



ELECTRONIC TUBE REFERENCE

GU70B

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

CONSOLIDATED TECHNICAL
DATA

1 SECTION
CONSTRUCTION
TETRODE

Forced-air-cooled Soviet tetrode for linear RF power amplification to approximately 500 MHz.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	8 V / —	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Tetrode	
MAXIMUM PLATE VOLTAGE	3500 V
MAXIMUM SCREEN VOLTAGE	400 V
MAXIMUM PLATE DISSIPATION	350 W
MAXIMUM CATHODE CURRENT	360 mA
<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 GU-70B tetrode is used for linear RF power amplification at frequencies up to 500 MHz. It has an indirectly heated oxide-coated cathode, metal-ceramic construction, and forced-air cooling.

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 · Tetrode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
power > E > RS	706 W	The I'Y-706 tetrode is used for linear power > E > RS
grid [1]	150	Mass: at most 150 g. 1-grid; 2, 4, 6, 8, — cathode; 3, 7 — heater; 5 — vacant; Cf - grid 1; C2 —grid 2;
grid [2]	1	Mass: at most 150 g. 1-grid; 2, 4, 6, 8, — cathode; 3, 7 — heater; 5 — vacant; Cf - grid 1; C2 —grid 2;
grid [3]	2	Mass: at most 150 g. 1-grid; 2, 4, 6, 8, — cathode; 3, 7 — heater; 5 — vacant; Cf - grid 1; C2 —grid 2;
grid [4]	4	Mass: at most 150 g. 1-grid; 2, 4, 6, 8, — cathode; 3, 7 — heater; 5 — vacant; Cf - grid 1; C2 —grid 2;
grid [5]	6	Mass: at most 150 g. 1-grid; 2, 4, 6, 8, — cathode; 3, 7 — heater; 5 — vacant; Cf - grid 1; C2 —grid 2;
grid [6]	8	Mass: at most 150 g. 1-grid; 2, 4, 6, 8, — cathode; 3, 7 — heater; 5 — vacant; Cf - grid 1; C2 —grid 2;
grid [7]	3	Mass: at most 150 g. 1-grid; 2, 4, 6, 8, — cathode; 3, 7 — heater; 5 — vacant; Cf - grid 1; C2 —grid 2;
grid [8]	7	Mass: at most 150 g. 1-grid; 2, 4, 6, 8, — cathode; 3, 7 — heater; 5 — vacant; Cf - grid 1; C2 —grid 2;
grid [9]	5	Mass: at most 150 g. 1-grid; 2, 4, 6, 8, — cathode; 3, 7 — heater; 5 — vacant; Cf - grid 1; C2 —grid 2;

