MICROWAVE TRIODE GI-6B

The GI-6B microwave triode is used in oscillator circuits with no external feedback, providing continuous-wave or pulsed operation with anode modulation in the decimetric wavelength range.

GENERAL

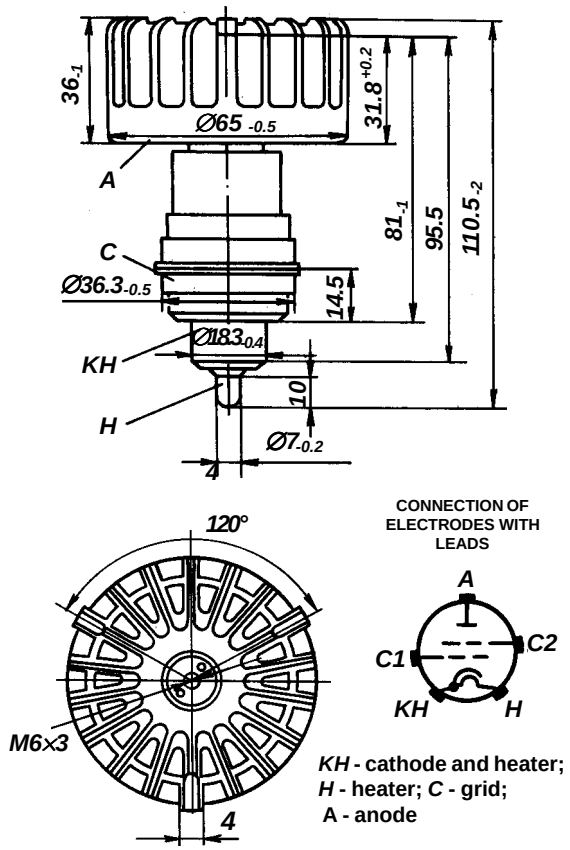
Cathode: indirectly heated, oxide-coated.
Envelope: metal-ceramic.
Cooling: forced air.
Height: at most 110.5 mm.
Diameter: at most 65 mm.
Mass: at most 330 g.

OPERATING ENVIRONMENTAL CONDITIONS

Vibration loads:	
frequencies, Hz	**5-600**
acceleration, m/s²	**59**
Multiple impacts with acceleration, m/s²	**343**
Ambient temperature, °C	**-60 to +100**
Relative humidity at up to +40 °C, %	**98**

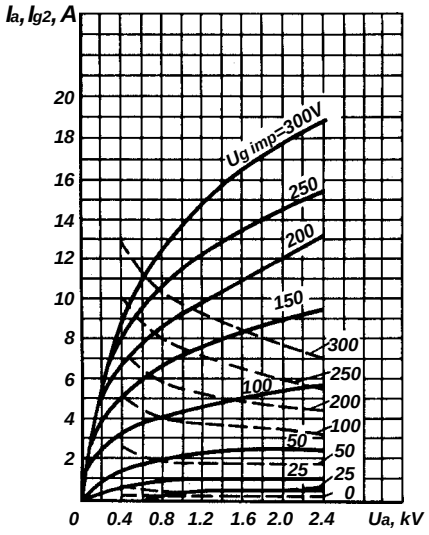
BASIC DATA Electrical Parameters

Heater voltage, V	**12.6**
Heater current, A	**1.8-2.05**
Mutual conductance (at anode voltage 1.3 kV, grid voltage change 1 V, anode current 150 mA), mA/V	**18-26**
Penetration factor (at anode voltage 1.3 kV, anode voltage change 200 V, anode current 150 mA), %	**1-2**
Interelectrode capacitance, pF:	
input	**10-12.7**
output	**0.2-0.3**
transfer	**4-5.2**
Warm up time, s, at most	**90**
Output power, W:	
in CW operation at anode voltage 1.35 kV, anode current 250 mA, wavelength 52 cm, at least	**130**
over 350 h of service, at least	**104**

