



ELECTRONIC TUBE REFERENCE

6T9

Power - Pentode (NOT beam) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

PENTODE-TRIODE

Combination high-mu triode and power pentode for audio-frequency circuits, with the pentode serving as the output power amplifier.

GENERAL CHARACTERISTICS

BASE DESIGNATION	EIA 12FM	BASE PINS	12
NOMINAL HEATER	6.3 V / 930 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	100000 Ω
TRANSCONDUCTANCE	0.0065 S
MAXIMUM PLATE VOLTAGE	275 V
MAXIMUM SCREEN VOLTAGE	275 V
MAXIMUM PLATE DISSIPATION	12 W
MAXIMUM SCREEN DISSIPATION	2 W
Power pentode section.	

SECTION2 Triode	
PLATE RESISTANCE	45000 Ω
TRANSCONDUCTANCE	0.0021 S
AMPLIFICATION FACTOR	95
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM PLATE DISSIPATION	1.5 W
High-mu triode section.	

TECHNICAL DATA 383 Plate Resistance (ApPprox.)oveeevvennren 54000 58000 ohms Transconduct8neCe
.....c00vveemevsnnoonnns 1300 1200 pmhos Plate Currentcoiivrirernrennnnnnnnnnnn 0.8 1 mA Diode Units
MAXIMUM RATINGS (Design-Maximum Values) Plate Current (Each Unit)iriiiinrrrrerennnnnnnns . 6.6 HIGH-MU

TRIODE— POWER PENTODE 619 Duodecar type used in audio-frequency circuits. The triode unit is used as a voltage amplifier; the pen- tode unit is used as a power amplifier. Outlines sec- tion, 8B; requires duodecar 12-contact socket. Heater Voltage (BC/dC) 6.3 volts Heater Current 0.93 ampere Heater-Cathode Voltage: Peak value 200 max volts Average value e Ceresean 100 max volts Direct Interelectrode Capacitances: Pentode Section: Grid No.1 to Plate e, 0.2 pF Grid No.1 to Cathode, Heater, Grid

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 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance (ApPprox.)oveeevvennren 54000	58000 ohm	Plate Resistance (ApPprox.)oveeevvennren 54000 58000 ohms
Plate Resistance (ADDroX.)c.uiriiiirein it ieinrinannnns	0.1 ohm	Plate Resistance (ADDroX.)c.uiriiiirein it ieinrinannnns 0.1 megohm
Load Resistanceiiiiirinrinresenanessasnaneeananas	5000 ohm	Load Resistanceiiiiirinrinresenanessasnaneeananas 5000 ohms

