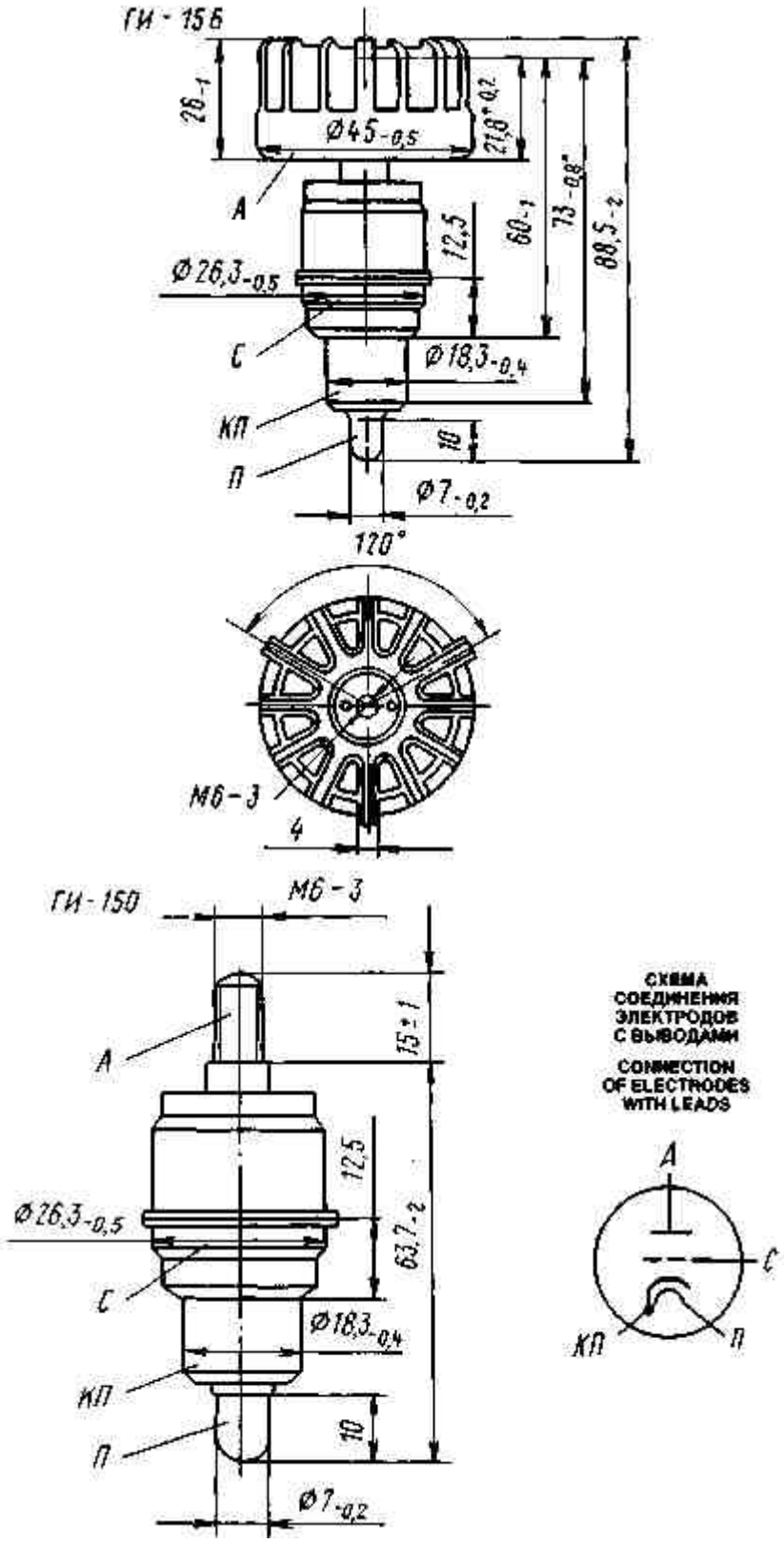
GI-15B (GI-150)

MICROWAVE TRIODE

The GI-15B (GI-150) microwave triode is used as an oscillator and an amplifier in continuous-wave or pulsed mode with anode modulation in the centimetric and decimetric wavelength ranges.

