

Russian metal-ceramic microwave triode for continuous-wave or pulsed oscillator and amplifier operation with anode modulation.

GENERAL CHARACTERISTICS

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

SECTION RATINGS

SECTION1 Triode	
MAXIMUM PLATE VOLTAGE	9000 V
Promoted-field audit performed from English ratings/characteristics; detailed electrical values retained in parameter table.	

UMmnyncbHbin reHepatopHbid Tpuog TWU-7BT The T'N-7BT (T'N-706T) triode is used for continuous-pexxume paboTbl U B UMMYSIbCHOM PEXUME C aHOLHOWN The triode is available in two variants differing in the moaynsiymnen. type of cooling: the FT'M-7BT with a heat sink for forced air Katog — okcuaHLIA KOCBEHHOTO Hakana. Cathode: indirectly heated, oxide-coated. OdopmneHue — MeTannokepamn4ecKkoe, ¢ UMNMHapu- Envelope: metal-ceramic with ring leads of cathode,

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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

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Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
anode modulation, as an [1]	70	(TN-70BT) NpegHasHa4eH LS reHepMpPOBaHUA 1 yCu- wave or pulsed operation with anode modulation, as an
anode modulation, as an [2]	1	(TN-70BT) NpegHasHa4eH LS reHepMpPOBaHUA 1 yCu- wave or pulsed operation with anode modulation, as an
grid	7	KIT - cathode and heater; /7 heater; C — grid;
temperature, °C [1]	735 C	MICE 735 Ambient temperature, °C —6010 +100
temperature, °C [2]	-6010 C	MICE 735 Ambient temperature, °C —6010 +100
temperature, °C [3]	100 C	MICE 735 Ambient temperature, °C —6010 +100
voltage, V	126 V	 12,6 Heater voltage, V
voltage	1.3 uS	KpyTu3Ha xapakTepucTukuy (Npu Hanps>xeHun Mutual conductance (at anode voltage 1.3 kV,
current [1]	13 uA	anoga 1,3 kB, uaMeHeHur HanNpPsPKeHWA Ha ceTke grid voltage change 1V, anode current 150 mA),
current [2]	1 uA	anoga 1,3 kB, uaMeHeHur HanNpPsPKeHWA Ha ceTke grid voltage change 1V, anode current 150 mA),
current [3]	150 uA	anoga 1,3 kB, uaMeHeHur HanNpPsPKeHWA Ha ceTke grid voltage change 1V, anode current 150 mA),
anode [1]	13 kV	MpoHunyaemocTb (Npy Hanpsxexun aHoaa 1,3 kB, Penetration factor (at anode voltage 1.3 kV, anode

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
anode [2]	1.3 kV	MpoHunyaemocTb (Npy Hanpsxexun aHoaa 1,3 kB, Penetration factor (at anode voltage 1.3 kV, anode
current [1]	200 A	V3MeHeHWn HanpsxeHus aHoga 200 B, Toke voltage change 200 V, anode current
current [2]	200 A	V3MeHeHWn HanpsxeHus aHoga 200 B, Toke voltage change 200 V, anode current
current [1]	13 mA	npuv Hanps>xeHun aHoga 1,3 kB, Toke aHoaa voltage 1.3 kV, anode current 150 mA), V
current [2]	1.3 mA	npuv Hanps>xeHun aHoga 1,3 kB, Toke aHoaa voltage 1.3 kV, anode current 150 mA), V
current [3]	150 mA	npuv Hanps>xeHun aHoga 1,3 kB, Toke aHoaa voltage 1.3 kV, anode current 150 mA), V
Interelectrode capacitance, pF [1]	150 pF	150 MA), B ... 12,5-75 Interelectrode capacitance, pF:
Interelectrode capacitance, pF [2]	125 pF	150 MA), B ... 12,5-75 Interelectrode capacitance, pF:
Interelectrode capacitance, pF [3]	-75 pF	150 MA), B ... 12,5-75 Interelectrode capacitance, pF:
input [1]	10	EmkocTb, Nd: input 10-12.5
input [2]	-12.5	EmkocTb, Nd: input 10-12.5
output [1]	10	BXOAHAR . ..ot 10-12,5 output 4.2-5
output [2]	-125	BXOAHAR . ..ot 10-12,5 output 4.2-5
output [3]	4.2	BXOAHAR . ..ot 10-12,5 output 4.2-5
output [4]	-5	BXOAHAR . ..ot 10-12,5 output 4.2-5
power	90 W	Bpems roToBHOCTY, C, HE Bonee 90 Output power:
voltage	11.6 V	MouwHoCTe BbiXOAHaSRA, BT, He MeHee: in CW operation (at heater voltage 11.6 V,
current [1]	8 mA	8 HENPepPbIBHOM PEXUME (NPU HAMPSHKEHUSIX anode voltage 1.05 kV, anode current 300 mA,
current [2]	1.05 mA	8 HENPepPbIBHOM PEXUME (NPU HAMPSHKEHUSIX anode voltage 1.05 kV, anode current 300 mA,
current [3]	300 mA	8 HENPepPbIBHOM PEXUME (NPU HAMPSHKEHUSIX anode voltage 1.05 kV, anode current 300 mA,