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
grid [10]	1	Mass: at most 150 g. 1-grid; 2, 4, 6, 8, — cathode; 3, 7 — heater; 5 — vacant; Cf - grid 1; C2 —grid 2;
grid [11]	2	Mass: at most 150 g. 1-grid; 2, 4, 6, 8, — cathode; 3, 7 — heater; 5 — vacant; Cf - grid 1; C2 —grid 2;
voltage (ACorDC),V	8 V	HanpsxeHne Hakana (nepemeHHoe unm Heater voltage (ACorDC),V 8
voltage [1]	31 uS	ToKHaKanNa, A ot 3,1-3,7 Mutual conductance (at anode voltage 1.75kV,
voltage [2]	-37 uS	ToKHaKanNa, A ot 3,1-3,7 Mutual conductance (at anode voltage 1.75kV,
voltage [3]	1.75 uS	ToKHaKanNa, A ot 3,1-3,7 Mutual conductance (at anode voltage 1.75kV,
voltage change + [1]	2 V	KpyTusHa xapakTepucTyKi (Npu HanpsDKeHUsIX grid 2 voltage 400 V, grid 1 voltage change +2.5V,
voltage change + [2]	400 V	KpyTusHa xapakTepucTyKi (Npu HanpsDKeHUsIX grid 2 voltage 400 V, grid 1 voltage change +2.5V,
voltage change + [3]	1 V	KpyTusHa xapakTepucTyKi (Npu HanpsDKeHUsIX grid 2 voltage 400 V, grid 1 voltage change +2.5V,
voltage change + [4]	2.5 V	KpyTusHa xapakTepucTyKi (Npu HanpsDKeHUsIX grid 2 voltage 400 V, grid 1 voltage change +2.5V,
current [1]	175 mA	aHopa 1,75 kB, BTopon ceTkun 400 B, anode current 200 mA), mA/NV 14-28
current [2]	400 mA	aHopa 1,75 kB, BTopon ceTkun 400 B, anode current 200 mA), mA/NV 14-28
current [3]	200 mA	aHopa 1,75 kB, BTopon ceTkun 400 B, anode current 200 mA), mA/NV 14-28
current [4]	14 mA	aHopa 1,75 kB, BTopon ceTkun 400 B, anode current 200 mA), mA/NV 14-28
current [5]	-28 mA	aHopa 1,75 kB, BTopon ceTkun 400 B, anode current 200 mA), mA/NV 14-28
voltages [1]	2 V	W3MEHEHUW HanPsHKeHUs NepBOiA Gain coefficient (at grid 2 voltages 400 and
voltages [2]	400 V	W3MEHEHUW HanPsHKeHUs NepBOiA Gain coefficient (at grid 2 voltages 400 and

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
current2 [1]	25 mA	ceTku Ha +2,5 B, Toke aHoaa 350 V,anode current200mA) 9-18
current2 [2]	350 mA	ceTku Ha +2,5 B, Toke aHoaa 350 V,anode current200mA) 9-18
current2 [3]	0 mA	ceTku Ha +2,5 B, Toke aHoaa 350 V,anode current200mA) 9-18
current2 [4]	9 mA	ceTku Ha +2,5 B, Toke aHoaa 350 V,anode current200mA) 9-18
current2 [5]	-18 mA	ceTku Ha +2,5 B, Toke aHoaa 350 V,anode current200mA) 9-18
anode [1]	200 V	200MA),MA/B ... 14-28 Negative bias voltage (at anode
anode [2]	14 V	200MA),MA/B ... 14-28 Negative bias voltage (at anode
anode [3]	-28 V	200MA),MA/B ... 14-28 Negative bias voltage (at anode
anode [1]	1.75 kV	KoahhnuumeHT yeunenms (npn HanpshkeHnax voitage 1.75kV, grid 2 voltage 400 V, anode
anode [2]	2 kV	KoahhnuumeHT yeunenms (npn HanpshkeHnax voitage 1.75kV, grid 2 voltage 400 V, anode
anode [3]	400 kV	KoahhnuumeHT yeunenms (npn HanpshkeHnax voitage 1.75kV, grid 2 voltage 400 V, anode
current [1]	400 mA	BTOpOW ceTkn 400 v 350 B, Toke current 200 mA), absolute value, V 14-28
current [2]	350 mA	BTOpOW ceTkn 400 v 350 B, Toke current 200 mA), absolute value, V 14-28
current [3]	200 mA	BTOpOW ceTkn 400 v 350 B, Toke current 200 mA), absolute value, V 14-28
current [4]	14 mA	BTOpOW ceTkn 400 v 350 B, Toke current 200 mA), absolute value, V 14-28
current [5]	-28 mA	BTOpOW ceTkn 400 v 350 B, Toke current 200 mA), absolute value, V 14-28
voltage [1]	200 kV	aHoAa 200 MA) 9-18 Negative cutoff voltage (at anode voltage 2 kV,
voltage [2]	9 kV	aHoAa 200 MA) 9-18 Negative cutoff voltage (at anode voltage 2 kV,
voltage [3]	-18 kV	aHoAa 200 MA) 9-18 Negative cutoff voltage (at anode voltage 2 kV,
voltage [4]	2 kV	aHoAa 200 MA) 9-18 Negative cutoff voltage (at anode voltage 2 kV,

