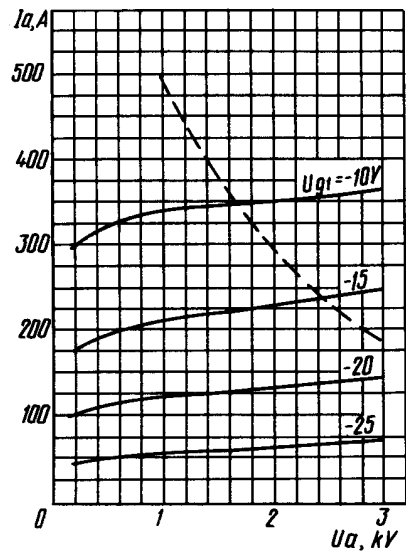


Dimensional data

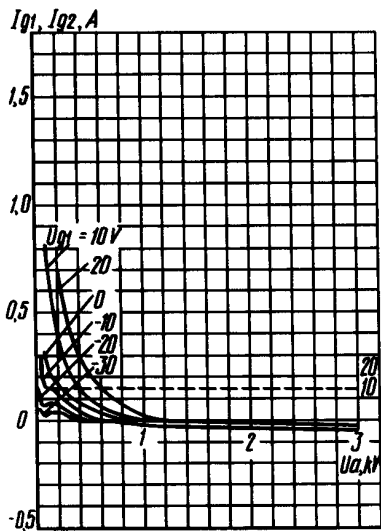
Dim	Inches			Millimeters		
	Min.	Max.	Ref.	Min.	Max.	Ref.
A	2.756	2.835		70	72	
B	0.669	0.748		17	19	
C	1.988	2.028		50.5	51.5	
D	0.053	0.060		1.34	1.53	
E	0.394	-		10	-	
F	-	3.543		-	90	
G	2.008	2.126		51	54	
H	0.747	0.860		20	22	
J	0.197	-		5	-	
K	-	-	0.07	-	-	175
L	0.3	0.37		7.6	9.4	

**Limit Operating Values**

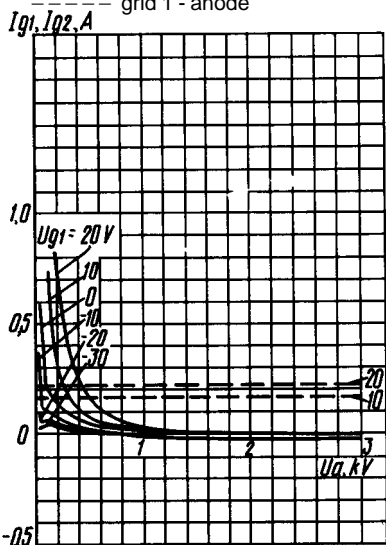
Heater voltage (AC or DC), V	11.9-13.3
Anode voltage, V:	
DC	2000
peak value	4000
Grid 2 voltage (DC), V	300
Negative grid 1 voltage, absolute value, V	-150
Cathode current mA:	
DC component	750
peak value	2500
Dissipation, W:	
anode	600
grid 1	2
grid 2	15
Operating frequency, MHz	250



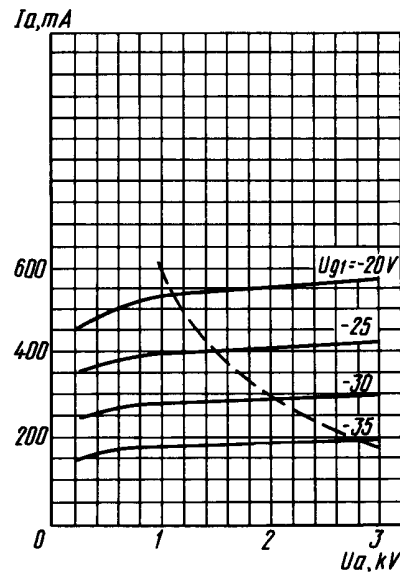
Averaged Anode Characteristic Curves:  
 $U_1 = 12.6 \text{ V}$ ,  $U_{g2} = 150 \text{ V}$   
 -----  $P_{a \text{ max}}$



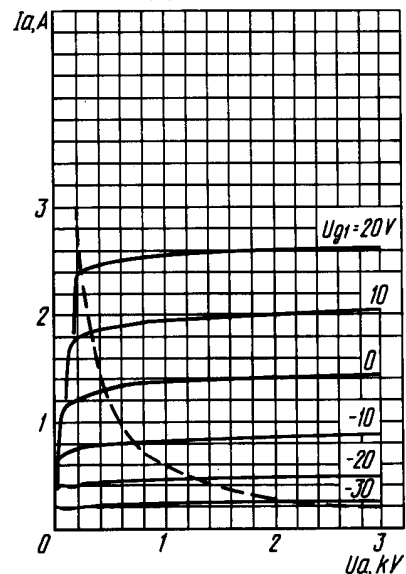
Averaged Characteristic Curves:  
 $U_1 = 12.6 \text{ V}$ ,  $U_{g2} = 250 \text{ V}$   
 ————— grid 2 - anode  
 ----- grid 1 - anode



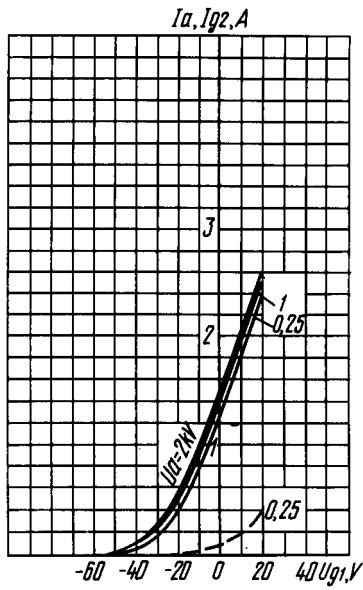
Averaged Characteristic Curves:  
 $U_1 = 12.6 \text{ V}$ ,  $U_{g2} = 300 \text{ V}$   
 ————— grid 2 - anode  
 ----- grid 1 - anode



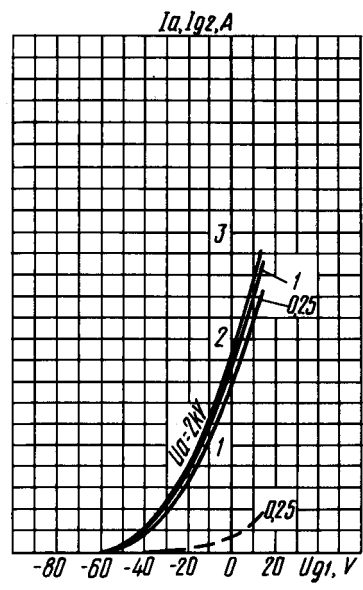
Averaged Anode Characteristic Curves:  
 $U_1 = 12.6 \text{ V}$ ,  $U_{g2} = 250 \text{ V}$   
 -----  $P_{a \text{ max}}$



Averaged Anode Characteristic Curves:  
 $U_1 = 12.6 \text{ V}$ ,  $U_{g2} = 250 \text{ V}$   
 -----  $P_{a \text{ max}}$



Averaged Characteristic Curves:  
 $U_1 = 12.6 \text{ V}$ ,  $U_{g2} = 250 \text{ V}$   
 — anode - grid;  
 - - - - - grid



Averaged Characteristic Curves:  
 $U_1 = 12.6 \text{ V}$ ,  $U_{g2} = 300 \text{ V}$   
 — anode - grid;  
 - - - - - grid