



ELECTRONIC TUBE REFERENCE

GU81M

Power - Pentode (NOT beam) (over 1000V 100W) electronic tube

CONSOLIDATED TECHNICAL
DATA

1 SECTION
CONSTRUCTION
PENTODE

Russian generator pentode designed for RF power service. Manufacturer documentation identifies radio-frequency generation and power amplification as its defining function.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	7
NOMINAL HEATER	12.6 V / 10.5 A	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Pentode	
MAXIMUM PLATE VOLTAGE	3000 V
MAXIMUM SCREEN VOLTAGE	600 V
MAXIMUM PLATE DISSIPATION	600 W
MAXIMUM SCREEN DISSIPATION	120 W
MAXIMUM GRID DISSIPATION	10 W
<i>Promoted-field audit performed from English ratings/characteristics; detailed electrical values retained in parameter table. REDO promoted-field audit completed from English Limit Operating Values / Electrical Parameters tables.</i>	

The GU81M is a generator pentode for RF power service.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

195X Russian

Published test conditions and operating points. Values on this page are preserved as reported by this source.

195X RUSSIAN

Section 1 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	12.6 V	Nominal +/-6%
RF output power at 25 m	750 W	Published value

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater current	10.5 A	Maximum
Anode voltage, wavelength >6 m	2500 V	Published limit
Anode voltage, wavelength >50 m	3000 V	Published limit
Screen-grid voltage	600 V	Maximum
Anode dissipation	450 W	Maximum
Screen-grid dissipation	120 W	Maximum
Control-grid dissipation	10 W	Maximum
Short-term anode dissipation	6400 W	Up to 3 minutes
Envelope temperature	370 degC	Maximum



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1968 Electronintorg

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1968 ELECTRONINTORG

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
grid [1]	12	1,2 -cathode; 3—grid 1; 4 - grid 2; 5— cathode centre tap; 6, C3-grid 3;
grid [2]	3	1,2 -cathode; 3—grid 1; 4 - grid 2; 5— cathode centre tap; 6, C3-grid 3;
grid [3]	1	1,2 -cathode; 3—grid 1; 4 - grid 2; 5— cathode centre tap; 6, C3-grid 3;
grid [4]	4	1,2 -cathode; 3—grid 1; 4 - grid 2; 5— cathode centre tap; 6, C3-grid 3;
grid [5]	2	1,2 -cathode; 3—grid 1; 4 - grid 2; 5— cathode centre tap; 6, C3-grid 3;
grid [6]	5	1,2 -cathode; 3—grid 1; 4 - grid 2; 5— cathode centre tap; 6, C3-grid 3;
grid [7]	6	1,2 -cathode; 3—grid 1; 4 - grid 2; 5— cathode centre tap; 6, C3-grid 3;
grid [8]	3	1,2 -cathode; 3—grid 1; 4 - grid 2; 5— cathode centre tap; 6, C3-grid 3;
temperature, °C [1]	-10 C	Температура окружающей среды, °C —10+55 Ambient temperature, °C —10to +55
temperature, °C [2]	55 C	Температура окружающей среды, °C —10+55 Ambient temperature, °C —10to +55
temperature, °C [3]	-10 C	Температура окружающей среды, °C —10+55 Ambient temperature, °C —10to +55
temperature, °C [4]	55 C	Температура окружающей среды, °C —10+55 Ambient temperature, °C —10to +55
current, A,atmost	11 A	Ток накала, A,Hebonee 11 Filament current, A,atmost
voltage	2 uS	Контроль качества взаимной проводимости (NP HanpsXeHUsIX Mutual conductance (at anode voltage 2 kV,
current [1]	2 A	aHopaa 2 kB, BTopow ceTku 600 B, Toke grid 2 voltage 600 V, anode current
current [2]	600 A	aHopaa 2 kB, BTopow ceTku 600 B, Toke grid 2 voltage 600 V, anode current
current [3]	2 A	aHopaa 2 kB, BTopow ceTku 600 B, Toke grid 2 voltage 600 V, anode current