The triode is available in two variants differing in the type of cooling: the GI-15B with a heat sink for forced air cooling and the GI-150 with no heat sink for other systems of cooling.

GENERAL
Cathode: indirectly heated, oxide-coated.
Envelope: metal-ceramic.
Cooling: forced air.
Height: at most 88.5 mm with heat sink, 78.8 mm with no heat sink.
Diameter: at most 45 mm with heat sink, 26.3 mm with no heat sink.
Mass: at most 120 g with heat sink, 60 g with no heat sink.

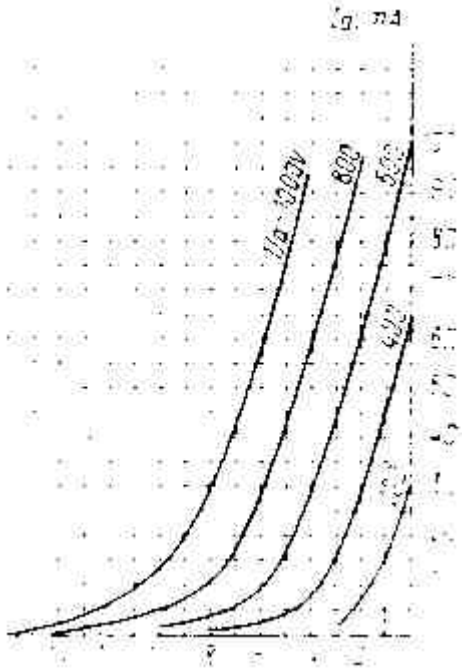


KP **- cathode and heater;** ***P*** **- heater;** ***C*** **- grid;** ***A*** **- anode**

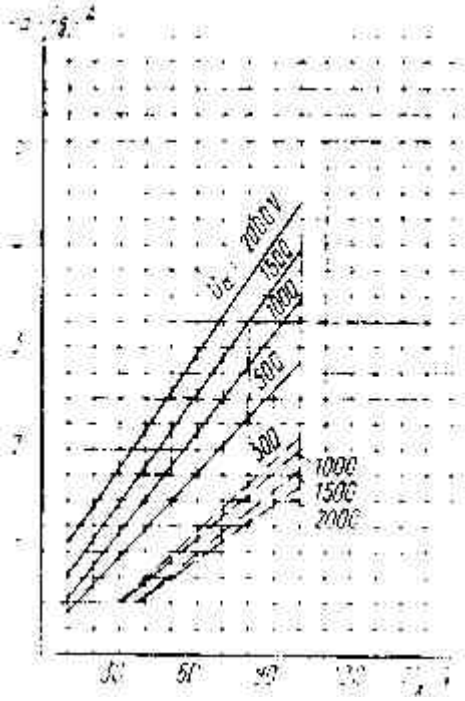
OPERATING ENVIRONMENTAL CONDITIONS	
Vibration loads:	
frequencies, Hz	5-2,000
acceleration, m/s²	98
Multiple impacts with acceleration, m/s²	735
Single impacts with acceleration, m/s²	1,470
Linear loads with acceleration, m/s²	490
Ambient temperature, °C	-60 to +100
Relative humidity at up to +40 °C, %	98

BASIC DATA Electrical Parameters	
Heater voltage, V	12.6
Heater current, A	0.75-0.88
Mutual conductance (at anode voltage 400 V, grid voltage change ±0.5 V, anode current 15mA), mA/V	8-12
Penetration factor (at anode voltage 400 V, anode voltage change 400 V, anode current 15 mA), %	0.7-1.5
Operating point (negative grid voltage at anode voltage 400 V, anode current 15 mA), V	4-2
Interelectrode capacitance, pF:	
input	9.5-11.5
output, at most	0.04
transfer	2-3
Warm up time, s, at most	60
Output power, W:	
in CW operation, at least	3
in pulsed operation, at least	100
Output power over 200 h of service, W	2.4

