



ELECTRONIC TUBE REFERENCE

6I1P

Voltage - Radio Detector Converter electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

HEPTODE-TRIODE

Russian 6I1P (6И1П) indirectly heated triode-heptode frequency converter with shared cathode and 6.3 V 300 mA heater.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	9
NOMINAL HEATER	6.3 V / 300 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Common cathode	SECTION CONSTRUCTION	Dissimilar

SECTION RATINGS

SECTION1 Triode	
TRANSCONDUCTANCE	0.0022 S
AMPLIFICATION FACTOR	23.5
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM PLATE DISSIPATION	0.8 W
MAXIMUM CATHODE CURRENT	6.5 mA
<p>6I1P shared-cathode triode section, original Russian bilingual datasheet. Max operating plate 250 V, plate dissipation 0.8 W, cathode current 6.5 mA. Typical V_a 100 V, V_g -2 V, I_a 6.8 mA, g_m 2.2 ± 0.5 mA/V = 0.0022 A/V, μ 23.5 ± 5. Input capacitance 2.6 ± 0.6 pF, output 2.0 ± 0.3 pF, transfer 1.0 ± 0.2 pF. Cold-switching plate 550 V separate, not continuous rating. Heater-cathode ± 100 V. Grid pin9, plate pin8, cathode pin3 shared with heptode.</p>	

SECTION2 Heptode	
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	1.7 W
MAXIMUM CATHODE CURRENT	12.5 mA
<i>6I1P shared-cathode heptode frequency converter section, original Russian bilingual datasheet. Max operating heptode plate 300 V, dissipation 1.7 W, cathode current 12.5 mA, grids2+4 dissipation 1 W. Typical Va 250 V, grids2+4 supply 100 V, grid1 -2 V, grid3 0 V, Ia 3.8 mA, grids2+4 current 6.5 mA, conversion conductance 0.77±0.22 mA/V, internal resistance ~0.7 MΩ. Conversion conductance NOT entered as conventional transconductance. Heptode grid1 input C 5.1 pF, grid3 input C 6.3 pF, output C 7.4 pF, grid1 transfer ≤0.006 pF. Cold-switching plate/screen allowance 550 V separate from operating max. Cathode pin3 shared with triode, plate pin6, grids2+4 pin1, grid1 pin2, grid3 pin7.</i>	

The 6UIIT triode-heptode has been designed for BaHMA YaCTOTHI B PASUOTEXHMYECKUX yCTpolcTBax.

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 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Source symbol grid	2 A	1 — grid 2 and grid 4; 2 — grid 1; 3 — cathode, grid 5 and
Screen	5 A	1 — grid 2 and grid 4; 2 — grid 1; 3 — cathode, grid 5 and
Source symbol AMana3oHe	4 A	BubpauuonHsle Harpy3kd B AMana3oHe 4acToT OT 1 Vibration: at frequencies from 1 to 60 Hz with
Source symbol OT	1 V	BubpauuonHsle Harpy3kd B AMana3oHe 4acToT OT 1 Vibration: at frequencies from 1 to 60 Hz with
Source symbol to	60 Hz	BubpauuonHsle Harpy3kd B AMana3oHe 4acToT OT 1 Vibration: at frequencies from 1 to 60 Hz with
Source symbol Bo	3 A	HOCTb Bo3ayxa ao 98% npy Temnepatype po 25 °C. Relative humidity: up to 98% at up to 25 °C.
Source symbol grid	3 A	CeTKM TperThedl M ceTkit Tprona (3¢¢.), mepemen- grid 3 and triode grid (A.C., rms.) 8.5
Source symbol 0	6 pA	O6paTHbll TOK CETKH TPETBHEH, MKA =0,5 Triode amplification factorcovmnueeeanns 23.5+5
Published electrical parameter	0 V	aHON FeNTONA — CETKA TPHOOA .. .0vvvvvnnnn.-. =0,1 heptode anode-to-triode grid =0.1
Screen	2 A	grid 2 and grid 4, at grid 2 and
Source symbol most	2 mA	grid 4 current at most 2 mA 300
Source symbol Oomee	2 mA	He Oomee 2 MA) 300
Source symbol most	200 V	at most 200V and power dissi-

