

BEAM-POWER TETRODE

GU-13

The GU-13 beam-power tetrode is used for generation and power amplification in stationary RF equipment.

GENERAL

Cathode: directly heated, carbonized thoriated tungsten.
 Envelope: glass, with base.
 Height: at most 191 mm.
 Diameter: at most 65 mm.
 Mass: at most 300 g.

OPERATING ENVIRONMENTAL CONDITIONS

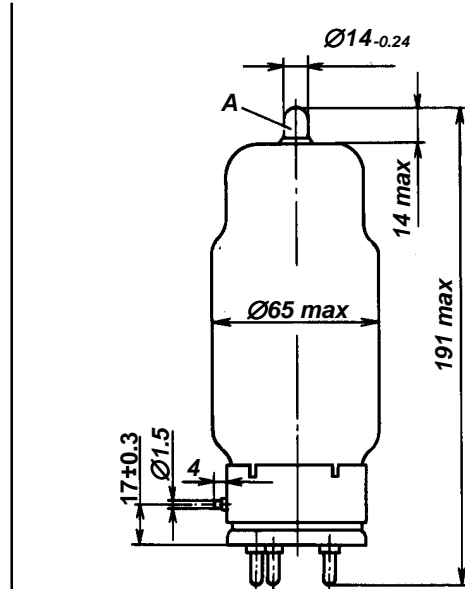
Ambient temperature, °C **-10 to +55**
 Relative humidity at up to +25 °C, % **98**

BASIC DATA Electrical Parameters

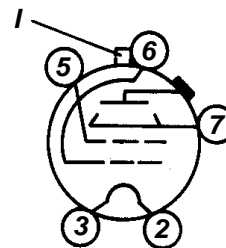
Filament voltage, V **10**
 Filament current, A **4.7-5.5**
 Mutual conductance (at anode voltage 2 kV, grid 2 voltage 400 V, anode currents 60 and 80 mA), mA/V **3.1-4.9**
 Anode current (at anode voltage 2 kV, grid 2 voltage 400V, grid 1 voltage – 35 V), mA **30-65**
 Interelectrode capacitance, pF:
 input **13-19**
 output **10.5-17.5**
 transfer, at most **0.25**
 Output power (at anode voltage 2 kV, grid 2 voltage 100 V, grid 1 AC voltage 184V), W:
 at frequency 15 MHz, at least **220**
 at frequency 30 MHz, at least **180**
 Output power over 500 h of service (at 15 MHz), W, at least **198**

Limit Operating Values

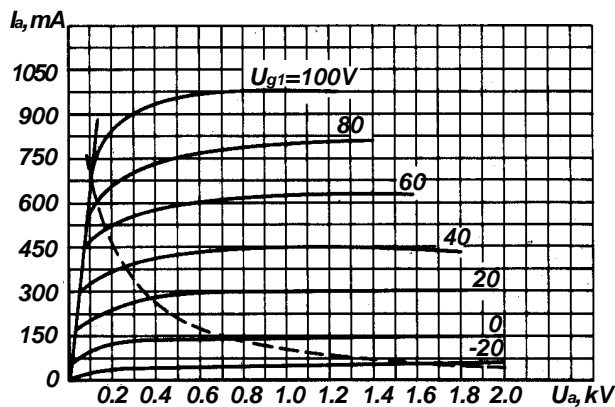
Filament voltage, V **9.5-10.5**
 Anode voltage, kV **2**
 Gnd 2 voltage, V **400**
 Dissipation, W:
 anode **100**
 grid 2 **22**
 Operating frequency, MHz **30**



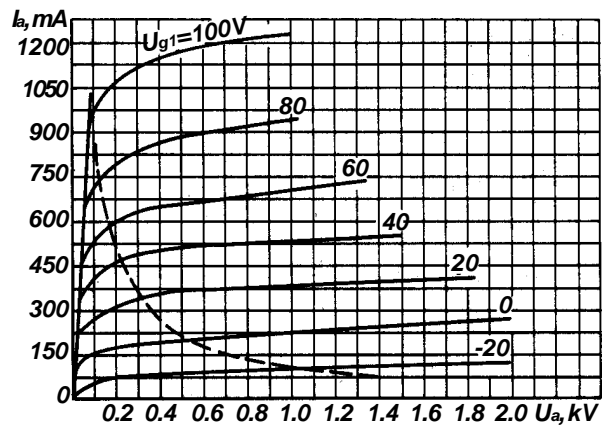
1 - alignment pin; 2,3 - cathode; 5 - grid 2; 6 - grid 1; 7 - beam-forming plates; A - anode-top cap