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
current [4]	600 A	aHopaa 2 kB, BTopow ceTku 600 B, Toke grid 2 voltage 600 V, anode current
anode [1]	1	KoadpuuymeHT ycuneHus no nepBon ceTke Gain coefficient (grid 1—grid 2) (at anode
anode [2]	2	KoadpuuymeHT ycuneHus no nepBon ceTke Gain coefficient (grid 1—grid 2) (at anode
voltages [1]	2 kV	OTHOCUTENbHO BTOPOB CETKY (NPW HANPSIXXEHUAX voltage 2kV, grid 2 voltages 600 and 500 V,
voltages [2]	2 kV	OTHOCUTENbHO BTOPOB CETKY (NPW HANPSIXXEHUAX voltage 2kV, grid 2 voltages 600 and 500 V,
voltages [3]	600 kV	OTHOCUTENbHO BTOPOB CETKY (NPW HANPSIXXEHUAX voltage 2kV, grid 2 voltages 600 and 500 V,
voltages [4]	500 kV	OTHOCUTENbHO BTOPOB CETKY (NPW HANPSIXXEHUAX voltage 2kV, grid 2 voltages 600 and 500 V,
grid [1]	200 kV	Toke aHOga 200 MA) 2,54 Bias voltage (at anode voltage 2 kV, grid 2
grid [2]	254 kV	Toke aHOga 200 MA) 2,54 Bias voltage (at anode voltage 2 kV, grid 2
grid [3]	2 kV	Toke aHOga 200 MA) 2,54 Bias voltage (at anode voltage 2 kV, grid 2
grid [4]	2 kV	Toke aHOga 200 MA) 2,54 Bias voltage (at anode voltage 2 kV, grid 2
voltage [1]	600 V	Hanpsi>eHue cMeLeHus (Npy Hanps>KeHWsx aHo4a voltage 600 V),V 116-160
voltage [2]	116 V	Hanpsi>eHue cMeLeHus (Npy Hanps>KeHWsx aHo4a voltage 600 V),V 116-160
voltage [3]	-160 V	Hanpsi>eHue cMeLeHus (Npy Hanps>KeHWsx aHo4a voltage 600 V),V 116-160
Interelectrode capacitance, pF [1]	2 pF	2 kB, BToponcetkn 600B),B 116-160 Interelectrode capacitance, pF:
Interelectrode capacitance, pF [2]	600 pF	2 kB, BToponcetkn 600B),B 116-160 Interelectrode capacitance, pF:
Interelectrode capacitance, pF [3]	116 pF	2 kB, BToponcetkn 600B),B 116-160 Interelectrode capacitance, pF:
Interelectrode capacitance, pF [4]	-160 pF	2 kB, BToponcetkn 600B),B 116-160 Interelectrode capacitance, pF:
input [1]	25	MexanekTpoaHble emkocTu, nd: input ... 25-32

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
input [2]	-32	MexanekTpoaHble emkocTu, nd: input ... 25-32
output [1]	25	BXOAHAR 25-32 output 21-26
output [2]	-32	BXOAHAR 25-32 output 21-26
output [3]	21	BXOAHAR 25-32 output 21-26
output [4]	-26	BXOAHAR 25-32 output 21-26
anode, atmost [1]	21	BBIXOAHASA . ..ot oot 21-26 grid 1—anode, atmost 0.1
anode, atmost [2]	-26	BBIXOAHASA . ..ot oot 21-26 grid 1—anode, atmost 0.1
anode, atmost [3]	1	BBIXOAHASA . ..ot oot 21-26 grid 1—anode, atmost 0.1
anode, atmost [4]	0.1	BBIXOAHASA . ..ot oot 21-26 grid 1—anode, atmost 0.1
grid [1]	1 W	neppas ceTka—TpeTbaceTka 1-4 Output power (at anode voltage 2 kV, grid 2
grid [2]	-4 W	neppas ceTka—TpeTbaceTka 1-4 Output power (at anode voltage 2 kV, grid 2
grid [3]	2 W	neppas ceTka—TpeTbaceTka 1-4 Output power (at anode voltage 2 kV, grid 2
grid [4]	2 W	neppas ceTka—TpeTbaceTka 1-4 Output power (at anode voltage 2 kV, grid 2
grid [1]	600 V	MOWHOCTL BbIXOAHAS (MPY HANPAXKEHUAX aHoAa voltage 600 V, bias voltage —200 V, grid 1
grid [2]	-200 V	MOWHOCTL BbIXOAHAS (MPY HANPAXKEHUAX aHoAa voltage 600 V, bias voltage —200 V, grid 1
grid [3]	1 V	MOWHOCTL BbIXOAHAS (MPY HANPAXKEHUAX aHoAa voltage 600 V, bias voltage —200 V, grid 1
current [1]	2 A	2 kB, BTopon ceTkun 600 B, Hanps>xeHun cMmelleHns drive voltage amplitude 300 V, anode current,
current [2]	600 A	2 kB, BTopon ceTkun 600 B, Hanps>xeHun cMmelleHns drive voltage amplitude 300 V, anode current,
current [3]	300 A	2 kB, BTopon ceTkun 600 B, Hanps>xeHun cMmelleHns drive voltage amplitude 300 V, anode current,

