



ELECTRONIC TUBE REFERENCE

6S65N

Nuvistor Tubes (all numbers) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

High-frequency triode for wideband amplification, oscillation, conversion, or RF power service in VHF/UHF electronic equipment.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
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	0.015 S
MAXIMUM PLATE VOLTAGE	200 V
MAXIMUM PLATE DISSIPATION	2.2 W
MAXIMUM CATHODE CURRENT	15 mA
<i>Promoted values translated from the filename-designated Russian entry only.</i>	

6S65N / 6C65H — Universal Radio-Equipment Superminiature Triode

A high-transconductance metal-ceramic triode intended for use in general radio equipment, with a compact multi-terminal electrode structure.

Overview

The **6S65N**, designated **6C65H** in the Russian reference, is a **superminiature metal-ceramic triode for universal radio equipment**. The manufacturer documents a high-transconductance triode with approximately **8.5 mA anode current** and **15 mA/V transconductance** at the specified 150 V anode operating point.

The tube's compact metal-ceramic construction is accompanied by detailed electrical, noise, interelectrode-capacitance, environmental, and endurance specifications.

Construction and Electrode Connections

The original electrode diagram identifies the anode, control grid, cathode, heater, and additional electrode-associated connection groups. The illustrated terminal grouping includes **1, 2, 3** for the anode, **10, 11, 12** for the control grid, **13, 14, 15** for the cathode, and **16 and 18** for the heater, with other contacts shown around the envelope.

This is a specialized superminiature metal-ceramic structure, not conventional noval or octal receiving-tube basing. The published mass is approximately **5 g**.

Heater and Typical Electrical Characteristics

The manufacturer's principal test conditions are **6.3 V heater**, **150 V anode**, and **39 Ω cathode resistor**.

Characteristic	Published value
Heater current	135 mA , +15/−25
Anode current	8.5 mA , +4/−2.5
Anode current at +2.5 V grid voltage	50 μA , as printed
Grid reverse current at −1.5 V	≤0.1 μA
Transconductance	15 mA/V , +3.5/−3
Input resistance	3.5 kΩ
Equivalent internal noise resistance	0.2-0.35 kΩ
Vibration-induced noise voltage	≤80 mV

The manufacturer's acceptance criteria include **grid reverse current ≤1.5 μA** and **transconductance ≥9.6 mA/V**.

The relatively high transconductance indicates substantial control of anode current by the grid at the stated operating point. The input-resistance and noise figures are separate measurements and should not be confused with ordinary DC grid-circuit resistance.

Interelectrode Capacitances

Measurement	Value
Input capacitance	$5.8 \pm 1.2 \text{ pF}$
Output capacitance	$3.5 \pm 0.7 \text{ pF}$
Feedthrough capacitance	$\leq 0.5 \text{ pF}$

These values are relevant to input loading and feedback in the radio-frequency circuits for which the tube is intended.

Maximum Operating Conditions

Parameter	Limit
Heater voltage	5.7-7.0 V
Anode voltage	200 V
Anode voltage at cutoff	300 V
Cathode-to-heater voltage	$\pm 100 \text{ V}$
Cathode current	15 mA
Anode dissipation	2.2 W
Grid dissipation	0.02 W
Grid-circuit resistance	1 M Ω
Envelope temperature	250°C

The cutoff-condition anode rating is not an unrestricted conducting plate-voltage limit.

Mechanical and Environmental Endurance

The manufacturer specifies **15 g vibration acceleration over 5-2,500 Hz**, **150 g repeated shock**, **1,000 g single shock**, and **150 g sustained acceleration**. The ambient operating range is **-60°C to +200°C**.

The published minimum operating life is **2,000 hours**.

Characteristic Curves

The Russian reference includes anode-current versus grid-voltage curves for several anode voltages and anode-current versus anode-voltage curves for several grid biases. These show the dependence of anode

current on operating voltage and control-grid bias.

Technical Summary

The **6S65N / 6C65H** is a **6.3 V superminiature metal-ceramic triode** for **general radio equipment**, with approximately **135 mA heater current**, **8.5 mA anode current**, and **15 mA/V transconductance** at the published 150 V anode test point.

Its high transconductance, compact specialized electrode construction, capacitance and noise specifications, and ruggedized **-60°C to +200°C** environmental range distinguish it from ordinary glass-envelope receiving triodes.



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	15000 μ S	Published operating point
Guaranteed service life	2000 h	Published source value

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