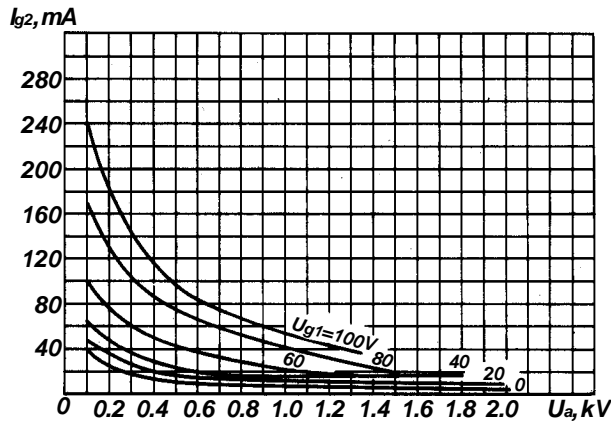
CONNECTION OF ELECTRODES WITH LEADS



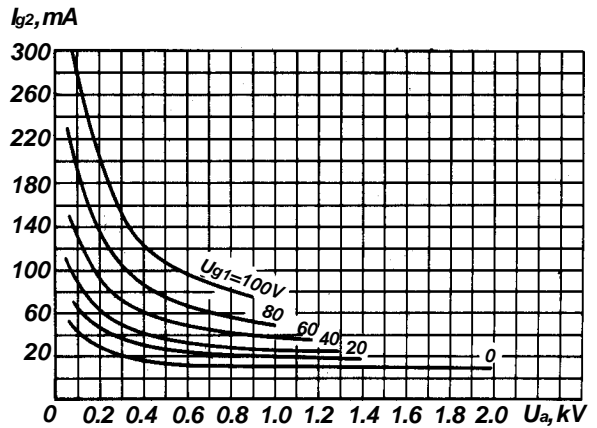
Averaged Anode Characteristic Curves:
 $U_1 = 10V; U_{g2} = 0.3kV;$
 ——— $P_{a \max}$
 beam-forming plates voltage is 0



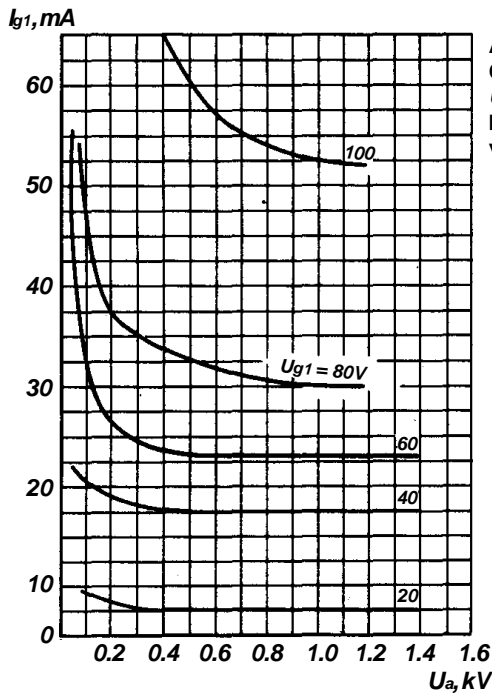
Averaged Anode Characteristic Curves:
 $U_1 = 10V; U_{g2} = 0.4kV;$
 ——— $P_{a \max}$
 beam-forming plates voltage is 0



Averaged Grid 2-Anode Characteristic Curves:
 $U_1 = 10V$; $U_{g2} = 0.3kV$;
 beam-forming plates voltage is 0

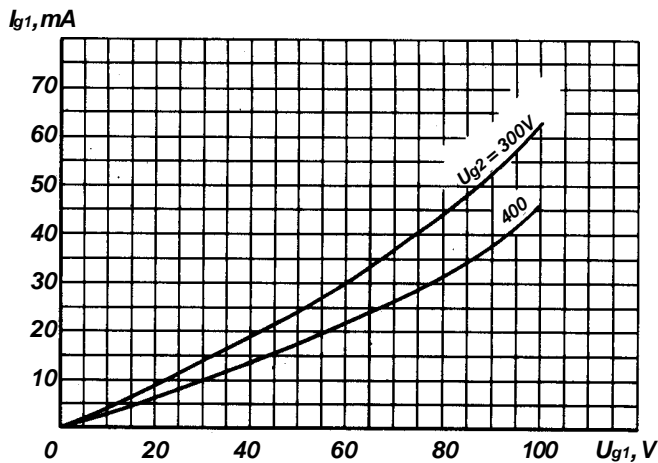
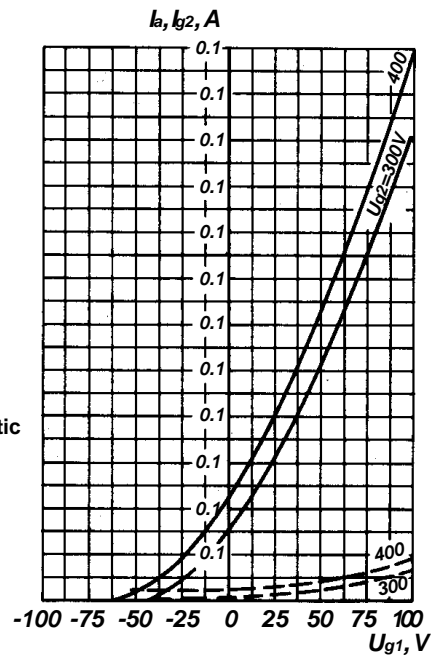


Averaged Grid 2-Anode Characteristic Curves:
 $U_1 = 10V$; $U_{g2} = 0.4kV$;
 beam-forming plates voltage is 0



Averaged Grid-Anode Characteristic Curves:
 $U_1 = 10V$; $U_{g2} = 0.4kV$;
 beam-forming plates voltage is 0

Averaged Characteristic Curves:
 $U_1 = 10V$; $U_{g2} = 1kV$;
 — anode-grid;
 - - - grid 2;
 beam-forming plates voltage is 0



Averaged Grid Characteristic Curves:
 $U_1 = 10V$; $U_a = 1kV$;
 beam-forming plates voltage is 0