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconduct8neCec00vveemevsnnoonnns 1300	1200 μ S	Transconduct8neCec00vveemevsnnoonnns 1300 1200 pmhos
Plate Currentcoiivrirernrennnnnnnnnnn 0.8	1 mA	Plate Currentcoiivrirernrennnnnnnnnnn 0.8 1 mA
Heater Voltage (BC/dC)oitiinirerrnrnsnraronnonsensnnes	6.3 V	Heater Voltage (BC/dC)oitiinirerrnrnsnraronnonsensnnes 6.3 volts
Heater Currentiiiiinnnninnsinnseeneeanaieanannns	930 mA	Heater Currentiiiiinnnninnsinnseeneeanaieanannns 0.93 ampere
Peak value i i ittt te e, 200 max volts	200 V	Peak value i i ittt te e, 200 max volts
Average value e Ceresean 100 max volts	100 V	Average value e Ceresean 100 max volts
Grid No.1 to Plate e,	0.2 pF	Grid No.1 to Plate e, 0.2 pF
3)L I	11 pF	3)L I 11 pF
Shield i e e it	11 pF	Shield i e e it 11 pF
tt 2.6 pF	2.6 pF	tt 2.6 pF
Grid to Cathode, Heater, and Internal Shield	3.4 pF	Grid to Cathode, Heater, and Internal Shield 3.4 pF
Plate to Cathode, Heater, and Internal Shielde	1.1 pF	Plate to Cathode, Heater, and Internal Shielde 1.1 pF
Plate Voltage ittt iinnennnnnnns 300	275 V	Plate Voltage ittt iinnennnnnnns 300 275 volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.2 (Screen-Grid) Voltage –	275 V	Grid-No.2 (Screen-Grid) Voltage — 275 volts
Grid-No.1 (Control-Grid) Voltage, Positive-bias value 0	0 V	Grid-No.1 (Control-Grid) Voltage, Positive-bias value 0 0 volts
Plate Dissipationcoverinrrnrnranennas 1.5	12 W	Plate Dissipationcoverinrrnrnranennas 1.5 12 watts
Grid-No.2 Inputcviuiiriininennnoennaaans –	2 W	Grid-No.2 Inputcviuiiriininennnoennaaans — 2 watts
Plate VoltBBEc.0iiiiitiiirenenneeronseoneanecsenananans	250 V	Plate VoltBBEc.0iiiiitiiirenenneeronseoneanecsenananans 250 volts
tt tasensssnassnnn –	2 V	tt tasensssnassnnn —2 volts
i aireannnns	45000 ohm	i aireannnns 45000 ohms
TransconductBNCEcitiuitientennrrnrnnnnaranannnsnnns	2100 μS	TransconductBNCEcitiuitientennrrnrnnnnaranannnsnnns 2100 pmhos
Plate Current . . e	1.5 mA	Plate Current . . e 1.5 mA
iiere	250 V	iiere 250 volts
Grid-No.2 Voltagecottiinrinrnnnunsrenensneeenannnnaeen	260 V	Grid-No.2 Voltagecottiinrinrnnnunsrenensneeenannnnaeen 260 volts
Grid-No.1 Voltageiiniiriinrrrinrennnaeaneaneanes –	8 V	Grid-No.1 Voltageiiniiriinrrrinrennnaeaneaneanes —8 volts
Peak AF Grid-No.1 Voltagettt ennnnnns	8 V	Peak AF Grid-No.1 Voltagettt ennnnnns 8 volts
Zero-Signal Plate Currentc.c.iiireenrreennnnn	85 mA	Zero-Signal Plate Currentc.c.iiireenrreennnnn 85 mA
Maximum-Signal Plate Currentccφiriinrnnn	39 mA	Maximum-Signal Plate Currentccφiriinrnnn. 39 mA
Zero-Signal Grid-No.2 Currentiiniirnrurrnnnn	2.5 mA	Zero-Signal Grid-No.2 Currentiiniirnrurrnnnn 2.5 mA
.....0 7 mA	7 mA	0 7 mA
TranscondUCTBNCEc.oviiiririeninrnenssenenenanneanenennnn	6500 μS	TranscondUCTBNCEc.oviiiririeninrnenssenenenanneanenennnn 6500 pmhos
Maximum-Signal Power Outputc.iiriiniinnnnnnnnns	4.2 W	Maximum-Signal Power Outputc.iiriiniinnnnnnnnns 4.2 watts
For fixed-bias operation srrienas . 0.5	0.26 ohm	For fixed-bias operation srrienas . 0.5 0.26 megohm
For cathode-bias operation 1*	0.5 ohm	For cathode-bias operation 1* 0.5 megohm
* For cathode-bias operation of the triode unit, 8 maximum resistance of 10 megohms can be	10 ohm	* For cathode-bias operation of the triode unit, 8 maximum resistance of 10 megohms can be
used provided the plate dissipation never exceeds	0.26 W	used provided the plate dissipation never exceeds 0.26 watt.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1968 General Electric Co

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

1968 GENERAL ELECTRIC CO

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	250 V	ClassA
Screen Voltage	250 V	ClassA
Grid Voltage	-8 V	ClassA
Load Resistance	5000 ohm	ClassA
Power Output	4.2 W	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	35 mA	ClassA

1968 GENERAL ELECTRIC CO

Section 2 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	250 V	ClassA
Grid Voltage	-2 V	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	1.5 mA	ClassA