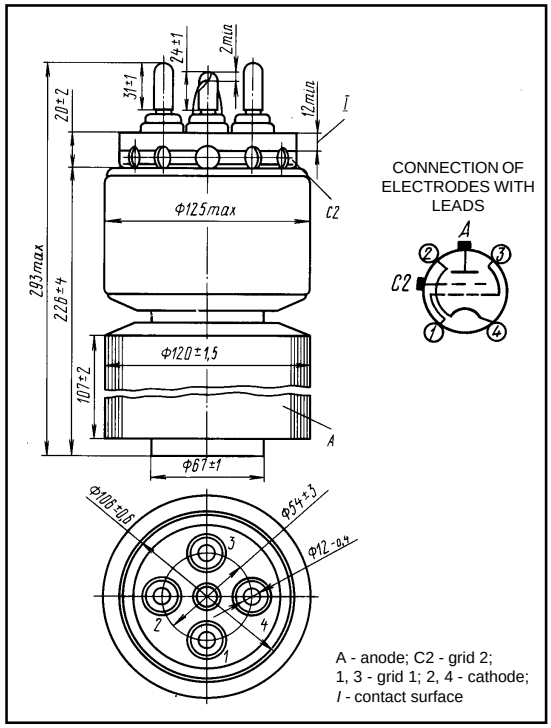
TETRODE GU-39B-1

The GU-39B-1 tetrode is used as a power amplifier in stationary short-wave transmitters.



GENERAL

Cathode: directly heated, carbonized thoriated tungsten.
Envelope: glass-to-metal.
Cooling: forced air.
Height: at most 293 mm.
Diameter: at most 128 mm.
Mass: at most 8 kg.

OPERATING ENVIRONMENTAL CONDITIONS

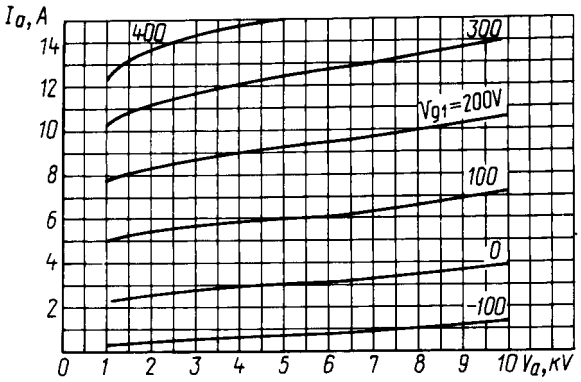
Ambient temperature, °C	**-10 to +55**
Relative humidity at up to +25 °C, %	**98**

BASIC DATA Electrical Parameters

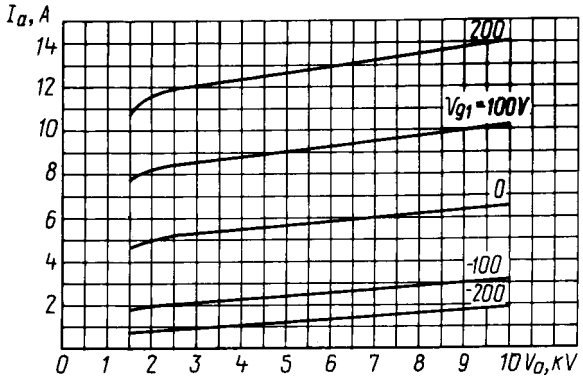
Filament voltage, V	**6.3**
Filament current, A	**85-105**
Mutual conductance (at anode voltage 3 kV, grid 2 voltage 1 kV, anode currents 1.5 and 2 A), mA/V	**20-28**
Gain coefficient (grid 1 -grid 2) (at anode voltage 3 kV, grid 2 voltages 1 and 1.2 kV, anode current 1.5 A)	**6-9**
Anode current (at anode voltage 3 kV, grid 1 voltage -100 V, grid 2 voltage 1 kV), A, at most	**1**
Negative bias voltage (at anode voltage 8.5 kV, grid 2 voltage 1.2 kV, anode current 0.5 A), V	**140-180**
Interelectrode capacitance, pF:	
input, at most	**80**
output, at most	**29**
transfer, at most	**0.7**
Output power (at anode voltage 10 kV, operating frequency 30 MHz), kW, at least	**13**

