

ELECTRONIC TUBE REFERENCE

7A8

Voltage - Radio Detector Converter electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

OCTODE

Receiver oscillator-converter combining local oscillation and signal mixing for superheterodyne frequency conversion. Its multi-grid structure integrates the front-end frequency-changing functions in one envelope.

GENERAL CHARACTERISTICS

BASE DESIGNATION	8U	BASE PINS	8
NOMINAL HEATER	6.3 V / 320 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Octode	
PLATE RESISTANCE	700000 Ω
TRANSCONDUCTANCE	0.00055 S
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM SCREEN VOLTAGE	100 V
MAXIMUM PLATE DISSIPATION	1 W
MAXIMUM SCREEN DISSIPATION	0.3 W
MAXIMUM GRID DISSIPATION	0.75 W
MAXIMUM CATHODE CURRENT	13 mA
Published handbook ratings and representative operating characteristics reviewed.	

Octode converter using lock-in construction for combined oscillator and mixer service.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1948 Brimar Radio Valve Manual

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

1948 BRIMAR RADIO VALVE MANUAL

Section 1 · Octode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode Voltage	250 V	—
Anode Current	3 mA	—
Screen Voltage	100 V	—
Screen Current	2.8 mA	—
Oscillator Anode Supply Voltage	250 V	G2
Oscillator Anode Resistor	20000 ohm	—
Control Grid Voltage	-3 V	G4
Cathode Bias Resistor	300 ohm	—
Oscillator Grid Resistor	50000 ohm	G1
Oscillator Grid Current	0.4 mA	—
Conversion Conductance	550 uS	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1950 Sylvania

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

1950 SYLVANIA

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage	7 V	Nominal published value
Heater Current	160 mA	Nominal published value



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

195X General Electric Essential Characteristics

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

195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 1 · Octode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	300 V	Published handbook rating
Maximum screen voltage	100 V	Published handbook rating
Plate voltage	250 V	ClassA
Screen voltage	100 V	ClassA
Control-grid bias	3 V	ClassA
Plate current	3 mA	ClassA
Screen current	3.2 mA	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	700000 ohm	Published handbook characteristic
Transconductance	550 μ S	Published handbook characteristic
Heater voltage	6.3 V	Published heater rating
Heater current	150 mA	Published heater rating



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 · Octode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Nominal
Heater current	320 mA	Nominal
Plate voltage	100250 V	Typical operating conditions
Screen voltage	100 V	Typical operating conditions
Plate current	1.83.0 mA	Typical operating conditions
Screen current	2.73.2 mA	Typical operating conditions



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 · Octode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Mixer-grid to oscillator-anode capacitance	0.3 pF	—
Mixer-grid to oscillator-grid capacitance	0.15 pF	—
Oscillator-grid to oscillator-anode capacitance	0.6 pF	—
Mixer input capacitance	7.5 pF	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Mixer output capacitance	9 pF	—
Oscillator input capacitance	3.8 pF	—
Oscillator output capacitance	3.4 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	Converter
Grids #3 and #5 voltage	200 V	Converter
Grid #2 voltage	250 V	Converter
Grid #4 voltage	-3 V	Converter
Plate current	3 mA	Converter
Total cathode current	10.5 mA	Converter

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	700000 ohm	Converter
Conversion transconductance	550 uS	Converter
Oscillator transconductance grid #1 to grid #2	1600 uS	Oscillator
Oscillator amplification factor	65	Oscillator

TUBE TINKER

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