



ELECTRONIC TUBE REFERENCE

1F6

Voltage Radio Detector Converter electronic tube

CONSOLIDATED TECHNICAL DATA

3 SECTIONS

CONSTRUCTION

DIODE-DIODE-PENTODE

Directly heated double-diode pentode for detector, AVC, and voltage-amplifier functions in battery receivers. Paired diodes provide signal and control rectification while the high-resistance pentode supplies subsequent gain.

GENERAL CHARACTERISTICS

BASE DESIGNATION	6W	BASE PINS	6
NOMINAL HEATER	2 V / 60 mA	PARALLEL HEATER	– / –
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Common cathode	SECTION CONSTRUCTION	Dissimilar

SECTION RATINGS

SECTION1 Diode	
MAXIMUM PLATE VOLTAGE	180 V
MAXIMUM CATHODE CURRENT	1 mA
<i>Detector/AVC diode section 1.</i>	

SECTION2 Diode	
<i>No fixed ratings recorded.</i>	
<i>Detector/AVC diode section 2.</i>	

SECTION3 Pentode	
PLATE RESISTANCE	1000000 Ω
TRANSCONDUCTANCE	0.00065 S
AMPLIFICATION FACTOR	650
MAXIMUM PLATE VOLTAGE	180 V
MAXIMUM SCREEN VOLTAGE	67.5 V
MAXIMUM PLATE DISSIPATION	0.4 W
MAXIMUM SCREEN DISSIPATION	0.05 W
MAXIMUM CATHODE CURRENT	3 mA
<i>Pentode RF/IF amplifier section.</i>	

Directly heated duplex-diode sharp-cutoff pentode for detector and Class A amplifier 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 3 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate	0.007 pF	Published capacitance
Input	4 pF	Published capacitance
Output	9 pF	Published capacitance

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	180 V	ClassA
Screen Voltage	67.5 V	ClassA
Grid Bias	-1.5 V	ClassA
Amplification Factor {approximate}	650	ClassA
Plate Resistance (approximate)	1 Mohm	ClassA
Transconductance	650 uS	ClassA
Screen Current	0.6 mA	ClassA
Transconductance at	-12 uS	ClassA; Column1
Transconductance at	15 uS	ClassA; Column2
Grid Biast	-1 V	ClassA; Column1
Grid Biast	-1.5 V	ClassA; Column2
Grid Biast	-240 V	ClassA; Column3
Signal Peak Voltage	0.64 V	ClassA; Column1
Signal Peak Voltage	0.63 V	ClassA; Column2
Signal Peak Voltage	0.62 V	ClassA; Column3
No-Signal Plate Current	0.42 mA	ClassA; Column1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
No-Signal Plate Current	0.42 mA	ClassA; Column2
No-Signal Plate Current	0.42 mA	ClassA; Column3
Maximum-Signal Plate Current	0.34 mA	ClassA; Column1
Maximum-Signal Plate Current	0.34 mA	ClassA; Column2
Maximum-Signal Plate Current	0.34 mA	ClassA; Column3



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SOURCE OPERATING CONDITIONS

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1940 RCA

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1940 RCA
Section 1 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterVoltageNominal	2 V	Nominal
HeaterCurrentNominal	60 mA	Nominal
Maximum Plate Voltage	180 V	—
Maximum Cathode Current	1 mA	—

1940 RCA
Section 3 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterVoltageNominal	2 V	Nominal
HeaterCurrentNominal	60 mA	Nominal
Maximum Plate Voltage	180 V	—
Maximum Screen Voltage	67.5 V	—
Maximum Cathode Current	3 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	659 μ S	Typical

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification Factor	650	Typical
Plate Resistance	1000000 ohm	Typical


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1950 Sylvania

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1950 SYLVANIA

Section 3 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	180 V	Pentode; RF/IF
Screen Voltage	67.5 V	Pentode; RF/IF
Plate Current	2.2 mA	Pentode; RF/IF

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-Plate Capacitance	0.007 pF	Pentode


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195X General Electric Essential Characteristics

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195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 3 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	180 V	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum screen-grid voltage	67.5 V	—
Plate voltage	180 V	ClassA
Screen-grid voltage	67.5 V	ClassA
Control-grid voltage	-1.5 V	ClassA
Plate current	2.2 mA	ClassA
Screen-grid current	0.7 mA	ClassA
Plate resistance	1000000 Ohm	ClassA
Transconductance	650 uS	ClassA

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	4 pF	—
Output capacitance	9 pF	—
Grid-to-plate capacitance	0.007 pF	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1961 Tung Sol

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1961 TUNG SOL

Section 1 · Diode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MinimumDiodeCurrentAt10V	0.5 mA	DcApplied=10V

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MaximumDiodeCurrentContinuous	0.25 mA	ContinuousOperation

1961 TUNG SOL

Section 2 · Diode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MinimumDiodeCurrentAt10V	0.5 mA	DcApplied=10V

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
MaximumDiodeCurrentContinuous	0.25 mA	ContinuousOperation

1961 TUNG SOL

Section 3 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament Voltage	2 V	Nominal
Filament Current	60 mA	Nominal
Plate Voltage	180 V	RForIFAmplifier
Screen Voltage	67.5 V	RForIFAmplifier
Control Grid Voltage	-1.5 V	RForIFAmplifier
Plate Current	2.2 mA	RForIFAmplifier
Screen Current	0.7 mA	RForIFAmplifier

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid To Plate Capacitance	0.007 pF	Maximum
Input Capacitance	4 pF	—
Output Capacitance	9 pF	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	1000000 ohm	RForIFAmplifier
Transconductance	650 uS	RForIFAmplifier
TransconductanceAtControlGridMinus42V	20 uS	RForIFAmplifier