Limit Operating Values

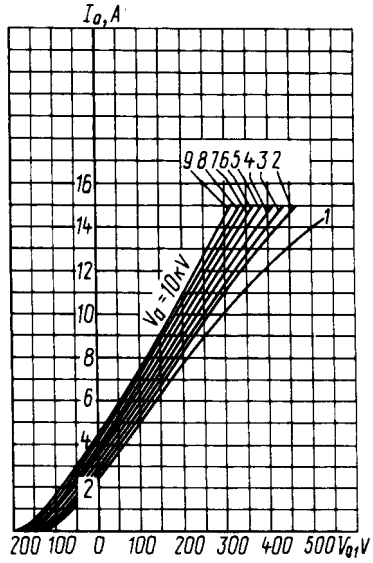
Filament voltage, V	**6-6.6**
Anode voltage (DC), kV	**10**
Negative grid 1 voltage, V	**800**
Grid 2 voltage (DC), kV	**2**
Filament starting current, A	**150**
Dissipation, W:	
anode	**$8\text{-}10^3$**
grid 2	**450**
grid 1	**200**
Operating frequency at output power at least 13kW, MHz	**30**
Cutoff frequency, MHz	**100**
Anode temperature, °C	**200**
Temperature at envelope, stem and seals, °C	**150**



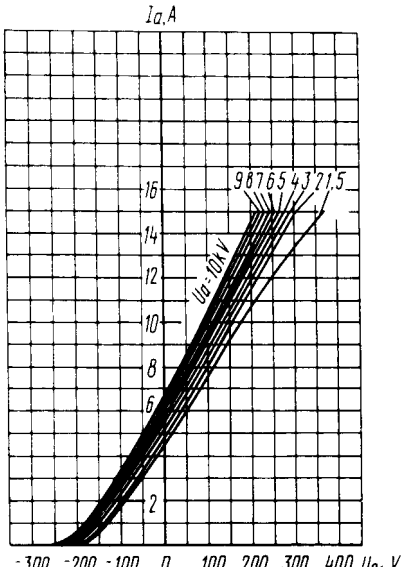
Averaged Anode Characteristic Curves:
U_1 = 6.3 V: U_{a2} = 1 kV:



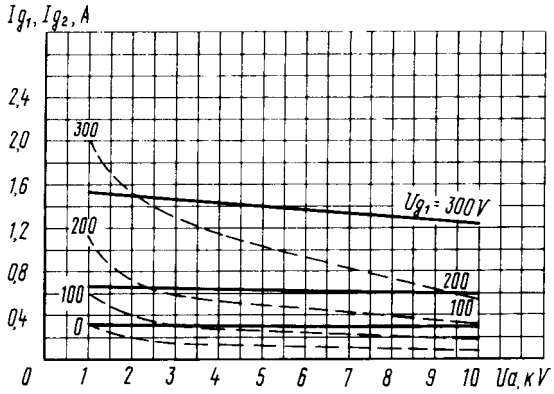
Averaged Anode Characteristic Curves:
U_1 = 6.3 V; U_{a2} = 1.5 kV:



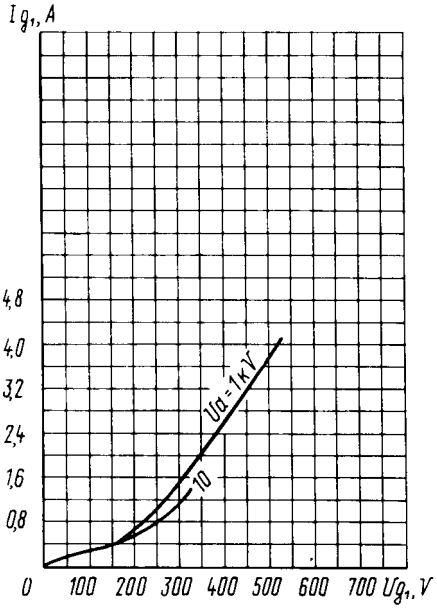
Averaged Anode-Grid Characteristic Curves:
U_1 = 6.3 V; U_{g2} = 1 kV;



