



ELECTRONIC TUBE REFERENCE

23Z9

Power - TV Vertical Output electronic tube

CONSOLIDATED TECHNICAL DATA

3 SECTIONS

CONSTRUCTION

BEAMPOWER-TRIODE-TRIODE

Compactron combining medium- and high-mu triodes with a high-perveance beam-power section for television vertical-deflection oscillator and amplifier service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	E12-70	BASE PINS	12
NOMINAL HEATER	23 V / 450 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

SECTION RATINGS

SECTION0 Beam Power	
PLATE RESISTANCE	11700 Ω
TRANSCONDUCTANCE	0.0071 S
MAXIMUM PLATE VOLTAGE	425 V
MAXIMUM SCREEN VOLTAGE	200 V
MAXIMUM PLATE DISSIPATION	7 W
MAXIMUM SCREEN DISSIPATION	1.8 W
MAXIMUM CATHODE CURRENT	70 mA
<i>Pentode section; vertical-deflection amplifier service. MaxPlateVoltage uses published DC plate maximum; 2000-V pulse rating retained as parameter.</i>	

SECTION1 Triode	
PLATE RESISTANCE	11000 Ω
TRANSCONDUCTANCE	0.0039 S
AMPLIFICATION FACTOR	43
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	1.25 W
<i>Triode Section 1.</i>	

SECTION2 Triode	
PLATE RESISTANCE	8500 Ω
TRANSCONDUCTANCE	0.00235 S
AMPLIFICATION FACTOR	20
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM PLATE DISSIPATION	1 W
MAXIMUM CATHODE CURRENT	20 mA
<i>Triode Section 2.</i>	

Combined dual-triode and beam-power tube for television vertical-deflection oscillator and amplifier service.

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 0 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Pulse Plate Voltage	2000 V	PentodeSection
Total Peak Plate and Screen Current	245 mA	PentodeSection

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	46 mA	AverageCharacteristics
Screen Current	3.5 mA	AverageCharacteristics

1968 GENERAL ELECTRIC CO

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	54 mA	AverageCharacteristics

1968 GENERAL ELECTRIC CO

Section 2 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	5 mA	AverageCharacteristics

1975 RCA RC30

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

1975 RCA RC30

Section 0 · Beam Power

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	250 V	Section3;Promoted
Maximum Screen Voltage	200 V	Section3;Promoted
Maximum Plate Dissipation	7 W	Section3;Promoted
Maximum Screen Dissipation	1.8 W	Section3;Promoted
Maximum Cathode Current	245 mA	Section3;Promoted

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	11700 ohm	Section3;Promoted
Transconductance	7100 uS	Section3;Promoted

1975 RCA RC30

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
duodecar	12 V	Other;PublishedValue1
duodecar	23 V	Other;PublishedValue2
Published value	450 mA	Other;PublishedValue1
Published value	11 A	Other;PublishedValue2
Published value	12 A	Other;PublishedValue3
maximum heater-cathode	200 V	Other;PublishedValue1
maximum heater-cathode	100 V	Other;PublishedValue2
Plate Voltage	330 V	MaximumRating;PublishedValue1
Plate Voltage	250 V	MaximumRating;PublishedValue2
Plate Voltage	250 V	MaximumRating;PublishedValue3
Peak Positive-Pulse Plate Voltage*	2000 V	MaximumRating

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No	2 V	MaximumRating;PublishedValue1
Grid-No	200 V	MaximumRating;PublishedValue2
Published value	400 V	MaximumRating;PublishedValue1
Published value	150 V	MaximumRating;PublishedValue2
Published value	0 V	MaximumRating
Published value	125 W	MaximumRating;PublishedValue1
Published value	1 W	MaximumRating;PublishedValue2
Published value	7 W	MaximumRating;PublishedValue3
Grid-No	2 W	MaximumRating;PublishedValue1
Grid-No	1.8 W	MaximumRating;PublishedValue2
Published value	245 mA	MaximumRating
Published value	70 mA	MaximumRating
Peak Plate Current	70 mA	MaximumRating
Published value	20 mA	MaximumRating
Grid-No.1-Circuit Resistance:	0.5 megohm	MaximumCircuitValue;PublishedValue1
Grid-No.1-Circuit Resistance:	1 megohm	MaximumCircuitValue;PublishedValue2
Grid-No.1-Circuit Resistance:	1 megohm	MaximumCircuitValue;PublishedValue3
Maximum Plate Voltage	330 V	Section1;Promoted

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	150 V	Characteristic;PublishedValue1
Plate Voltage	150 V	Characteristic;PublishedValue2
Plate Voltage	45 V	Characteristic;PublishedValue3
Plate Voltage	120 V	Characteristic;PublishedValue4
Grid-No	2 V	Characteristic;PublishedValue1
Grid-No	110 V	Characteristic;PublishedValue2
Grid-No	110 V	Characteristic;PublishedValue3
Grid-No.1 (Control-Grid) Voltage	-2 V	Characteristic;PublishedValue1
Grid-No.1 (Control-Grid) Voltage	-6 V	Characteristic;PublishedValue2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.1 (Control-Grid) Voltage	0 V	Characteristic;PublishedValue3
Grid-No.1 (Control-Grid) Voltage	-8 V	Characteristic;PublishedValue4
Plate Resistance (Approx.)	11000 ohm	Characteristic;PublishedValue1
Plate Resistance (Approx.)	8500 ohm	Characteristic;PublishedValue2
Plate Resistance (Approx.)	11700 ohm	Characteristic;PublishedValue3
Plate Current S	4 mA	Characteristic;PublishedValue1
Plate Current S	5 mA	Characteristic;PublishedValue2
Plate Current S	122 mA	Characteristic;PublishedValue3
Plate Current S	46 mA	Characteristic;PublishedValue4
Grid-No	2 mA	Characteristic;PublishedValue1
Grid-No	16.5 mA	Characteristic;PublishedValue2
Grid-No	3.5 mA	Characteristic;PublishedValue3
current of	100 V	Characteristic
current of	10 V	Characteristic;PublishedValue1
current of	-5.7 V	Characteristic;PublishedValue2
current of	-11 V	Characteristic;PublishedValue3
Plate Resistance	11000 ohm	Section1;Promoted
Transconductance	3900 uS	Section1;Promoted
Amplification Factor	43	Section1;Promoted

1975 RCA RC30

Section 2 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	250 V	Section2;Promoted

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance	8500 ohm	Section2;Promoted
Transconductance	2350 uS	Section2;Promoted
Amplification Factor	20	Section2;Promoted