



ELECTRONIC TUBE REFERENCE

6E5PI

Power - Tetrode Single (NOT beam) (under 10W) electronic tube

CONSOLIDATED TECHNICAL
DATA

1 SECTION
CONSTRUCTION
TETRODE

6E5PI (6Э5П-И) indirectly heated high-frequency pulse tetrode for RF voltage amplification in pulsed circuits.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	9
NOMINAL HEATER	6.3 V / 700 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Tetrode	
PLATE RESISTANCE	10000 Ω
TRANSCONDUCTANCE	0.024 S
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM SCREEN VOLTAGE	250 V
MAXIMUM SCREEN DISSIPATION	2 W
MAXIMUM CATHODE CURRENT	100 mA
6E5PI high-frequency pulse tetrode, bilingual Russian source. Typical V_a 150 V, screen 150 V, plate current ≥ 35 mA, screen current ≤ 18 mA, cathode resistor 30 Ω, $g_m \geq 24$ mA/V, plate resistance 10 kΩ. Max plate 250 V and screen 250 V; at cutoff ($I_k \leq 5$ μA), plate/screen may reach 470 V. Max DC cathode current 100 mA, pulsed cathode current 9 A. IMPORTANT: 3 W is maximum COMBINED plate-plus-screen dissipation, not independent plate dissipation; plate dissipation field intentionally unset. Screen dissipation 2 W maximum. Heater-cathode +100/-150 V, grid1 max negative -100 V. Capacitances input 15 ± 2 pF, output approx 2.5 pF, transfer ≤ 0.075 pF, cathode-heater ≤ 13.5 pF. Pulse emission ≥ 6 A at 6.3 V heater, ≥ 3 A at 5.7 V, at 150 V pulse, 50 Hz, 1-2 μs.	

WUmnynscHeit TeTpoa 62511-M1 npeanasHaved anis The 635I1-U pulse tetrode has been designed to AREY/ZR Averaged pulse characteristics (when connected as triode):

SOURCE OPERATING CONDITIONS

195X Russian

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

195X RUSSIAN

Section 1 · Tetrode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Published electrical data	6.3	HAKAMTA oot vt ee e oe e em e aien e 6,3
Published electrical data	6.3	heater e 6.3
Published electrical data	150	anode ... 150
Published electrical data	150	CETKH BTOPOM ottt 150
Published electrical data	2; 150	grid 2 ... 150
Plate current	2 mA	grid 2 ... 150 OTCeYKH TOKa aHoAa (pH HanpsaXeHHH aHoda anode current cutoff, at anode and grid 2 voltage
Plate current	70 mA	OTCeYKH TOKa aHoAa (pH HanpsaXeHHH aHoda anode current cutoff, at anode and grid 2 voltage U ceTkH sTOpo# 250 B # 1oke aHoga 70 MkA), He
Plate current	~12 mA	anode current cutoff, at anode and grid 2 voltage U ceTkH sTOpo# 250 B # 1oke aHoga 70 MkA), He 250 V and anode current 70 p A, atmost ~12
Plate current	-12 mA	U ceTkH sTOpo# 250 B # 1oke aHoga 70 MkA), He 250 V and anode current 70 p A, atmost ~12 Bonee e -12
Plate current	-1.5 mA	250 V and anode current 70 p A, atmost ~12 Bonee e -12 grid 1 current cutoff, at most -1.5
Published electrical data	1; -1.5	grid 1 current cutoff, at most -1.5
Published electrical data	-1.5	OTCEYKH TOKA CETKH NepBoH, He Gonee -1,5
Published electrical data	700140	HAKATIA . ovoiae s oo iee et ie e eiaeeannn 700140
Published electrical data	700	Reater e 700

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Published electrical data	=35	anode e =35
Published electrical data	=18	CETKM BTOPOM ..o .itiet et iee e iinnnnnnnn =18
Published electrical data	2; =18	grid 2 ... e =18
Plate resistance	0 ohm	COMNMpOTHBAEHHE B LENMYU KATOAA IS ABTOMATHYECKOTO cMewteHus, OM e, 30 Resistance in cathode circuit for automatic bias, Ohm 30 Buyrpeuntee conporusnensie, MOM ..., .. 0,01 Internal resistance, MOhm
Plate resistance	0.35 ohm	cMewteHus, OM e, 30 Resistance in cathode circuit for automatic bias, Ohm 30 Buyrpeuntee conporusnensie, MOM ..., .. 0,01 Internal resistance, MOhm 0.0l DKBHBA/ICHTHOE COMPOTHUBNEHUE BHYTPHIAMIIO
Transconductance	=24 mA/V	Buyrpeuntee conporusnensie, MOM ..., .. 0,01 Internal resistance, MOhm 0.0l DKBHBA/ICHTHOE COMPOTHUBNEHUE BHYTPHIAMIIOBBIX Equivalent resistance of internal noise, kOhm ... 0.35 WYMOB, KOM ...t 0,35 Tra
Transconductance	150 mA/V	DKBHBA/ICHTHOE COMPOTHUBNEHUE BHYTPHIAMIIOBBIX Equivalent resistance of internal noise, kOhm ... 0.35 WYMOB, KOM ...t 0,35 Transconductance, mA/V =24 Kpyru3Ha xapaktepuctuxu, MA/B L. =24 Emissio
Transconductance	50 mA/V	WYMOB, KOM ...t 0,35 Transconductance, mA/V =24 Kpyru3Ha xapaktepuctuxu, MA/B L. =24 Emission pulse current, at pulse voltage 150 V, pulse HMNynsCHbIA TOK IMHCCHM (NPHM HAMPAXKEHHU B HM- repetition
Published electrical data	50	HMNynsCHbIA TOK IMHCCHM (NPHM HAMPAXKEHHU B HM- repetition frequency 50 Hz and pulse duration
Published electrical data	150; 50; 1; 2; =0	nynabce 150 B, yactore nosTopeHun umnynscos 50 I'u 1—2 ws, A L =0
Heater voltage	=3 V	nynabce 150 B, yactore nosTopeHun umnynscos 50 I'u 1—2 ws, A L =0 W ANUTENBHOC TH KMMYabca [...2 MKC), A =6 Emission pulse current under the same conditions as UMnyabcHbif TOK 3MHCCHU (NPH TEX KE YCNQBHAX H above and at heater vo

