

ELECTRONIC TUBE REFERENCE

8CN7

Voltage - Triode (with diode, heptode or hexode) electronic tube

CONSOLIDATED TECHNICAL DATA

3 SECTIONS
CONSTRUCTION
DIODE-DIODE-TRIODE

Twin-diode high-mu triode designed as a television horizontal phase detector and reactance tube, integrating phase comparison and oscillator-frequency control.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9EF	BASE PINS	9
NOMINAL HEATER	8.4 V / 225 mA	PARALLEL HEATER	4.2 V / 450 mA
HEATING	Indirect	SERIES OPERATION	Capable
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

9EF - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1	B	P – Plate (Anode)	CONNECTED
PIN3	B	G1 – Control Grid	CONNECTED
PIN4	–	H – Heater	CONNECTED
PIN5	–	H – Heater	CONNECTED
PIN6	A	P – Plate (Anode)	CONNECTED
PIN7	A	G1 – Control Grid	CONNECTED
PIN8	A	K – Cathode	CONNECTED
PIN9	B	K – Cathode	CONNECTED

SECTION RATINGS

SECTION1 Diode	
MAXIMUM CATHODE CURRENT	5 mA
MAXIMUM HEATER-CATHODE VOLTAGE	200 V
WARM-UP TIME	11 s
<i>Representative of two identical diode sections; 5 mA continuous current rating retained as parameter.</i>	

SECTION2 Triode	
PLATE RESISTANCE	58000 Ω
TRANSCONDUCTANCE	0.0012 S
AMPLIFICATION FACTOR	70
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	1 W
MAXIMUM HEATER-CATHODE VOLTAGE	200 V
WARM-UP TIME	11 s
<i>Published promoted fields populated semantically; identical repeated sections compressed.</i>	

SECTION3 Diode	
MAXIMUM CATHODE CURRENT	5 mA
<i>Diode section 2; 5 mA maximum continuous current.</i>	

The 8CN7 combines two diodes and a high-mu triode with separate cathodes for use as a horizontal phase detector and reactance tube in television receivers.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1961 Tung Sol

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

1961 TUNG SOL

Section 1 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Average Diode Current	4 mA	EachDiode



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1966 Tung Sol Electronic Tubes 2 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 1 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum_continuous_diode_current	5 mA	PhaseDetector

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 2 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate_voltage	250 V	ClassA
Grid_voltage	-3 V	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification_factor	70	ClassA

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate_resistance	55000 ohm	ClassA
Transconductance	1200 uS	ClassA
Plate_current	1 mA	ClassA

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 3 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum_continuous_diode_current	5 mA	PhaseDetector



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

1968 General Electric Co

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

1968 GENERAL ELECTRIC CO

Section 1 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage Series	8.4 V	Series
Heater Current Series	225 mA	Series
Heater Voltage Parallel	4.2 V	Parallel
Heater Current Parallel	450 mA	Parallel
MaximumContinuousDiodeCurrentEach	5 mA	EachDiode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Average Diode Current At5 V	20 mA	EachDiode;PlateVoltage=5V

1968 GENERAL ELECTRIC CO

Section 2 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	58000 Ohm	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	1200 μ S	—
Amplification Factor	70	—

TUBE TINKER

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and their source documents.

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