

TETRODE

GU-33A

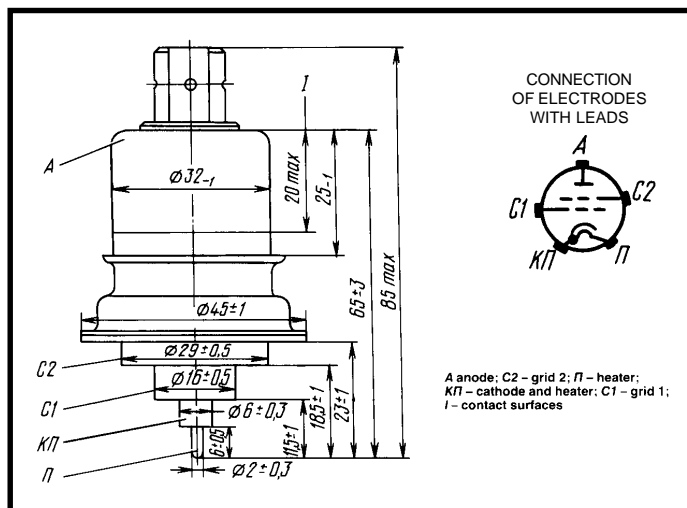
The GU-33A tetrode is designed for continuous operation at frequencies up to 500 MHz in separate-excitation or self-excitation oscillator circuits and is suitable for use in both stationary and mobile RF equipment.

GENERAL

Cathode: indirectly heated, oxide-coated.
Envelope: glass-to-metal.
Cooling: liquid.
Height: at most 85 mm.
Diameter: at most 45 mm.
Mass: at most 130 g.

OPERATING ENVIRONMENTAL CONDITIONS

Vibration loads:	
frequency, Hz	10-200
acceleration, m/s ²	59
frequency, Hz	200-600
acceleration, m/s ²	20
Multiple impacts with	
acceleration, m/s ²	343
Single impacts with	
acceleration, m/s ²	1470
Ambient temperature, °C	-10 to +55
Relative humidity at up to +25 °C, %	98

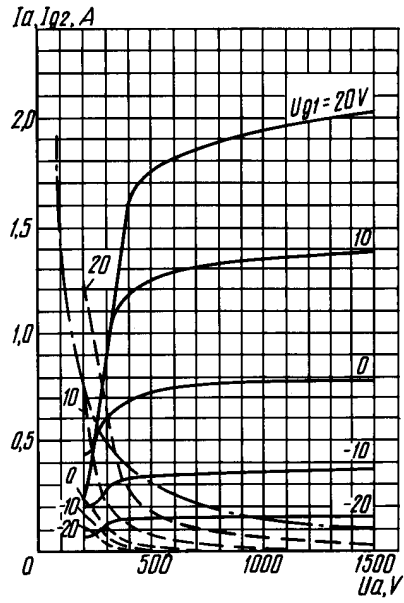


BASIC DATA Electrical Parameters

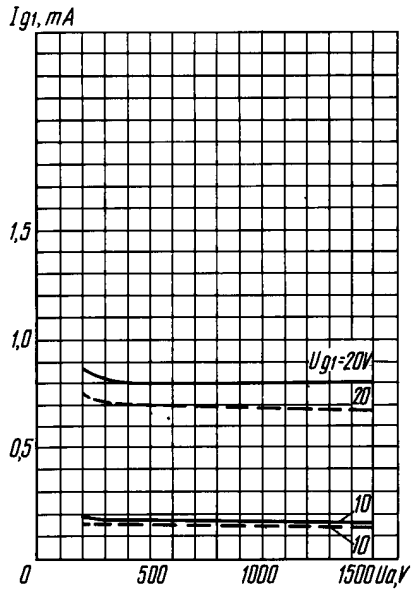
Heater voltage, V	6.3
Heater current, A	4.7-5.6
Mutual conductance (at anode voltage 400 V, grid 2 voltage 300 V, grid 1 voltage change ±1 kV, anode current 375 mA), mA/V	20-32
Gain coefficient (at anode voltage 400 V, grid 2 voltages 250 and 300 V, anode current 375mA)	8-16
Negative bias voltage (at anode voltage 400 V, grid 2 voltage 300 V, anode current 375 mA), V (absolute value), at most	60
Output power (at frequency 250 MHz, anode voltage 900 V, grid 2 voltage 300 V, anode current at most 310 mA, grid 2 current 33 mA, anode dissipation, at most 150 W), W, at least	120
Warm up time (at anode voltage 400 V, grid 2 voltage 300 V, anode current 375 mA), s, almost	120
Output power over 1000 h of service (at 50-60 MHz, anode voltage 1000 V, grid 2 voltage 250 V, grid 1 voltage -40 V, drive voltage 52 V, grid 2 current at most 40 mA, anode dissipation at most 150 W, grid 1 dissipation at most 2 W), W, at least	105
Interelectrode capacitance, pF:	
input, at most	34-44
output, at most	7-10
transfer, at most	0.1

Limit Operating Values

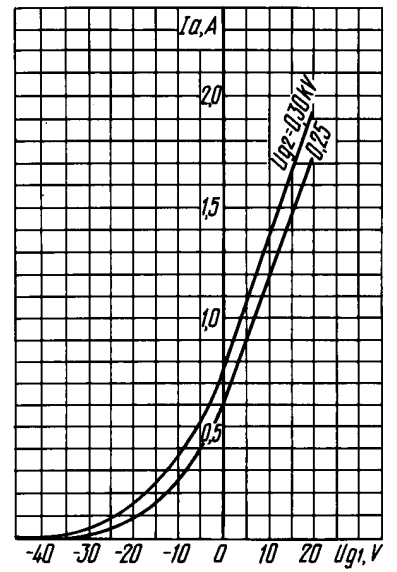
Heater voltage, V	5.7-6.9
Anode voltage, V	1500
Grid 2 voltage, V	400
Negative grid 1 voltage, V (absolute value)	200
Cathode current (DC component), mA	340
Cathode current under conditions of class B, mA (peak value)	1000
Dissipation, W:	
anode	150
grid 2	10
grid 1	2
Operating frequency, MHz	500
Temperature at seals, anode and stem, °C	150



Averaged Characteristic Curves:
 $U_r = 6.3 \text{ V}$; $U_{g2} = 0.3 \text{ kV}$;
 — anode;
 - - - grid 2 - anode;
 . . . $P_{a \text{ max}}$



Averaged Grid-Anode Characteristic Curves:
 $U_r = 6.3 \text{ V}$;
 — $U_{g2} (0.25 \text{ kV})$;
 - - - $U_{g2} (0.3 \text{ kV})$



Averaged Grid-Anode Characteristic Curves:
 $U_r = 6.3 \text{ V}$; $U_a = 1 \text{ kV}$