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
current at most [1]	200 mA	MuHyc 200 B, amnnnTyae HanpskeHns Bo3byxaeHvs atleast 450 mA, grid 1 current at most 20 mA,
current at most [2]	450 mA	MuHyc 200 B, amnnnTyae HanpskeHns Bo3byxaeHvs atleast 450 mA, grid 1 current at most 20 mA,
current at most [3]	1 mA	MuHyc 200 B, amnnnTyae HanpskeHns Bo3byxaeHvs atleast 450 mA, grid 1 current at most 20 mA,
current at most [4]	20 mA	MuHyc 200 B, amnnnTyae HanpskeHns Bo3byxaeHvs atleast 450 mA, grid 1 current at most 20 mA,
current, at most [1]	300 mA	nepsow ceTkmn 300 B, Tokax aHoAa He MeHee grid 2 current, at most 220 mA),
current, at most [2]	2 mA	nepsow ceTkmn 300 B, Tokax aHoAa He MeHee grid 2 current, at most 220 mA),
current, at most [3]	220 mA	nepsow ceTkmn 300 B, Tokax aHoAa He MeHee grid 2 current, at most 220 mA),
current (average value), A	600 mA	Tok, A: Anode current (average value), A 0.6
current (average value), A [1]	3 A	aHoga (cpegHee 3HaYeHne) 0,6 Grid 1 current (average value), A 0.02
current (average value), A [2]	6 A	aHoga (cpegHee 3HaYeHne) 0,6 Grid 1 current (average value), A 0.02
current (average value), A [3]	1 A	aHoga (cpegHee 3HaYeHne) 0,6 Grid 1 current (average value), A 0.02
current (average value), A [4]	20 mA	aHoga (cpegHee 3HaYeHne) 0,6 Grid 1 current (average value), A 0.02
current (average value), A [1]	2 A	.. 0,02 Grid 2 current (average value), A 0.2
current (average value), A [2]	2 A	.. 0,02 Grid 2 current (average value), A 0.2
current (average value), A [3]	200 mA	.. 0,02 Grid 2 current (average value), A 0.2
Dissipation, W [1]	3 kW	BTOPOW CeTKW (CpeAHee 3HaYEHNe) 0,2 Dissipation, W:
Dissipation, W [2]	2 kW	BTOPOW CeTKW (CpeAHee 3HaYEHNe) 0,2 Dissipation, W:

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
anode	450	Paccensaemas MOWHOCTb, BT: anode ... 450
dissipation) [1]	450 W	AHOAOM 450 anode (momentary dissipation) 600
dissipation) [2]	600 W	AHOAOM 450 anode (momentary dissipation) 600
temperature, °C	10 C	NEPBOV CETKOM . ..t v ier it e 10 Envelope temperature, °C
Anode Characteristic Curves	2	—_— — Haunbonblian Ly Th , P AHOAOM (Pa max) Averaged Grid 2-Anode Characteristic Curves:
Anode Characteristic Curves: Uy = [1]	126	Averaged Anode Characteristic Curves: Uy =126 V; Uy, = 0.5 kV
Anode Characteristic Curves: Uy = [2]	0.5	Averaged Anode Characteristic Curves: Uy =126 V; Uy, = 0.5 kV

TUBE TINKER

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