

ELECTRONIC TUBE REFERENCE

6D8G

Voltage Radio Detector Converter electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
HEPTODE

Low-heater-current pentagrid oscillator-converter for superheterodyne receivers. Its multi-grid structure combines local oscillation and mixing while reducing heater-power demand compared with many contemporary converter tubes.

GENERAL CHARACTERISTICS

BASE DESIGNATION	8A	BASE PINS	8
NOMINAL HEATER	6.3 V / 150 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Heptode	
PLATE RESISTANCE	400000 Ω
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	100 V
MAXIMUM PLATE DISSIPATION	1 W
MAXIMUM CATHODE CURRENT	13 mA
Pentagrid converter for oscillator-mixer service.	

Low-heater-current pentagrid converter with characteristics similar to the 6A7/6A8G family, intended for conventional converter service.

SOURCE OPERATING CONDITIONS

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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
SMALL Max, Plate Voltage	250 V	Published table

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid #4 to all other Elements (R~F input)	8.8 pF	Published table
Grid #1 to all other Elements {0se, input)	6	Published table
Grid #2 to all other Elements (	0 pF	Published table; Column1
Grid #2 to all other Elements (	5 pF	Published table; Column2
Plate to all other Elements (Mixer output)	11 pF	Published table
Plate Voltage	138 V	Published table; Column1
Plate Voltage	250 V	Published table; Column2
Conversion Transconductance	325	Published table; Column1
Conversion Transconductance	500	Published table; Column2
Plate Current	1.2 mA	Published table; Column1
Plate Current	3.3 mA	Published table; Column2
Control Grid Bias	25 V	Published table; Column1
Control Grid Bias	38.5 V	Published table; Column2
(For Conversion Transconductance =	10 uS	Published table
Grid #1 to Grid #2 Transconductance	1	Published table; Column1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid #1 to Grid #2 Transconductance	1000	Published table; Column2



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1950 Sylvania

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1950 SYLVANIA

Section 1 · Heptode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Conversion Conductance	500 μ S	250 V plate condition

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	3 mA	250 V plate
Screen Current	3.5 mA	250 V plate
Oscillator Grid Current	0.7 mA	250 V plate

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
RF Input Capacitance	7 pF	—
Mixer Output Capacitance	9 pF	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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195X General Electric Essential Characteristics

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195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 1 · Heptode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	Converter; OscillatorPlate250VThrough20000Ohm; OscillatorGridLeak500000Ohm; OscillatorCathodeCurrent0.4mA; TriodeOscillatorCurrent4.3mA
Screen voltage	100 V	Converter; OscillatorPlate250VThrough20000Ohm; OscillatorGridLeak500000Ohm; OscillatorCathodeCurrent0.4mA; TriodeOscillatorCurrent4.3mA
Control-grid bias magnitude	3 V	Converter; OscillatorPlate250VThrough20000Ohm; OscillatorGridLeak500000Ohm; OscillatorCathodeCurrent0.4mA; TriodeOscillatorCurrent4.3mA
Plate current	3.5 mA	Converter; OscillatorPlate250VThrough20000Ohm; OscillatorGridLeak500000Ohm; OscillatorCathodeCurrent0.4mA; TriodeOscillatorCurrent4.3mA
Screen current	2.6 mA	Converter; OscillatorPlate250VThrough20000Ohm; OscillatorGridLeak500000Ohm; OscillatorCathodeCurrent0.4mA; TriodeOscillatorCurrent4.3mA
Plate resistance	400000 ohm	Converter; OscillatorPlate250VThrough20000Ohm; OscillatorGridLeak500000Ohm; OscillatorCathodeCurrent0.4mA; TriodeOscillatorCurrent4.3mA
Transconductance	550 uS	Converter; OscillatorPlate250VThrough20000Ohm; OscillatorGridLeak500000Ohm; OscillatorCathodeCurrent0.4mA; TriodeOscillatorCurrent4.3mA
Oscillator cathode current	0.4 mA	Converter
Oscillator grid-leak resistance	50000 ohm	Converter



SOURCE DATA APPENDIX

1961 Tung Sol

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1961 TUNG SOL

Section 1 · Heptode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	3.5 mA	Published operating/characteristic table
Screen Current	2.6 mA	Published operating/characteristic table