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
wavelength [1]	116 cm	‘Hakana 11,6 B, aHoga 1,05 kB, Toke aHopa wavelength 18.5cm), W, atleast 40
wavelength [2]	105 cm	‘Hakana 11,6 B, aHoga 1,05 kB, Toke aHopa wavelength 18.5cm), W, atleast 40
wavelength [3]	18.5 cm	‘Hakana 11,6 B, aHoga 1,05 kB, Toke aHopa wavelength 18.5cm), W, atleast 40
wavelength [4]	40 cm	‘Hakana 11,6 B, aHoga 1,05 kB, Toke aHopa wavelength 18.5cm), W, atleast 40
heater voitage [1]	300	300 MA, anuHe BONHbI 18,5ϕm) 40 in pulsed operation (at heater voitage 12.6 V,
heater voitage [2]	185	300 MA, anuHe BONHbI 18,5ϕm) 40 in pulsed operation (at heater voitage 12.6 V,
heater voitage [3]	40	300 MA, anuHe BONHbI 18,5ϕm) 40 in pulsed operation (at heater voitage 12.6 V,
heater voitage [4]	12.6	300 MA, anuHe BONHbI 18,5ϕm) 40 in pulsed operation (at heater voitage 12.6 V,
current [1]	9 A	B UMMYNBECHOM PEXWUME (NMPU HANPSIXKEHWAX peak anode voltage 9 kV, peak anode current 7.5 A,
current [2]	7.5 A	B UMMYNBECHOM PEXWUME (NMPU HANPSIXKEHWAX peak anode voltage 9 kV, peak anode current 7.5 A,
wavelength [1]	126 cm	Hakana 12,6 B, aHoga B umnynbce 9 kB, wavelength 10 cm), kW, atleast 12
wavelength [2]	9 cm	Hakana 12,6 B, aHoga B umnynbce 9 kB, wavelength 10 cm), kW, atleast 12
wavelength [3]	10 cm	Hakana 12,6 B, aHoga B umnynbce 9 kB, wavelength 10 cm), kW, atleast 12
wavelength [4]	12 cm	Hakana 12,6 B, aHoga B umnynbce 9 kB, wavelength 10 cm), kW, atleast 12
heater [1]	12 W	 1,2-10* Output power over 650 h of service (at heater
heater [2]	-10 W	 1,2-10* Output power over 650 h of service (at heater
heater [3]	650 W	 1,2-10* Output power over 650 h of service (at heater
anode [1]	650 kV	MOLWHOCTE BbiIXOA4HAs B TeHeHne 650 u voltage 11.6 V, anode voltage 1.05kV, anode
anode [2]	11.6 kV	MOLWHOCTE BbiIXOA4HAs B TeHeHne 650 u voltage 11.6 V, anode voltage 1.05kV, anode

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
anode [3]	1.05 kV	MOLWHOC TE BbiIXOA4HAs B TeHeHne 650 u voltage 11.6 V, anode voltage 1.05kV, anode
wavelength [1]	116 cm	SKcnnyaTaywi (Npu Hanps>xeHun Hakana 11,6 B, current 300 mA, wavelength 18.5cm),
wavelength [2]	300 cm	SKcnnyaTaywi (Npu Hanps>xeHun Hakana 11,6 B, current 300 mA, wavelength 18.5cm),
wavelength [3]	18.5 cm	SKcnnyaTaywi (Npu Hanps>xeHun Hakana 11,6 B, current 300 mA, wavelength 18.5cm),
voltage in continuous operation [1]	5 V	PEXUME . . . 5 DC voltage in continuous operation 25
voltage in continuous operation [2]	25 V	PEXUME . . . 5 DC voltage in continuous operation 25
cathode [1]	25 V	NOCTOAHHOE B HEMPEPbLIBHOM PEXUME 2,5 DC voltage with cold cathode 3
cathode [2]	3 V	NOCTOAHHOE B HEMPEPbLIBHOM PEXUME 2,5 DC voltage with cold cathode 3
voltage, V	3 V	NOCTOSH HOE NPU XONOA HOM KaToae 3 Grid voltage, V:
current, A	3 A	MIHOBEHHOE 3Ha4YEeHNe B HENPEPbIBHOM Cathode current, A:
pulsed	3 A	MFHOBEHHOE 3HageHune B pexume knacca B Anode current (DC component in pulsed
anode	350	NOCTOSIHHASA COCTaBMAOWANA B UMNyneCHOM anode 350
heatingtime,s [1]	350 s	AHOMOM 350 Cathode heatingtime,s 90
heatingtime,s [2]	90 s	AHOMOM 350 Cathode heatingtime,s 90
Temperature, °C	9 C	AmvHa BORHBL, CM 9 Temperature, °C:
grid circuit, kQ	100 kohm	BbIBOAA KATOAA 100 Resistance in grid circuit, kQ
Voltage in Continuous [1]	70 W	=70 -60 -50 -440 J0 20 -0 Jij Output Power versus Anode Voltage in Continuous-
Voltage in Continuous [2]	-60 W	=70 -60 -50 -440 J0 20 -0 Jij Output Power versus Anode Voltage in Continuous-
Voltage in Continuous [3]	-50 W	=70 -60 -50 -440 J0 20 -0 Jij Output Power versus Anode Voltage in Continuous-

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage in Continuous [4]	-440 W	=70 -60 -50 -440 J0 20 -0 Jij Output Power versus Anode Voltage in Continuous-
Voltage in Continuous [5]	20 W	=70 -60 -50 -440 J0 20 -0 Jij Output Power versus Anode Voltage in Continuous-
Voltage in Continuous [6]	0 W	=70 -60 -50 -440 J0 20 -0 Jij Output Power versus Anode Voltage in Continuous-