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	1.5 V	W ANUTENBHOTH KMMYabca [...2 MKC), A =6 Emission pulse current under the same conditions as UMnyabcHbif TOK 3MHCCHU (NPH TEX K€ YCNOBHAX H above and at heater voltage 5.7V, A =3 NpPH HANpPsOKEHHH Hakana 5,7 B),
Heater voltage	1.5 V	UMnyabcHbif TOK 3MHCCHU (NPH TEX K€ YCNOBHAX H above and at heater voltage 5.7V, A =3 NpPH HANpPsOKEHHH Hakana 5,7 B), A =3 Figure of merit, mA/V.pF 1.5 JobporHocTs, MA/B-nid
Published electrical data	1.5	JobporHocTs, MA/B-nid L 1,5
Published electrical data	15; 2; 15; 2	BXOIHAM © o ovte it ittt it e e e e e 15+f2 INPUL .. e 15+2
Published electrical data	25	L z,si%;‘?, QUIPUL .ot 25 gy
Published electrical data	=0.075; =0.075	MPOXOOHAA .o .o vt it ee et et e e =0,075 transfer =0.075
Published electrical data	=13.5	KaTOAd — TMOMAOTPEBATENb\ vinnnnn.. =13,5 cathode-to-heater
Published electrical data	500; 4	DnekTpHueckHe napameTpsl B Teyenue 500 4 kcry-
Published electrical data	500	Electrical parameters over 500 operating hours:
Published electrical data	=6; =6	TOK IMMCCHH MMMOYABCHBIR, A =6 emission pulse current, A =6
Plate current	-12 mA	TOK IMMCCHH MMMOYABCHBIR, A =6 emission pulse current, A =6 TOK 3IMHCCHM UMIYNbCHbIA NpY Hepokane, A =3 emission pulse current at heater undervoltage, A =3 HanpsxkeHWe OTCEMKH TOKA aHoAa, B, e bon
Plate current	-12 mA	TOK 3IMHCCHM UMIYNbCHbIA NpY Hepokane, A =3 emission pulse current at heater undervoltage, A =3 HanpsxkeHWe OTCEMKH TOKA aHoAa, B, e bonee . . . — 12 anode current cutoff voltage, V. atmost -12
Plate current	-12 mA	HanpsxkeHWe OTCEMKH TOKA aHoAa, B, e bonee . . . — 12 anode current cutoff voltage, V. atmost -12

