



ELECTRONIC TUBE REFERENCE

38

Power - Pentode (NOT beam) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

PENTODE

Power-amplifier pentode using a 6.3 V, 0.3 A heater. Manufacturer handbooks identify it for receiver power-output service rather than small-signal voltage amplification.

GENERAL CHARACTERISTICS

BASE DESIGNATION	5F	BASE PINS	5
NOMINAL HEATER	6.3 V / 300 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Pentode	
PLATE RESISTANCE	100000 Ω
TRANSCONDUCTANCE	0.0012 S
AMPLIFICATION FACTOR	120
MAXIMUM PLATE VOLTAGE	135 V
MAXIMUM SCREEN VOLTAGE	135 V
<i>Published ratings and characteristics promoted from the approved datasheet.</i>	

38 is listed in the supplied receiving-tube handbook as a power-amplifier pentode. The published heater/filament rating is 6.3 V at 0.3 A.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1932 Cunningham Radio Tubes

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

1932 CUNNINGHAM RADIO TUBES

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-plate capacitance	0.3 pF	Published direct interelectrode capacitance
Undistorted power output	525 mW	Published operating characteristic
Load resistance	8500 ohm	Published operating characteristic

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	250 V	Published datasheet rating
Maximum screen voltage	250 V	Published datasheet rating
Plate voltage	250 V	ClassA
Screen voltage	250 V	ClassA
Control-grid bias	25 V	ClassA
Plate current	22 mA	ClassA
Screen current	3.8 mA	ClassA
Load resistance	10000 ohm	ClassA
Power output	2.5 W	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	100000 ohm	Published datasheet characteristic
Transconductance	1200 μ S	Published datasheet characteristic
Amplification factor	120	Published datasheet characteristic
Heater/filament voltage	6.3 V	Published heater/filament rating
Heater/filament current	300 mA	Published heater/filament rating

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	3.5 pF	Published capacitance
Output capacitance	7.5 pF	Published capacitance
Grid-to-plate capacitance	0.3 pF	Published capacitance


SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

193X Cunningham

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

193X CUNNINGHAM

Section 1 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater/filament voltage	6.3 V	Published nominal
Heater/filament current	300 mA	Published nominal
Transconductance	1700 μ S	Published characteristic


SOURCE DATA APPENDIX

1940 RCA

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

1940 RCA

Section 1 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater or filament voltage	6.3 V	Published nominal value
Heater or filament current	300 mA	Published nominal value
Transconductance	1200 μ S	Published representative/high operating value
Amplification factor	120	Published representative/high operating value
Plate resistance	100000 ohm	Published representative/high operating value

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Audio power output	2.5 W	SingleTube; 250 V plate
Load resistance	10000 ohm	SingleTube; 250 V plate



SOURCE DATA APPENDIX

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 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	250 V	Published handbook rating
Maximum screen voltage	250 V	Published handbook rating
Plate voltage	250 V	ClassA
Screen voltage	250 V	ClassA

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Control-grid bias	25 V	ClassA
Plate current	22 mA	ClassA
Screen current	3.8 mA	ClassA
Load resistance	10000 ohm	ClassA
Power output	2.5 W	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	100000 ohm	Published handbook characteristic
Transconductance	1200 μ S	Published handbook characteristic
Heater/filament voltage	6.3 V	Published heater/filament rating
Heater/filament current	300 mA	Published heater/filament rating


SOURCE DATA APPENDIX

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 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	250 V	ClassA
Screen voltage	250 V	ClassA
Screen current	3.8 mA	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	100000 ohm	ClassA
Transconductance	1200 μ S	ClassA