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate	1.3 W	pation at anode at most 1.3 W 3
Published electrical parameter	8 V	8 V l ' / . - 7 316
Source symbol DL	-4 V	A ov LA v DL -4V l A- -8V LA0u] 4
Published electrical parameter	-8 V	A ov LA v DL -4V l A- -8V LA0u] 4
Published electrical parameter	46 V	6 / 'ZV\ /A 21)\4/% 46V \857' IUV " lZ' &
Published electrical parameter	2 A	2 A
Published electrical parameter	63 V	Un=63V 1 — aHOOHO-CETOYHBIE; 2 — KPYyTH3HA
Plate	6.3 V	Averaged anode characteristics of triode Un=6,3V, U _{sr} =100 V
Published electrical parameter	6.3 V	Un=6.3V, U _{ar} =100V
Published electrical parameter	100 V	Un=6.3V, U _{ar} =100V
Published electrical parameter	250 V	250v 1200v 150 oV SOV
Published electrical parameter	1200 V	250v 1200v 150 oV SOV
Published electrical parameter	50 V	Lgor }50vL 200v 150v Voor spY
Source symbol vL	200 V	Lgor }50vL 200v 150v Voor spY
Published electrical parameter	150 V	Lgor }50vL 200v 150v Voor spY
Source symbol Ugz	3±0 V	T0Ra Up=63V, U _{sg} =250V, U _{gz3} =0V
Plate	250 V	Averaged anode-grid characteristics of heptode: Un=63YV, U _{ag} =250 V, U _{g3} =0V
Plate	3±0 V	Averaged anode-grid characteristics of heptode: Un=63YV, U _{ag} =250 V, U _{g3} =0V
Source symbol V	100 V	-30 -20 -10 7 ugz=u,ϕ=3mf 2501 200 150V 100V 50V ,
Source symbol V	50 V	-30 -20 -10 7 ugz=u,ϕ=3mf 2501 200 150V 100V 50V ,

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Source symbol B	3 A	VYcependeHHble XapaKTePHCTHKM KPYTH3HBI TeNTONa B 3a- VYepenHensble OUHAMHYECKHE AHOAHO-CETOYHbIE Xapax-
Published electrical parameter	8.5 V	=8,5 Ve, Rgz=Rgr=47 kQ
Published electrical parameter	47 kΩ	=8,5 Ve, Rgz=Rgr=47 kQ
Source symbol grid	1 V	versus grid 1 voltage Averaged dynamic anode-grid characteristics of heptode:
Source symbol o	1 A	o1 A
Source symbol Ipeo	6 pA	1 — xpyTu3Ha npeolpa3oBaHnd; 2 — ceTOYHAsA; 3 — aHONHO- Ipeo6pa3oBaHus B 3aBHCHMOCTH OT HANPSAXKEHHA CETKH
Published electrical parameter	-2 V	Un=6,3V, Usg=250V, Usr=100 V, Ugiga= -2 V, Rg3=R;r= Un=6,3 V, Usg=250 V, Uar=100 V, Ug;=0V,
Source symbol Ry	3±47 kΩ	=47 kQ Ugr~ =Ugi~ =8,5 Verr, Regr=Ry3=47 kQ
Screen	6.3 V	4 — grid (for grid 2 and grid 4) Un=6.3V, Uag=250 V, Uar=100 V, Ugz =0 V, Ugr~ =
Screen	250 V	4 — grid (for grid 2 and grid 4) Un=6.3V, Uag=250 V, Uar=100 V, Ugz =0 V, Ugr~ =
Screen	100 V	4 — grid (for grid 2 and grid 4) Un=6.3V, Uag=250 V, Uar=100 V, Ugz =0 V, Ugr~ =
Screen	0 V	4 — grid (for grid 2 and grid 4) Un=6.3V, Uag=250 V, Uar=100 V, Ugz =0 V, Ugr~ =
Published electrical parameter	2 V	Un=63V,Usag=250 V, Uaz=100 V, Ugia= —2 V, Rg3=Rer= =Ugi~ =8.5 Veur, Rgr=Rg3=47 kO



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1981 Russian Tubes Katsnelson and Larionov

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

1981 RUSSIAN TUBES KATSNELSON AND LARIONOV

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Published electrical parameter	5 %	5 % ниатюрное (рис. 21П). Масса 20 г.
Published electrical parameter	0 V	при Ив=6,3 В, И,т==100 В, Исл=? В (для ЕСН81 Ис=0 В),
Published electrical parameter	1 в	Наименование 6И1 ви!П-В 6И!П-ЕВ ЕСН81
Published electrical parameter	5 A	3.6Ё1'5 A
Published electrical parameter	<0.0 %	анодом триода , <0,0% <0,06 <0,06 <0,06
Published electrical parameter	-0.5 V	* Для ЕСН8! при !}с1 =---0,5 В,
Published electrical parameter	5 %	дом и подогревателем, В]005 %(2)05 %ООГ 100
Published electrical parameter	5—600 Hz	5—600 Гц @ й 2,5 Ю 10 —
Published electrical parameter	200 V	0 20 #0 60 60 100720 160 180 200 В 8-10-8 -6-4-2 0
Published electrical parameter	50 V	ЦР63В Е0а в50В /', 'д
Published electrical parameter	100 V	78 _ Исё ОЕ 100В з ОВ ЛЙ
Published electrical parameter	0 в	72 27 0В Из=0в 1...,*/ 00 у<Ъм 'Ё

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