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Published electrical data	3	Ipenenbubie 3Ha4eHHn NONYCTHMBIX Limit Values of Operating
Published electrical data	7; 5.7	heater 7 5.7
Published electrical data	250	AHOMA .. oottt 250
Published electrical data	250	anode, 250
Published electrical data	3	aHOHa NpPH 3anepToil namne (npu
Published electrical data	470	TOke katoga He Gonee S MkA) ... 470
Published electrical data	5; 470	current at most 5 A (... .. 470
Published electrical data	250	CETKH BTOPOH 250
Published electrical data	250	grid2 250
Published electrical data	3	CETKH BTOPOI npH 3anepTo#t nam-
Published electrical data	2	grid 2 in cut-off valve, at cathode
Published electrical data	5; 470	current at most 5 uA 470
Published electrical data	470	SMKA) ... 470
Published electrical data	100	gridl o o - 100
Published electrical data	100	CeTKH IIEPBOA ~ 100
Published electrical data	100	MPH TOJIOKHUTETLHOM NOTEH- tial .. 100
Published electrical data	100	LIHaJie NOJOrpeBaTe/f 100 with heater at negative poten-
Published electrical data	150	MPpH OTPHUATEIBLHOM MNOTEH- tial oL 150
Published electrical data	150	Masne nogorpesaTens 150
Published electrical data	100; 10; 3; 100; 10; 3	KaToda couunn. 100-10-3 cathode 100-10-3
Published electrical data	9; 9	KaToNa B UMNYABLCE 9 cathode (pulse) 9
Published electrical data	3	Masi aHOAOM U CeTkoi BTOpoi, BT 3 Sum of power dissipated at anode and
Published electrical data	2; 3	MotHoCTb, paccenBaeMas CeTKoi grid 2, W ... 3
Published electrical data	2	BTOpOH, BT 2
Published electrical data	2; 2	Power dissipation at grid 2, W 2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Published electrical data	0.5; 1; 0.5	Bo, MOM 0,5 Resistance in grid 1 circuit, MOhm 0.5
Published electrical data	924; 191	fg2ϕmp A ~ IaimpA [924mp.A - IaLlnp.A 191 Lmlh" [: Iy imp, A
Published electrical data	0	0 BTN
Published electrical data	4	T ERERSL Womev 4 P 'éuav— "
Published electrical data	3	3 TR oy oy JEEA . e
Published electrical data	1; 29; 06; 4	1 s Sy - i 29~ nov 06 ol . 'ΛK-n ,4"/
Published electrical data	4	o T3 FTeov 04
Published electrical data	2	= "VV Lovv ; 2 Ry SASS
Published electrical data	600; 7; 3	600UgY TT AT F3=s0v 7 3 !
Published electrical data	-0.2; 0; 260; 400; 600	A] -\._/!'zgg -0.2 0 260 400 600 Ug,v
Published electrical data	>4; 401	PHCTHKH: =>4 Fr +— ?.:401{
Published electrical data	2; 0; 200; 400; 600	! — aHOnHBIE; 2 — CETOYHO-aHOAHbBIE 0 200 400 600Uy
Published electrical data	6.3; 150	Un=6,3V, Ugp=150 V¥ PHCTHKH: PUCTHKH:
Published electrical data	2; 2	Averaged pulse characteristics: !/ — aHozHble; 2 — CETOYHO-aHOMHBIE — aHomHble; 2 — CETOYHO-aHOA-
Published electrical data	2; 2; 6.3; =300; 6.3; =470	I — anode; 2 — grid-anode (for grid 2) Un=6,3V, Ug; =300 V Un=6,3 V, Ug; =470V
Published electrical data	2; 2; 2; 2	{ — anode; 2 — grid-anode (for grid 2) ! — anode; 2 — grid-anode (for grid 2)
Published electrical data	63; 300; 6.3; 470	Ia.Tgrimp.A Un=63V, Ugp=300V Un=6.3V, Uga=470 V
Published electrical data	2	! — aHonHble; 2 — CEeTOYHO-AHOOHbBIE
Published electrical data	2	. M/ ! — anode; 2 — grid-anode
Published electrical data	1	s AP > 1 _Froov YcpenHeHHbie XapaKTEepUCTUKH: P
Published electrical data	3; 75; 2	Y A 3 75" ! — ToOK anoga; 2 — TOK CETKH
Plate current	2 mA	Un=63V, Ug=150V Averaged characteristics: 0 200 420 600 Ug,v ! — anode current; 2 — grid 2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate current	2 mA	Averaged characteristics: 0 200 420 600 Ug,v ! — anode current; 2 — grid 2 current
Plate current	150 mA	0 200 420 600 Ug,v ! — anode current; 2 — grid 2 current Un=63V, Us=150 V
Published electrical data	2; 3	! — TOK aHOAa; 2 — TOK CETKH BTOPOH; 3 — Hanboiibwias fouycru-
Plate current	3 mA	— Un=6,3V, Ug =150V — Averaged characteristics: — ! — anode current; 2 — grid 2 current; 3 — maximum permissible
Plate current	3 mA	— Averaged characteristics: — ! — anode current; 2 — grid 2 current; 3 — maximum permissible —~ anode dissipation
Plate current	150 mA	— ! — anode current; 2 — grid 2 current; 3 — maximum permissible —~ anode dissipation Un=6.3V, Ugn=150 V
Plate dissipation	200 W	—~ anode dissipation Un=6.3V, Ugn=150 V 200 Ugy



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

Section 1 · Tetrode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Published electrical parameter	30 Ω	при 0,=6,3 В, 0,=150 В, Оса=150 В, К=30 Ом
Published electrical parameter	6257 в	6257 вЭ5П-И
Published electrical parameter	-12 V	=-12 В), мКА . . й , < 10 —

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Published electrical parameter	150 V	= 150 В, $\tau = 1\text{--}2$ мкс, $f = 50$ ГГц;
Published electrical parameter	5.7 V	То же при $I_{\text{д}} = 5,7$ В, А. — >3
Published electrical parameter	0.5 kΩ	= 0,5 кОм), мВ . . < 120 < 120
Published electrical parameter	2008 V	0 20 40 60 80 100 720 140 160 180 2008 В-А5-40-10-10-08 @
Published electrical parameter	30 Ом	при $P_{\text{н}} = 6,3$ В, $P_{\text{а}} = 150$ В, $ис2 = 150$ В, $K_{\text{к}} = 30$ Ом