



ELECTRONIC TUBE REFERENCE

6S52NV

Nuvistor Tubes (all numbers) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Superminiature metal-ceramic high-frequency triode for voltage amplification and oscillation; 6S52N family.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6.3 V / 130 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
TRANSCONDUCTANCE	0.01 S
AMPLIFICATION FACTOR	60
MAXIMUM PLATE VOLTAGE	120 V
MAXIMUM PLATE DISSIPATION	1.2 W
MAXIMUM GRID DISSIPATION	0.2 W
MAXIMUM CATHODE CURRENT	15 mA
MAXIMUM HEATER-CATHODE VOLTAGE	100 V
<i>Electrical data extracted only from filename-designated Russian tube block; identical dual sections compressed where applicable.</i>	

6S52NV / 6C52H-B — Ruggedized

Superminiature High-Frequency Triode

Metal-ceramic voltage-amplifier and oscillator triode with enhanced mechanical and high-temperature endurance.

Overview

The **6S52NV**, designated **6C52H-B** in the Russian technical reference, is a ruggedized **superminiature metal-ceramic triode** for **voltage amplification and oscillation generation**. It is documented alongside the standard **6S52N / 6C52H**, with separately specified transconductance, capacitance tolerances, noise resistance, vibration resistance, shock resistance, and ambient-temperature range.

The manufacturer's stated mass is approximately **3 g**. Its high amplification factor and high-frequency input-resistance specification make it suitable for the voltage-amplifier and oscillator functions identified in the source.

Construction and Terminal Organization

The electrode drawing identifies the anode, grid, indirectly heated cathode, and heater. The original grouped connections show **1, 2, 3** for the anode, **4, 5, 6** for the grid, **7, 8, 9** for the cathode, and **10 and 12** for the heater. This is a specialized metal-ceramic superminiature arrangement, not conventional nine-pin glass receiving-tube basing.

Principal Electrical Characteristics

The manufacturer's principal test condition is **6.3 V heater**, **120 V anode voltage**, and **130 Ω cathode resistor**.

Characteristic	6S52NV specification
Heater current	130 ± 20 mA
Anode current	8 ± 2.5 mA
Anode current at −7 V grid bias	≤50 μA
Grid reverse current	≤0.1 μA
Cathode-to-heater leakage current	≤20 μA
Transconductance	10 ± 2.5 mA/V
Transconductance at 5.7 V heater	≥6.5 mA/V
Amplification factor	60 ± 15
Input resistance at 60 MHz	≥6 kΩ
Equivalent noise resistance	≤0.4 kΩ

Characteristic	6S52NV specification
Vibration-induced noise voltage	≤ 40 mV

The source additionally specifies **grid reverse current ≤ 1.5 μ A** and **transconductance ≥ 6.5 mA/V** as acceptance criteria, with a maximum specified transconductance change of **35%**. These acceptance criteria should not be confused with the nominal characteristic tolerances.

The tube's amplification factor of approximately **60** and relatively high transconductance indicate a high-gain receiving triode, although actual loaded-stage gain depends on the circuit.

Interelectrode Capacitances

Measurement	Published value
Input capacitance	4.35 ± 0.95 pF
Output capacitance	2.1 ± 0.7 pF
Feedthrough capacitance	1.0 ± 0.3 pF
Cathode-to-heater capacitance	1.4 ± 0.4 pF

The capacitance values are important to high-frequency amplifier and oscillator design because they contribute to input loading, output loading, and unwanted coupling between the electrode circuits.

Operating Limits

Parameter	Limit
Heater voltage	5.7-7.0 V
Anode voltage	120 V
Anode voltage at cutoff	330 V
Maximum negative grid voltage	55 V
Maximum cathode-to-heater voltage	100 V
Maximum cathode current	15 mA
Anode dissipation	1.2 W
Grid dissipation	0.2 W
Grid-circuit resistance	1 MΩ
Envelope temperature	250°C

The **330 V cutoff-condition anode rating** is distinct from the **120 V normal operating limit**. These values must not be merged into an unrestricted 330 V operating rating.

Ruggedized Environmental Specifications

The 6S52NV is specifically qualified for demanding mechanical conditions:

Environmental parameter	6S52NV
Vibration acceleration	15 g
Vibration-frequency range	5-5,000 Hz
Repeated shock	150 g
Single shock	1,000 g
Sustained acceleration	150 g
Ambient operating range	-60°C to +200°C
Minimum operating life	5,000 hours

Compared with the standard [6S52N](#), the -B version has a substantially wider vibration-frequency qualification, greater acceleration tolerance, and higher specified maximum ambient temperature.

Characteristic Curves

The original Russian reference includes plate-current curves for the **6S52NV** at multiple control-grid voltages, along with transfer curves for different anode voltages. These illustrate how the anode current changes with grid bias and anode voltage.