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
current [1]	6 mA	Hanpsxenue, B, He 6onee: grid 2 voltage 400 V, anode current 10 mA),
current [2]	2 mA	Hanpsxenue, B, He 6onee: grid 2 voltage 400 V, anode current 10 mA),
current [3]	400 mA	Hanpsxenue, B, He 6onee: grid 2 voltage 400 V, anode current 10 mA),
current [4]	10 mA	Hanpsxenue, B, He 6onee: grid 2 voltage 400 V, anode current 10 mA),
Interelectrode capacitance, pF	175 pF	Hanpsbxehusix aHoga 1,75 kB, sTopon Interelectrode capacitance, pF:
input,atmost [1]	400	ceTku 400 B, Toke aHoga 200 MA), input,atmost
input,atmost [2]	200	ceTku 400 B, Toke aHoga 200 MA), input,atmost
output,atmost [1]	3	abCONMOTHOE 3BHAYEHHNE 0 14-28 output,atmost ..
output,atmost [2]	14	abCONMOTHOE 3BHAYEHHNE 0 14-28 output,atmost ..
output,atmost [3]	-28	abCONMOTHOE 3BHAYEHHNE 0 14-28 output,atmost ..
power under conditions of class AB	2 W	Hanpsbkenusix aHoaa 2 kB, sTopoit Output power under conditions of class AB,
grid [1]	400 kV	ceTku 400 B, Toke aHoaa 10 MA), (at anode voltage 2 kV, grid 2 voltage 400 V, grid 2
grid [2]	10 kV	ceTku 400 B, Toke aHoaa 10 MA), (at anode voltage 2 kV, grid 2 voltage 400 V, grid 2
grid [3]	2 kV	ceTku 400 B, Toke aHoaa 10 MA), (at anode voltage 2 kV, grid 2 voltage 400 V, grid 2
grid [4]	2 kV	ceTku 400 B, Toke aHoaa 10 MA), (at anode voltage 2 kV, grid 2 voltage 400 V, grid 2
grid [5]	400 kV	ceTku 400 B, Toke aHoaa 10 MA), (at anode voltage 2 kV, grid 2 voltage 400 V, grid 2
grid [6]	2 kV	ceTku 400 B, Toke aHoaa 10 MA), (at anode voltage 2 kV, grid 2 voltage 400 V, grid 2
current at most	20 mA	abCOMOTHOE BHAYEHHNE vnnn current at most 20 mA,
frequency [1]	6 MHz	MexanekTpogHule eMKocTH, P, He 6onee: at frequency 0.1-1 MHz), W, atleast 250
frequency [2]	0.1 MHz	MexanekTpogHule eMKocTH, P, He 6onee: at frequency 0.1-1 MHz), W, atleast 250