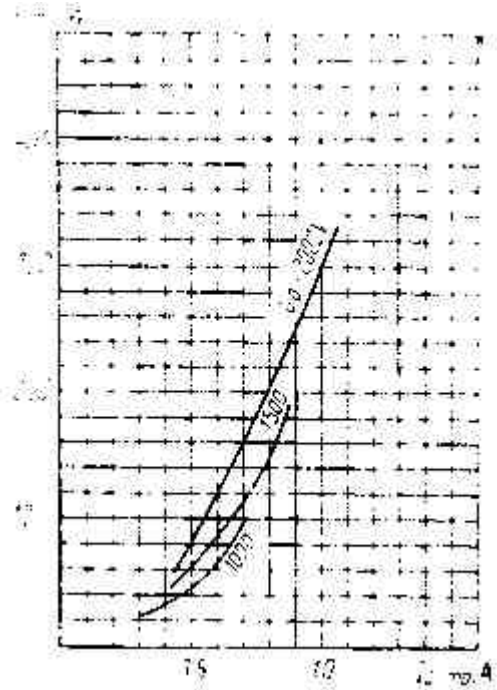
Limit Operating Values	
Heater voltage, V	12-13.4
Anode voltage, kV:	
DC in pulsed operation (with pulse duration at most 5 µs)	4
DC with cold cathode	1
DC	0.8
Grid voltage, V:	
instantaneous value (with pulse duration below 1 &micros)	-150 to +100
instantaneous value (with pulse duration at most 5 µs)	-150 to +80
Cathode current, A:	
r.m.s. value	0.15
in pulsed operation (with pulse duration at most 5 µs)	3.5
Dissipation, W:	
anode:	
with forced cooling	80
with no forced cooling	20
grid	2
Wavelength (in pulsed operation), cm	7
Cathode heating time, s, at least	45
Temperature, °C:	
anode,at least	200
leads of grid and cathode	120
cathode lead (after operation for not over 10 min)	140
Resistance in grid circuit, kOm	10



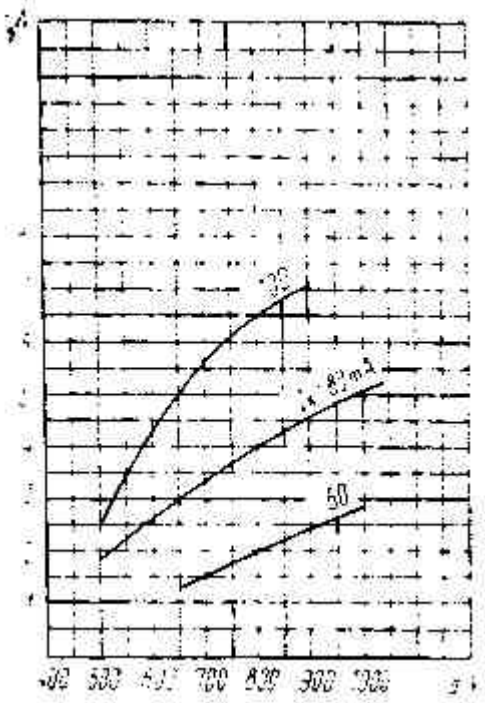
Averaged Anode-Grid Characteristic Curves:
***U_f*= 12.6V**



Averaged Characteristic Curves in Pulsed Operation:
U_f = 12.6V; t = 2μs; pulse frequency 500 Hz
_____ anode-grid curves;
- - - grid curves



Characteristic Curves Showing Output Power versus Peak Anode Current:
U_f = 12.6V; t = 2μs; pulse frequency 500 Hz



Averaged Characteristic Curves Showing Oscillator Output Power versus Anode Voltage in ContinuousWave Operation:

U_f = 12.6V

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