The curves complement the published **60 ± 15 amplification factor** and **10 ± 2.5 mA/V transconductance** values.

Comparison with 6S52N

The standard [6S52N](#) and ruggedized **6S52NV** share the same basic construction and nominal heater and anode-current figures. The -B version has its own transconductance tolerances, capacitance figures, equivalent-noise-resistance limit, and mechanical and thermal endurance qualifications.

Their similar basic characteristics do not justify ignoring these manufacturer-specific differences in a high-frequency or ruggedized application.

Technical Summary

The **6S52NV / 6C52H-B** is a **6.3 V, 130 mA superminiature metal-ceramic triode** for **high-frequency voltage amplification and oscillation**. It has approximately **60 amplification factor**, **10**

mA/V transconductance, 8 mA anode current, and specified high-frequency input resistance at **60 MHz**.

Its distinguishing characteristics are the **−60°C to +200°C ambient range, 15 g vibration qualification across 5-5,000 Hz, 150 g repeated-shock resistance, 1,000 g single-shock resistance**, and **5,000-hour minimum service life**.

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
Published electrical parameter	20 %	о 20 %0 60 60 00 8—5 -4 -# -2 —!
Published electrical parameter	130 Ω	при Он=6,3 В, (4=120 В, Вк=130 Ом
Published electrical parameter	—50 μA	Anode current at grid voltage −7 V: ≤50 μA; source p.124.
Resistance	6— kΩ	Input resistance at 60 MHz ≥6 kΩ; source p.124.
Published electrical parameter	—40 mV	Vibration-induced noise voltage at Ra=2 kΩ ≤40 mV; source p.124.
Plate voltage	120 V	Напряжение анода . й РЕРЕ 120В
Published electrical parameter	330 V	То же при запертой лампе. . з 330 В
Published electrical parameter	55 V	Напряжение сетки отрицательное . й 55 В
Published electrical parameter	100 V	Напряжение между катодом н подогревателем 100 В
Cathode current	15 mA	Ток катода . ВВ 15 мА
Dissipation / power	1.2 W	Maximum plate dissipation 1.2 W; source p.125.
Dissipation / power	0.2 W	Maximum grid dissipation 0.2 W; source p.125.
Resistance	1 MΩ	Соппротивление в цепи сетки . 1 МОм
Published electrical parameter	740 a	20 #0 60 80 700 120 740 a] =8 -2 =7 @
Published electrical parameter	110–150 mA	Heater current, 6S52NV; 1981 Katsnelson Larionov pages 124–125.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Published electrical parameter	5.5–10.5 mA	Anode current, 6S52NV; 1981 Katsnelson Larionov pages 124–125.
Published electrical parameter	—0.1 μA	Reverse grid current, 6S52NV; 1981 Katsnelson Larionov pages 124–125.
Published electrical parameter	—20 μA	Cathode heater leakage, 6S52NV; 1981 Katsnelson Larionov pages 124–125.
Published electrical parameter	7.5–12.5 mA/V	Transconductance, 6S52NV; Katsnelson and Larionov 1981 pages 124–125.
Published electrical parameter	45–75	Amplification factor, 6S52NV; Katsnelson and Larionov 1981 pages 124–125.
Published electrical parameter	3.4–5.3 pF	Input capacitance, 6S52NV; Katsnelson and Larionov 1981 pages 124–125.
Published electrical parameter	1.4–2.8 pF	Output capacitance, 6S52NV; Katsnelson and Larionov 1981 pages 124–125.
Published electrical parameter	0.7–1.3 pF	Feedthrough capacitance, 6S52NV; Katsnelson and Larionov 1981 pages 124–125.
Published electrical parameter	1–1.8 pF	Cathode heater capacitance, 6S52NV; Katsnelson and Larionov 1981 pages 124–125.
Published electrical parameter	5000— h	Service life, 6S52NV; Katsnelson and Larionov 1981 pages 124–125.
Published electrical parameter	5.7–7 V	Heater voltage range, 6S52NV; Katsnelson and Larionov 1981 pages 124–125.
Published electrical parameter	—250 $^{\circ}$C	Envelope temperature max, 6S52NV; Katsnelson and Larionov 1981 pages 124–125.
Published electrical parameter	—1 MΩ	Grid circuit resistance max, 6S52NV; Katsnelson and Larionov 1981 pages 124–125.
Published electrical parameter	-60— $^{\circ}$C	Ambient temperature min, 6S52NV; Katsnelson and Larionov 1981 pages 124–125.
Published electrical parameter	—200 $^{\circ}$C	Ambient temperature max, 6S52NV; Katsnelson and Larionov 1981 pages 124–125.

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes, and their source documents.

[Catalog](#) [Tube types](#) [Full books](#) [Blog](#) [Feedback & corrections](#)

© 2026 Tube Tinker