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
frequency [3]	-1 MHz	MexanekTpogHule eMKocTH, P, He 6onee: at frequency 0.1-1 MHz), W, atleast 250
frequency [4]	250 MHz	MexanekTpogHule eMKocTH, P, He 6onee: at frequency 0.1-1 MHz), W, atleast 250
anode voltage [1]	6 kV	BBIXOAHAR . o\ v ie et e et (at heater voltage 6 V, anode voltage 1.9 kV,
anode voltage [2]	1.9 kV	BBIXOAHAR . o\ v ie et e et (at heater voltage 6 V, anode voltage 1.9 kV,
current DC component [1]	6 A	MPOXOAHAN . v i vt e ettt ee e eeaens 0,06 grid 2 voltage 400 V, anode current DC component
current DC component [2]	2 A	MPOXOAHAN . v i vt e ettt ee e eeaens 0,06 grid 2 voltage 400 V, anode current DC component
current DC component [3]	400 A	MPOXOAHAN . v i vt e ettt ee e eeaens 0,06 grid 2 voltage 400 V, anode current DC component
frequency [1]	250 MHz	MowwHocTb BbixogHas, BT, He MeHee: 250 mA, frequency 500 MHz), W, atleast 125
frequency [2]	500 MHz	MowwHocTb BbixogHas, BT, He MeHee: 250 mA, frequency 500 MHz), W, atleast 125
frequency [3]	125 MHz	MowwHocTb BbixogHas, BT, He MeHee: 250 mA, frequency 500 MHz), W, atleast 125
voltage [1]	6 kV	ceTku He 6onee 20 MA, yacTtoTe 0,1—1 MIy) 250 (at heater voltage 6 V, anode voltage 2 kV,
voltage [2]	20 kV	ceTku He 6onee 20 MA, yacTtoTe 0,1—1 MIy) 250 (at heater voltage 6 V, anode voltage 2 kV,
voltage [3]	1 kV	ceTku He 6onee 20 MA, yacTtoTe 0,1—1 MIy) 250 (at heater voltage 6 V, anode voltage 2 kV,
voltage [4]	-1 kV	ceTku He 6onee 20 MA, yacTtoTe 0,1—1 MIy) 250 (at heater voltage 6 V, anode voltage 2 kV,
voltage [5]	250 kV	ceTku He 6onee 20 MA, yacTtoTe 0,1—1 MIy) 250 (at heater voltage 6 V, anode voltage 2 kV,
voltage [6]	6 kV	ceTku He 6onee 20 MA, yacTtoTe 0,1—1 MIy) 250 (at heater voltage 6 V, anode voltage 2 kV,
voltage [7]	2 kV	ceTku He 6onee 20 MA, yacTtoTe 0,1—1 MIy) 250 (at heater voltage 6 V, anode voltage 2 kV,
voltage [1]	2 V	B peXxxume Knacca B (npu HanpsixxeHusix Hakana grid 2 voltage 400 V), dB:
voltage [2]	400 V	B peXxxume Knacca B (npu HanpsixxeHusix Hakana grid 2 voltage 400 V), dB:

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
power under condition of class [1]	500 W	yactoTe 500 MINy, ... 125 Output power under condition of class
power under condition of class [2]	125 W	yactoTe 500 MINy, ... 125 Output power under condition of class
voltage, kV [1]	57 kV	Hakana (nepeMeHHoe UK NOCTOAHHOe) 5,7-6,3 Anode voltage, kV:
voltage, kV [2]	-63 kV	Hakana (nepeMeHHoe UK NOCTOAHHOe) 5,7-6,3 Anode voltage, kV:
voltage, absolute value, V	1 V	nepBson CeTKy oTpULaTensHoe Negative grid 1 voltage, absolute value, V
voltage (DC),V 3 V ..o [1]	3 V	(abCcortoTHOE 3HAYEHUE) 150 Grid 2 voltage (DC),V o,
voltage (DC),V 150 V ..o [2]	150 V	(abCcortoTHOE 3HAYEHUE) 150 Grid 2 voltage (DC),V o,
voltage (DC),V 2 V ..o [3]	2 V	(abCcortoTHOE 3HAYEHUE) 150 Grid 2 voltage (DC),V o,
current (DC component), mA	400 mA	BTOPOB CETKMN (NOCTOSSHOE) o oo ee . 400 Cathode current (DC component), mA
Dissipation, W	360 W	Tok KaToaa (NocTosiHHas cocTasnsowas), MA 360 Dissipation, W:
grid [1]	350	AHOMOM . . ottt it 350 grid 2:
grid [2]	2	AHOMOM . . ottt it 350 grid 2:
frequency, MHz	500 MHz	MEPBOMCETKOM . .. oottt iie i eeeiean Operating frequency, MHz 500
Temperature at the hottest point of envelope, °C [1]	500 C	 500 Temperature at the hottest point of envelope, °C . . . 200