



ELECTRONIC TUBE REFERENCE

6S62N

Nuvistor Tubes (all numbers) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Russian triode designed for amplification of weak signals in general-purpose electronic equipment.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	10
NOMINAL HEATER	6.3 V / 135 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
TRANSCONDUCTANCE	0.0125 S
AMPLIFICATION FACTOR	90
MAXIMUM PLATE VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	1.2 W
MAXIMUM CATHODE CURRENT	15 mA
<i>Promoted fields are taken from the published electrical-characteristics and maximum-permissible-ratings tables in the approved bilingual source; repeated identical sections are represented once where applicable.</i>	

6S62N / 6C62H — Superminiature Weak-Signal Amplifier Triode

A metal-ceramic, Nuvistor-style high-gain triode with an indirectly heated oxide cathode for weak-signal voltage amplification.

Overview

The **6S62N**, designated **6C62H** in Russian technical documentation, is a **superminiature metal-ceramic triode designed for amplification of weak signals**. An earlier bilingual Russian-English manufacturer's publication describes the tube as suitable for widely used electronic systems, while the later Russian reference provides additional operating, noise, capacitance, and endurance information.

The tube is of **Nuvistor-style metal-ceramic construction** with **ten flexible leads** and an **indirectly heated oxide-coated cathode**. The stated maximum mass is approximately **3 g**.

Construction and Electrode Connections

The Russian electrode diagram groups the connections as **1, 2, 3 for the anode**, **4, 5, 6 for the control grid**, **7, 8, 9 for the cathode**, and **10 and 12 for the heater**. These refer to the manufacturer's illustrated flexible-lead arrangement, not a conventional nine-pin receiving-tube socket.

The metal-ceramic construction is compact and is intended to withstand the documented environmental and mechanical conditions.

Heater and Principal Characteristics

The manufacturer specifies **6.3 V nominal heater voltage** and approximately **135 ± 25 mA heater current**.

Characteristic	Value
Heater voltage	6.3 V
Heater current	135 ± 25 mA
Anode voltage, principal test	120 V
Anode current	0.4 mA
Transconductance	1.7 mA/V
Dynamic voltage gain, specified circuit	≥90
Low-frequency noise voltage	≤2 μV
Vibration-induced noise voltage	≤50 mV

The dynamic gain test uses a **200 V supply**, **220 kΩ anode resistance**, **1 MΩ grid-circuit resistance**, **1,000 Hz signal**, and **5 ± 10 mV input** as printed in the Russian reference. The gain figure is a circuit-specific dynamic amplification measurement, not necessarily the tube's intrinsic amplification factor.

The relatively small **0.4 mA** anode current at the characteristic point is consistent with the stated weak-signal amplifier role.

Noise and Small-Signal Operation

The later Russian reference specifies **$\leq 2 \mu\text{V}$ low-frequency noise voltage** with **-0.4 V grid bias** and **$1.5 \text{ k}\Omega$ anode load**. It also specifies **$\leq 50 \text{ mV}$ vibration-induced noise voltage** with a **$2 \text{ k}\Omega$ anode load**.

These are different measurements and should not be conflated: one characterizes low-frequency electrical noise under a stated bias and load, while the other measures vibration-related signal disturbance.

The manufacturer's plate and transfer curves show anode current as a function of anode voltage and grid voltage at the rated heater condition. The curves support analysis of the small-current region relevant to weak-signal amplification.

Interelectrode Capacitances

Measurement	Value
Input capacitance	$2.7 \pm 0.8 \text{ pF}$
Output capacitance	$2.4 \pm 0.7 \text{ pF}$
Feedthrough capacitance	$1.3 \pm 0.3 \text{ pF}$

The small capacitances are relevant to amplifier input loading and input-output coupling. They are specified as direct interelectrode values in the manufacturer reference.

Limiting Operating Conditions

Parameter	Limit
Heater voltage	$5.7\text{--}7.0 \text{ V}$
Anode voltage	250 V
Anode voltage at cutoff	330 V
Maximum negative grid voltage	55 V
Anode dissipation	1.2 W
Grid dissipation	0.02 W
Cathode current	15 mA
Cathode-to-heater voltage	100 V
Grid-circuit resistance	$10 \text{ M}\Omega$
Maximum envelope temperature	250°C

The 330 V anode rating applies when the tube is cut off, not to unrestricted conducting operation.

Environmental Resistance and Service Life

The bilingual manufacturer's sheet specifies an ambient temperature range of **-60°C to +125°C**, relative humidity of **95-98% at +40°C**, vibration loads up to approximately **2.5 g**, and repeated shocks up to **35 g**.

The stated maximum mass is **3 g**, and the guaranteed service life is **2,000 hours**.

These environmental and endurance specifications support the manufacturer's characterization of the 6S62N as a compact, rugged weak-signal amplifier device.

Technical Summary

The **6S62N / 6C62H** is a **6.3 V superminiature metal-ceramic weak-signal triode** with an indirectly heated oxide cathode and ten flexible leads. It draws approximately **135 mA heater current**, has approximately **0.4 mA anode current** and **1.7 mA/V transconductance** at its stated test point, and is documented for high dynamic voltage gain in a specified resistance-coupled circuit.

Its low-frequency noise specification, compact Nuvistor-style construction, **10 MΩ grid-circuit resistance limit**, and **-60°C to +125°C** environmental rating distinguish it as a specialized small-signal receiving amplifier.



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

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Published heater condition.
Heater current	135 mA	Published heater current.
Transconductance	12500 μ S	Published characteristic; normalized to μ S.
Service life	2000 h	Published service-life guarantee.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	150 V	Published limiting/specification value.
Maximum plate dissipation	1.2 W	Published limiting value.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1970 Russian Tubes Mashpriborintorg

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

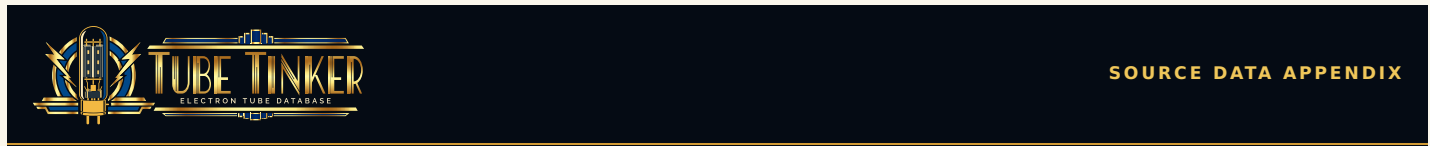
1970 RUSSIAN TUBES MASHPRIBORINTORG

Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage - characteristic point	120 V	—
Plate current - characteristic point	0.4 mA	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	1.3 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum grid dissipation	0.02 W	—



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 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Nominal heater voltage	6.3 V	Published source value
Nominal heater current	135 mA	Published source value
Transconductance	1700 μ S	Published operating point
Guaranteed service life	2000 h	Published source value

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