

ELECTRONIC TUBE REFERENCE

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
TETRODE

6E14N

Nuvistor Tubes (all numbers) electronic tube

Russian low-voltage tetrode for amplification and oscillation. Its modest heater demand and operating voltage suit compact signal-generation and amplifier circuits.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	9
NOMINAL HEATER	6.3 V / 130 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Tetrode	
TRANSCONDUCTANCE	0.0085 S
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM SCREEN VOLTAGE	70 V
MAXIMUM PLATE DISSIPATION	2 W
MAXIMUM SCREEN DISSIPATION	0.2 W
MAXIMUM CATHODE CURRENT	15 mA
Representative section row from the complete filename-matched Russian datasheet content only; neighboring-tube fragments excluded.	

6E14N / 6Э14H — Low-Voltage Metal-Ceramic Amplifier and Oscillator Tetrode

A Soviet miniature tetrode for voltage amplification and oscillation in low-supply-voltage electronic equipment.

Overview

The **6E14N**, written **6Э14Н** in the Russian technical reference, is a **metal-ceramic tetrode** intended for **voltage amplification and generation of oscillations in equipment operating from low supply voltages**. Its principal characteristic test conditions use **27 V anode voltage** and **27 V screen-grid voltage**.

The tube is described as a compact metal-ceramic device weighing approximately **4 g**. It shares a general application and construction family with the **6E13N**, but its heater-current tolerance and electrical characteristic values are separately specified.

Electrode Structure and Construction

The 6E14N has an anode, control grid, screen grid, and indirectly heated cathode. The manufacturer's drawing labels these as **A**, **C1**, **C2**, and **K**, with **Π** for the heater.

The illustrated grouped connections are **1, 2, 3** for the second grid, **4, 5, 6** for the first grid, **7, 8, 9** for the cathode, and **10 and 12** for the heater, with a separate anode terminal.

The grouped metal-ceramic arrangement should not be mistaken for an ordinary nine-pin glass miniature base.

Heater and Principal Characteristics

The manufacturer's principal test conditions are **6.3 V heater**, **27 V anode**, **27 V screen grid**, and **68 Ω cathode resistance**.

Parameter	Published value
Heater current	130 ± 10 mA
Anode current	7 ± 3 mA
Screen-grid current	≤3.6 mA
Transconductance	8.5 ± 3 mA/V
Minimum acceptable transconductance	4 mA/V

The nominal transconductance is relatively high at the published low electrode voltages, supporting the tube's specified low-voltage amplifier and oscillator functions.

The heater-current figure differs from the **6E13N**, for which the same reference specifies **140 ± 20 mA**. The two types should therefore retain distinct heater-current values.

Low-Voltage Amplification and Oscillation

The Russian reference identifies both **voltage amplification** and **oscillation generation** as intended functions.

The anode-characteristic curves are plotted at **6.3 V heater** and **27 V screen-grid voltage**, with several control-grid bias values. The curves show how anode current changes with anode voltage and grid bias in the low-voltage region.

A separate transfer-characteristic plot shows anode current versus first-grid voltage for screen-grid voltages including **20 V**, **27 V**, and **34 V**, at **27 V anode voltage**.

These curves demonstrate that screen voltage and grid bias strongly affect anode current. The document does not specify one universal oscillator frequency or resonant circuit, so those should not be inferred.

Interelectrode Capacitances

Capacitance	Value
Input	7 ± 1 pF
Output	1.9 ± 0.6 pF
Feedthrough	≤0.025 pF

The small feedthrough capacitance is important to high-frequency amplifier operation because it characterizes unwanted input-output electrode coupling.

Vibration-Induced Noise and Endurance

The source specifies **≤50 mV vibration-induced noise voltage** under **50 Hz vibration**, **2.5 g acceleration**, and **2 kΩ anode-load resistance**.

It also gives a minimum operating life of **5,000 hours**. These figures are manufacturer performance and endurance conditions, distinct from the ordinary operating-current values.

Limiting Operating Conditions

Parameter	Limit
Heater voltage	5.7-7.0 V
Anode voltage	200 V
Anode voltage at cutoff	300 V
Screen-grid voltage	70 V
Negative control-grid voltage	55 V
Anode dissipation	2 W
Screen-grid dissipation	0.2 W

Parameter	Limit
Control-grid dissipation	0.01 W
Cathode current	15 mA
Cathode-to-heater voltage	100 V
Control-grid circuit resistance	1 MΩ
Maximum envelope temperature	200°C
Ambient operating range	−60°C to +125°C

The higher cutoff-condition anode voltage is a separate limiting condition, not a normal conducting operating point. The published 27 V characteristic point remains the clearest example of the intended low-voltage application.

Relationship to the 6E13N

Both the [6E13N](#) and **6E14N** are metal-ceramic tetrodes for low-voltage amplification and oscillation. Their nominal anode-current and transconductance figures correspond in the source, while the heater-current tolerances differ.

The two types should be treated as separately designated devices unless a manufacturer explicitly establishes interchangeability.

Technical Summary

The **6E14N / 6Э14Н** is a **6.3 V metal-ceramic low-voltage amplifier and oscillator tetrode**, with **130 ± 10 mA heater current**, approximately **7 mA anode current**, and **8.5 mA/V transconductance** at the specified **27 V anode / 27 V screen** test point.

Its small feedthrough capacitance, **5,000-hour minimum service life**, and **−60°C to +125°C ambient operating range** make it a specialized miniature high-frequency device for low-voltage electronic equipment.

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
Heater voltage nominal	6.3 V	Published heater operating voltage
Heater current nominal	130 mA	Nominal or midpoint of published heater-current tolerance
Plate current	7 mA	Low-voltage operating point
Screen current	3.6 mA	Maximum
Transconductance	8.5 mA/V	Published nominal
Vibration noise voltage	50 mV	2 kOhm load, 50 Hz vibration
Service life	5000 h	Minimum

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	7 pF	Published nominal
Output capacitance	1.9 pF	Published nominal
Transfer capacitance	0.025 pF	Maximum

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage limit	250 V	Published
Screen voltage limit	70 V	Published

TUBE TINKER

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