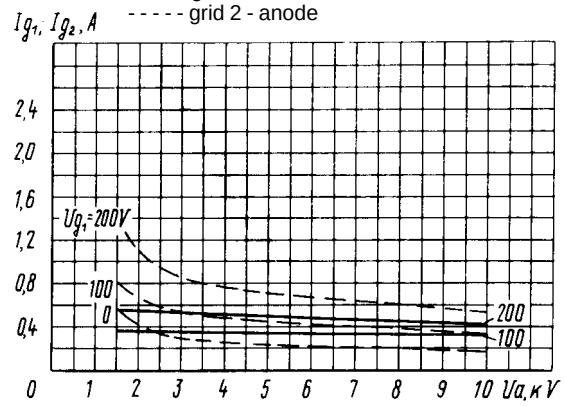
Averaged Anode-Grid Characteristic Curves:
U_1 = 6.3 V; U_{g2} = 1.5 kV;



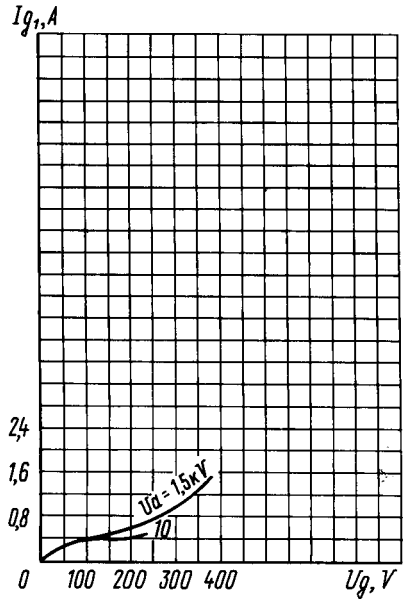
Averaged Characteristic Curves:
U_1 = 6.3 V; U_{g2} = 1 kV;
——— grid 1 - anode;
- - - - - grid 2 - anode



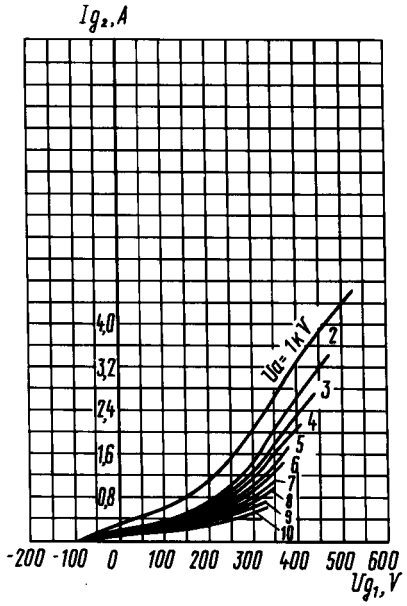
Averaged Grid 1 Characteristic Curves:
U_1 = 6.3 V; U_{g2} = 1 kV;



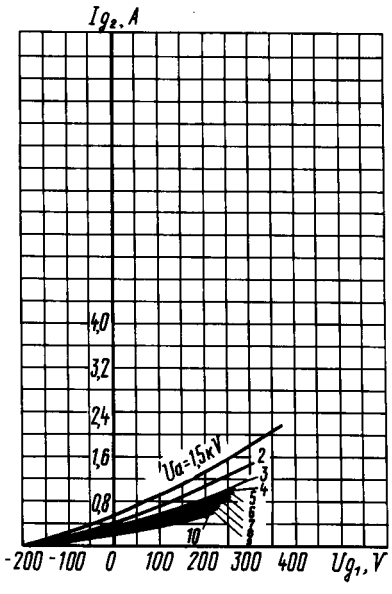
Averaged Characteristic Curves:
U_1 = 6.3 V; U_{g2} = 1.5 kV;
——— grid 1 - anode;
- - - - - grid 2 - anode



Averaged Grid 1 Characteristic Curves:
U_1 = 6.3 V; U_{g2} = 1.5 kV



Averaged Grid 2 Characteristic Curves:
U_1 = 6.3 V; U_{g2} = 1 kV



Averaged Grid 2 Characteristic Curves:
U_1 = 6.3 V; U_{g2} = 1.5 kV