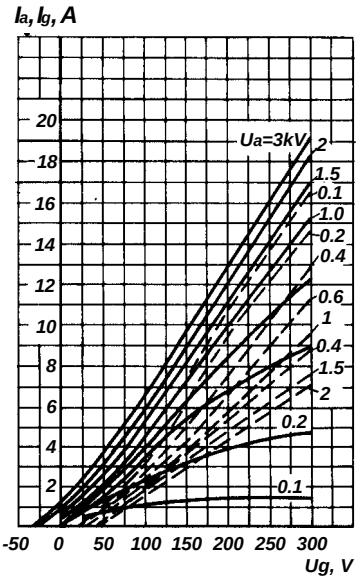


Limit Operating Values

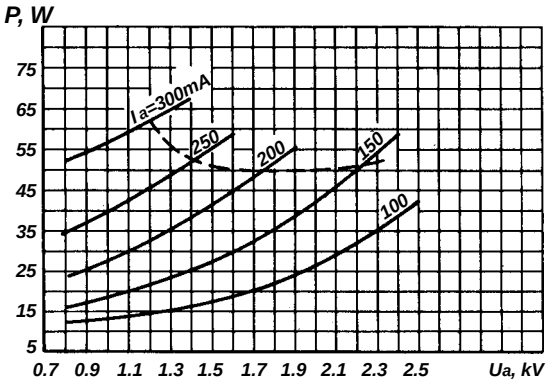
Heater voltage, V:	
upper limit	**13**
lower limit	**12.3**
Anode voltage, kV:	
DC in CW operation	**2.5**
DC with cold cathode	**3**
instantaneous value in CW operation	**5**
peak value in pulsed operation (at pulse duration at most 10 μs)	**9**
Grid voltage, V:	
instantaneous value in CW operation	**-300 to +80**
peak value in pulsed operation (at pulse duration 10 μs)	**-900 to +600**
Cathode current:	
r.m.s. value, mA	**600**
DC component under conditions of class B without modulation, mA	**400**
instantaneous value under conditions of class B without modulation, A	**1.25**
Dissipation, W:	
anode	**350**
grid:	
with thermocurrent 5 mA	**2.5**
neglecting thermocurrent	**7**
Wavelength, cm:	
in pulsed operation, lower limit	**18**
in CW operation, lower limit	**22**
Temperature, °C:	
anode heat sink	**160**
grid lead	**200**
cathode lead	**100**
envelope	**250**
Resistance in grid circuit, kΩ	**10**



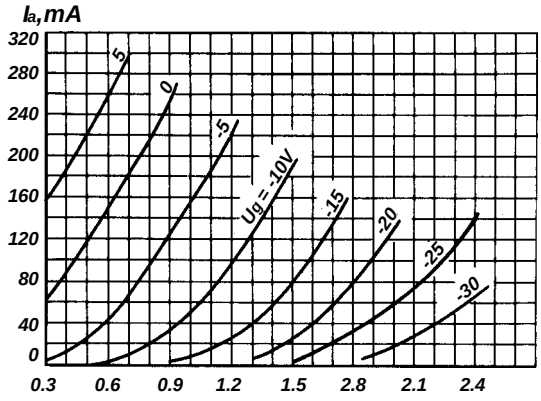
Averaged Pulse-Operation Characteristic Curves:
U_1 = 12.6V; U_g = -200V; τ_{imp} = 1μs;
frequency 1,000 imp/s;
——— anode;
– – – – – grid - anode



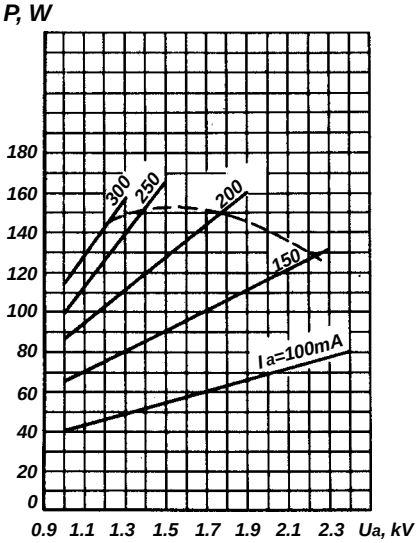
Averaged Pulse-Operation Characteristic Curves:
U_1 = 12.6V; τ_{imp} = 1μs;
frequency 1,000 imp/s;
——— anode - grid;
– – – – – grid



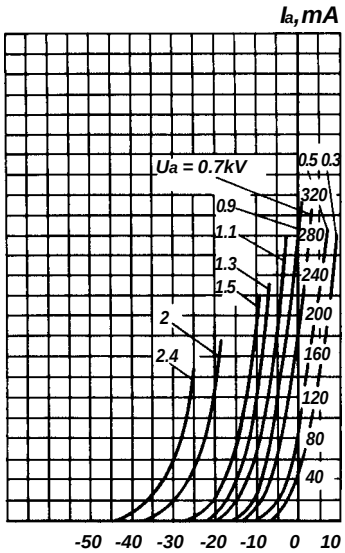
Averaged Characteristic Curves Showing Oscillator Output Power versus Anode Voltage in Continuous-Wave Generation: U_1 = 12.6V; λ = 25cm;
– – – – – ($P_{a\,max}$)



Averaged Anode Characteristic Curves



Averaged Characteristic Curves Showing Oscillator Output Power versus Anode Voltage in Continuous-Wave Generation: U_1 = 12.6V; λ = 50cm;
– – – – – ($P_{a\,max}$)



Averaged Anode-Grid Characteristic Curves