

ELECTRONIC TUBE REFERENCE

5U8

Voltage - Radio Detector Converter electronic tube

CONSOLIDATED TECHNICAL DATA
2 SECTIONS
CONSTRUCTION
PENTODE-TRIODE

Combined triode-pentode used as an oscillator and mixer or frequency converter in television or VHF communications receivers.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9AE	BASE PINS	9
NOMINAL HEATER	5 V / 600 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

9AE - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – 2P	B	P – Plate (Anode)	CONNECTED
PIN2 – 1G1	A	G1 – Control Grid	CONNECTED
PIN3 – 1G2	A	G2 – Screen Grid	CONNECTED
PIN4 – H	–	H – Heater	CONNECTED
PIN5 – H	–	H – Heater	CONNECTED
PIN6 – 1P	A	P – Plate (Anode)	CONNECTED
PIN7 – 1G3	A	G3 – Suppressor Grid	CONNECTED
PIN7 – 1S	A	IS – Internal Screen	CONNECTED
PIN7 – 1K	A	K – Cathode	CONNECTED
PIN8 – 2K	B	K – Cathode	CONNECTED
PIN9 – 2G1	B	G1 – Control Grid	CONNECTED

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	8000 Ω
TRANSCONDUCTANCE	0.0075 S
AMPLIFICATION FACTOR	60
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM PLATE DISSIPATION	2.5 W
<i>Published Westinghouse ratings, characteristics, operating conditions, and capacitances extracted from supplied source.</i>	

SECTION2 Pentode	
PLATE RESISTANCE	200000 Ω
TRANSCONDUCTANCE	0.005 S
AMPLIFICATION FACTOR	40
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM SCREEN VOLTAGE	150 V
MAXIMUM PLATE DISSIPATION	2.5 W
MAXIMUM SCREEN DISSIPATION	0.5 W
<i>Published Westinghouse ratings, characteristics, operating conditions, and capacitances extracted from supplied source.</i>	

Miniature types used as combined oscillator and mixer ' tube in color and black-and-white television receivers c P®VvOx~/9vf)KT ' frZIzJfa utilizing an intermediate frequency in the order of (^fc T 40 MHz. Outlines 4.7 section, 6B; require miniature 9- 9AE contact socket. Type 5U8 is identical with type 6U8A/ 6KD8 except for heater ratings. 5U8 6U8A/6KD8 9U8A



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 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Service	Local oscillator	—

1961 TUNG SOL

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Service	Pentode mixer	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1965 Westinghouse Data Book

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

1965 WESTINGHOUSE DATA BOOK

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterOrFilamentVoltage	4.7 V	—
HeaterOrFilamentCurrent	600 mA	—
ControlledWarmupHeater	1 boolean	—
Heater Warmup Time	11 s	—
Transconductance	7500 μ S	—
Amplification Factor	60	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid To Plate Capacitance	1.8 pF	—
Input Capacitance	2.8 pF	—
Output Capacitance	2 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	125 V	TriodeUnit
Plate Current	13.5 mA	TriodeUnit

1965 WESTINGHOUSE DATA BOOK

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	125 V	PentodeUnit
Screen Voltage	110 V	PentodeUnit
Plate Current	9.5 mA	PentodeUnit
Screen Current	3.5 mA	PentodeUnit

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	5000 uS	—
GridToPlateCapacitanceMaximum	0.015 pF	—
Input Capacitance	5 pF	—
Output Capacitance	3.5 pF	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

1966 Tung Sol Electronic Tubes 1 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 1 OF 4

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	125 V	TriodeSection
Grid voltage	-1 V	TriodeSection
Plate current	13.5 mA	TriodeSection

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	7500 μ S	TriodeSection
Amplification factor	40	TriodeSection

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	1.8 pF	TriodeSection

1966 TUNG SOL ELECTRONIC TUBES 1 OF 4

Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum grid 2 supply voltage	330 V	PentodeSection
Plate voltage	125 V	PentodeSection
Grid 2 voltage	110 V	PentodeSection
Grid 1 voltage	-1 V	PentodeSection
Plate current	9.5 mA	PentodeSection
Grid 2 current	3.5 mA	PentodeSection

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	5000 μ S	PentodeSection
Plate resistance	0.2 M Ω m	PentodeSection
Zero-bias transconductance	5500 μ S	Eg1=0V; Eg2=70V; Eplate=100V

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	—0.007 pF	PentodeSection; WithShield; Maximum

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1975 RCA RC30

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

1975 RCA RC30

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc)	9.45 volts	Published value from supplied target entry
Heater Current	0.3 ampere	Published value from supplied target entry
Heater Warm-up Time (Average)	11 seconds	Published value from supplied target entry
Plate Voltage	330 volts	Published value from supplied target entry
Grid-No	330 volts	Published value from supplied target entry
Grid-No	300	Published value from supplied target entry
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0 volts	Published value from supplied target entry
Plate Dissipation	3 watts	Published value from supplied target entry
Grid-No	2	Published value from supplied target entry
For grid-No	0.55 volts	Published value from supplied target entry
For grid-No	300 volts	Published value from supplied target entry
Plate Voltage	125 volts	Published value from supplied target entry
Grid-No2 Voltage	110 volts	Published value from supplied target entry
Grid-No.1 Voltage	-1 volts	Published value from supplied target entry
Amplification Factor	40	Published value from supplied target entry
Plate Resistance (Approx.)	0.2 megohm	Published value from supplied target entry
Transconductance	5000	Published value from supplied target entry
Plate Current	9.5 mA	Published value from supplied target entry
Grid-No	3.5 mA	Published value from supplied target entry
(ac/dc),	0.6 amperes	Published value from supplied target entry
Average Cathode Current	20 mA	Published value from supplied target entry

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Dissipation	1 watts	Published value from supplied target entry
Plate Voltage	200 volts	Published value from supplied target entry
Grid Voltage	-1.5 volts	Published value from supplied target entry
Amplification Factor	90	Published value from supplied target entry
Plate Resistance (Approx.)	61000 ohms	Published value from supplied target entry
Transconductance	1600	Published value from supplied target entry
Plate Current	1.2 mA	Published value from supplied target entry
For plate current of	15 volts	Published value from supplied target entry
For plate current of	-3 volts	Published value from supplied target entry
* This value may reach	10 megohms	Published value from supplied target entry
are such that the plate dissipation can never exceed	0.5 watt	Published value from supplied target entry

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate	1.8 pF	Published value from supplied target entry
Plate to Cathode, Heater, Grid No	2	Published value from supplied target entry
Triode Cathode to Heater	3 pF	Published value from supplied target entry
Pentode Plate to Triode Plate	0.02 pF	Published value from supplied target entry

TUBE TINKER

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