

# TETRODE

# GU-33B

The GU-33B tetrode is designed to operate for wide-band power amplification at frequencies up to 500 MHz in RF equipment.

## GENERAL

Cathode: indirectly heated, oxide-coated.  
Envelope: glass-to-metal.  
Cooling: forced air.  
Height: at most 85 mm.  
Diameter: at most 50 mm.  
Mass: at most 220 g.

## OPERATING ENVIRONMENTAL CONDITIONS

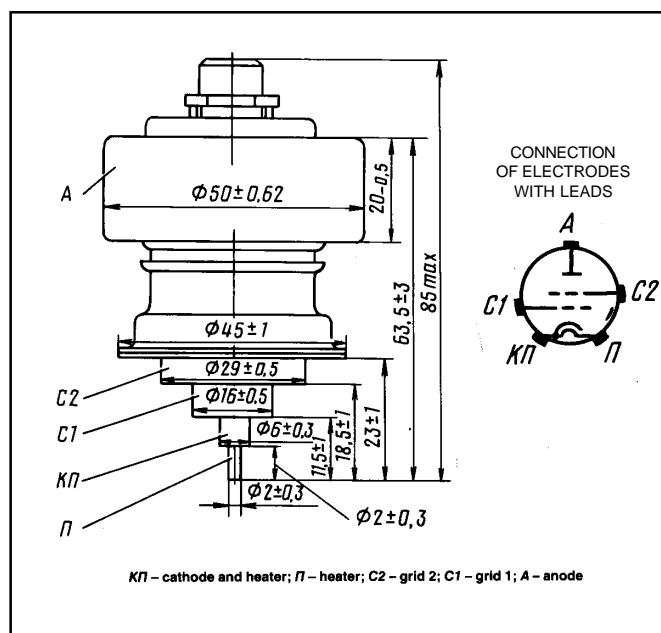
Vibration loads:  
frequencies, Hz **16-60**  
acceleration,  $m/s^2$  **25**  
Multiple impacts with acceleration,  $m/s^2$  **118**  
Ambient temperature, °C **-10 to +55**  
Relative humidity at up to 25 °C, % **98**

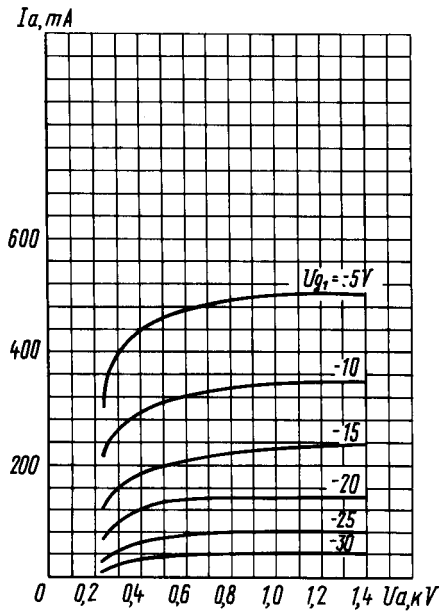
## BASIC DATA Electrical Parameters

Heater voltage, V	<b>6.3</b>
Heater current, A	<b>4.7-5.6</b>
Mutual conductance (at anode voltage 400 V, grid 2 voltage 300 V, anode current 375 mA), mA/V	<b>20-32</b>
Gain coefficient (at anode voltage 400 V, grid 2 voltage 300 V, anode current 375 mA)	<b>13</b>
Negative bias voltage (at anode voltage 400 V, grid 2 voltage 300 V, anode current 375 mA), V (absolute value), at most	<b>2-12</b>
Negative cutoff voltage (at anode voltage 1000 V, grid 2 voltage 300 V, anode current 5 mA), V (absolute value), at most	<b>60</b>
Interelectrode capacitance, pF:	
input, at most	<b>36-46</b>
output, at most	<b>7-10</b>
transfer, at most	<b>0.1</b>
Output power, W, min.:	
at 50-60 MHz, anode voltage 1 kV, grid 2 voltage 250 V, grid 1 voltage - 40 V, drive voltage 52 V peak value, grid 2 current at most 40 mA, anode dissipation at most 150 W, grid 1 dissipation at most 2 W)	<b>120</b>
over 1500 h of service	<b>105</b>
Warm up time (at anode voltage 400 V and grid 2 voltage 300 V), min, at most	<b>2.5</b>

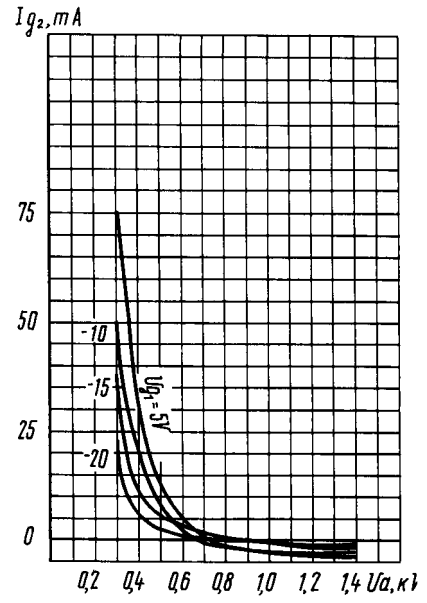
## Limit Operating Values

Heater voltage, V	<b>5.7-6.9</b>
Anode voltage (DC), V	<b>1500</b>
Grid 2 voltage, V	<b>400</b>
Cathode current (DC component), mA	<b>340</b>
Cathode current under conditions of class B, mA (peak value)	<b>1000</b>
Dissipation, W:	
anode	<b>150</b>
grid 1	<b>2</b>
grid 2	<b>10</b>
Operating frequency, MHz	<b>500</b>
Temperature at anode, stem and glass-to-metal seals, °C	<b>150</b>





Averaged Anode Characteristic Curves:  
 $U_1 = 6.3 V$ ;  $U_{g2} = 300V$



Averaged Grid - Anode Characteristic Curves:  
 $U_1 = 6.3 V$ ;  $U_{g2} = 300V$