

TRIODE

GS-31B

The GS-31B triode fulfils generation and amplification functions in grounded-grid circuits in continuous-wave operation in the decimetric and metric wavelength ranges.

OPERATING ENVIRONMENTAL CONDITIONS

Vibration loads:	
frequency, Hz	5-2000
acceleration, m/s ²	98
Multiple loads with acceleration, m/s ²	343
Single impacts with acceleration, m/s ²	1470
Linear loads with acceleration, m/s ²	490
Ambient temperature, °C	-60 to +70
Relative humidity at up to +40 °C, %	98

GENERAL

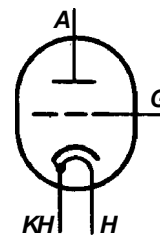
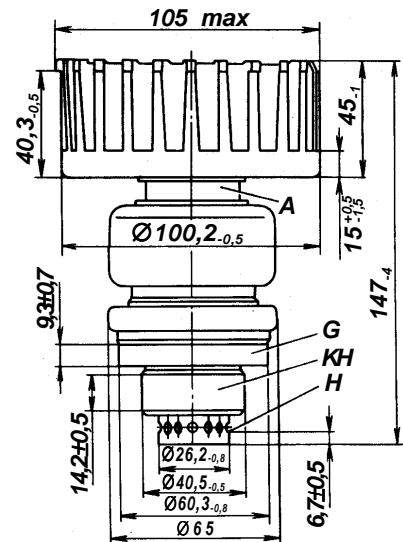
Cathode: indirectly heated, dispenser, oxide-coated.	
Envelope: metal-ceramic.	
Cooling: forced air.	
Height, mm, at most:	
with heat sink	147
without heat sink	134
Diameter, mm, at most:	
with heat sink	100,2
without heat sink	65
Mass, kg, at most:	
with heat sink	1,2
without heat sink	650

BASIC DATA

Electrical Parameters	
Heater voltage, V	12,6
Heater current, A	3,1-3,7
Mutual conductance (at anode voltage 2 kV, grid voltage 1 V and anode current 250 mA), mA/V, at least	22
Operating point (negative grid voltage at anode voltage 2 kV and anode current 250 mA), V	6-12
Interelectrode capacitance, pF:	
input	19-24
output, at most	0,12
transfer	3,8-5,2
Warm up time, s, at most	
Output power, W, min.:	120
at anode voltage 1,8 kV, anode current 500 mA, wavelength 60 cm	60
at anode voltage 1,7 kV, anode current 700 mA, wavelength 30 cm	180

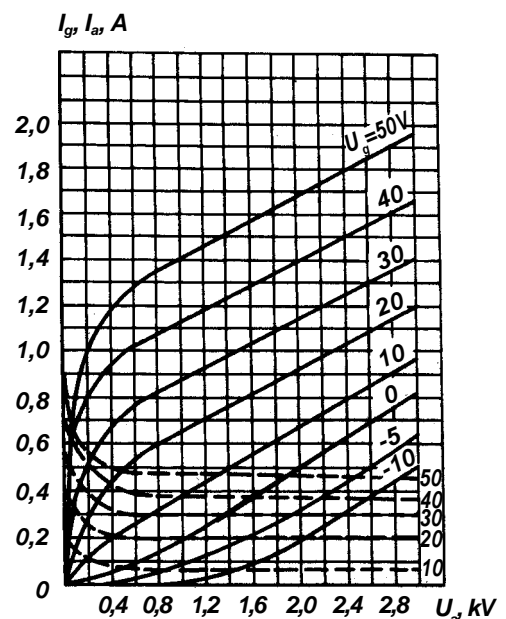
Limit Operating Values

Heater voltage, V	12-13,2
Anode voltage, kV:	
DC	3
instantaneous value	6
Grid voltage (instantaneous value), V	-400 to +120
Cathode current (r.m.s. value), A	1,4
Dissipation, W:	
anode	1,0x10 ³
grid	22
Temperature at anode lead, °C	200
Temperature at cathode and grid leads, °C	120
Temperature at external ceramic parts, °C	250
Wavelength, cm	28-100



CONNECTION OF ELECTRODES WITH LEADS

A - anode;
G - grid;
KH - cathode and heater;
H - heater

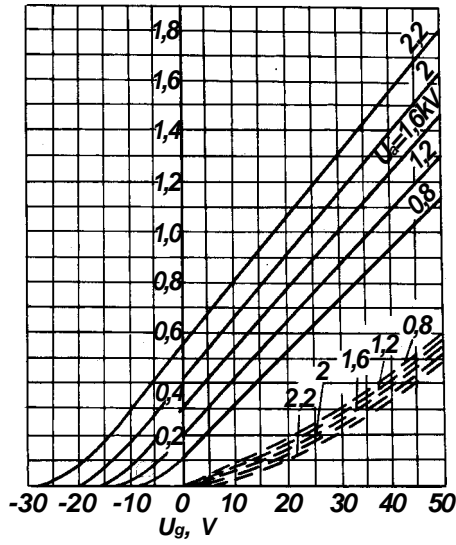


Averaged Characteristic Curves:

U_g = 12,6 V;

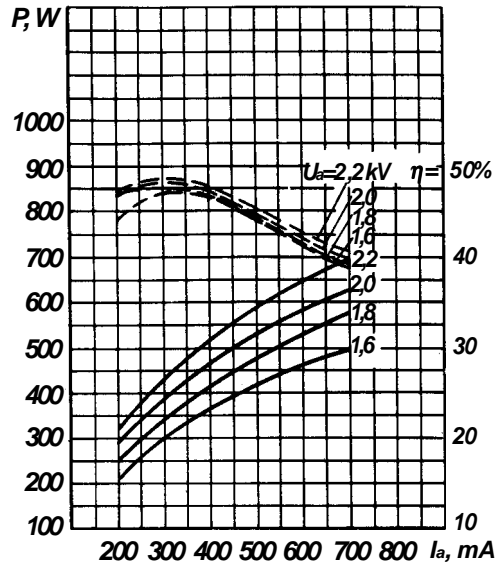
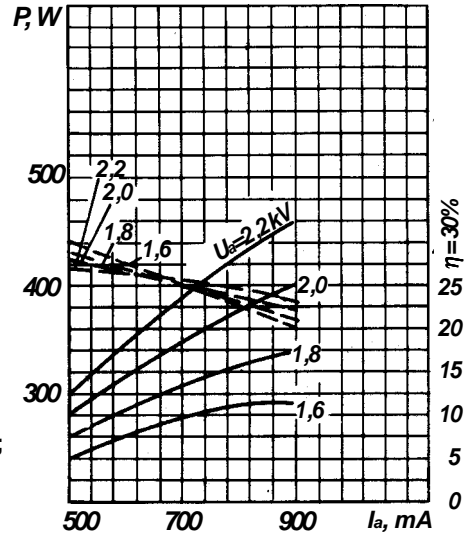
— anode;
- - - grid-anode

I_a, I_g, A



Averaged Characteristic Curves:
 $U_1=12,6 V$;
 — anode;
 - - - anode-grid

Averaged Characteristic Curves Showing Output Power and Efficiency versus Anode Current:
 $U_1=12,6 V, \lambda=30 cm$;
 — output power;
 - - - efficiency (η)



Averaged Characteristic Curves Showing Output Power and Efficiency versus Anode Current:
 $U_1=12,6 V, \lambda=60 cm$;
 — output power;
 - - - efficiency (η)