

ELECTRONIC TUBE REFERENCE

6L7

Voltage Radio Detector Converter electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
HEPTODE

Classic pentagrid mixer and amplifier for radio frequency conversion, modulation, and first-detector service using a separate oscillator.

GENERAL CHARACTERISTICS

BASE DESIGNATION	7T	BASE PINS	8
NOMINAL HEATER	6.3 V / 300 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Heptode	
PLATE RESISTANCE	600000 Ω
TRANSCONDUCTANCE	0.0011 S
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM SCREEN VOLTAGE	150 V
Source-defined physical/function section.	

Pentagrid mixer/amplifier tube for frequency-converter and modulator service.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1935 RCA All Metal Radio Tubes

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

1935 RCA ALL METAL RADIO TUBES

Section 1 · Heptode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	AsMixer
Screen voltage	150 V	AsMixer
Signal-grid voltage	-6 V	AsMixer
Oscillator-grid voltage	-15 V	AsMixer
Peak oscillator voltage	18 V	AsMixer
Plate current	3.3 mA	AsMixer
Screen current	8.3 mA	AsMixer

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Conversion conductance	350 μ S	AsMixer
Plate resistance	0.8 M Ω m	AsAmplifier
Mutual conductance	1100 μ S	AsAmplifier



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1937 Ken Rad

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

1937 KEN RAD

Section 1 · Heptode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid Voltage	-3 V	is with a No. 1 grid voltage of -3, and a screen voltage
Grid Voltage	150 V	of -6 and a screen grid voltage of 150. These two ratings
Plate Voltage	250 V	Plate Voltage 250 Volts Max.
Screen Voltage	100 V	Screen Voltage (Grids No. 2 and 4) 100 Volts Max.
Grid Voltage	-3 V	Control Grid Voltage (Grid No. 1 -3 Volts Min.
Control Grid Voltage	-3 V	Control Grid Voltage (Grid No. 3 -3 Volts Min.
Plate Current	5.3 mA	Plate Current 5.3 Milliamperes
Screen Current	5.5 mA	Screen Current 5.5 Milliamperes
Plate Resistance	800000 ohm	Plate Resistance 800,000 Ohms
Mutual Conductance	1100 μS	Mutual Conductance 1100 Micromhos
Amplification Factor	880 ratio	Amplification Factor 880

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	250 V	Plate Voltage 250 250 Max. ** Volts
Screen Voltage	150 V	Screen Voltage (Grids No. 2 and 4) 100 150 Max. *% Volts
Grid Voltage	-6 V	Signal-Grid Voltage (Grid No. 1) -3 -6 Min. *% Volts
Grid Voltage	-15 V	#0scillator-Grid Voltage EGrid No. 3) -10 -15 Volts
Peak Oscillator Voltage	18 V	Peak Oscillator Voltage (Applied to Grid No. 3) 12 18 Volts Min.
Plate Current	3.3 mA	Plate Current 2.4 3.3 Milliamperes
Screen Current	8.3 mA	Screen Current 6.2 8.3 Milliamperes
Plate Resistance	1 Mohm	Plate Resistance 1.0 1.0 Megohm or greater



SOURCE DATA APPENDIX

1937 Raytheon Radio Receiving Tubes

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

1937 RAYTHEON RADIO RECEIVING TUBES

Section 1 · Heptode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	250 V	Published datasheet rating
Maximum screen voltage	150 V	Published datasheet rating
Plate voltage	250 V	ClassA
Screen voltage	100 V	ClassA
Screen current	6.5 mA	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	800000 ohm	Published datasheet characteristic
Transconductance	1100 μ S	Published datasheet characteristic
Amplification factor	880	Published datasheet characteristic
Heater voltage	6.3 V	Published heater rating
Heater current	300 mA	Published heater rating



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

1940 RCA

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

1940 RCA

Section 1 · Heptode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Published nominal value
Heater current	300 mA	Published nominal value

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Conversion conductance	350 μ S	Mixer service
Application	Mixer with separate oscillator	Superheterodyne frequency conversion



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 · Heptode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	ClassA
Screen voltage	100 V	ClassA
Control-grid voltage	-3 V	ClassA
Plate current	5.3 mA	ClassA
Screen current	6.5 mA	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	600000 Ω	ClassA
Transconductance	1100 μ S	ClassA



SOURCE DATA APPENDIX

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 · Heptode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	300 mA	—
Plate current	5.3 mA	Typical operating conditions