

ELECTRONIC TUBE REFERENCE

ECC88

Voltage - Dual Triode (similar high frequency) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

TRIODE-TRIODE

Industrial medium-mu high-transconductance twin triode designed for low-noise cascode amplification in VHF television tuners, with low equivalent noise resistance for sensitive receiver front ends.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9AJ	BASE PINS	9
NOMINAL HEATER	6.3 V / 365 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

9AJ - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – 2P	B	P – Plate (Anode)	CONNECTED
PIN2 – 2G1	B	G1 – Control Grid	CONNECTED
PIN3 – 2K	B	K – Cathode	CONNECTED
PIN4 – H	–	H – Heater	CONNECTED
PIN5 – H	–	H – Heater	CONNECTED
PIN6 – 1P	A	P – Plate (Anode)	CONNECTED
PIN7 – 1G1	A	G1 – Control Grid	CONNECTED
PIN8 – 1K	A	K – Cathode	CONNECTED
PIN9 – IS	A	IS – Internal Screen	CONNECTED

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	2640 Ω
TRANSCONDUCTANCE	0.0125 S
AMPLIFICATION FACTOR	33
MAXIMUM PLATE VOLTAGE	130 V
MAXIMUM PLATE DISSIPATION	1.85 W
MAXIMUM CATHODE CURRENT	25 mA
<i>Published maximum ratings/characteristics promoted from source.</i>	

SECTION2 Triode	
PLATE RESISTANCE	2640 Ω
TRANSCONDUCTANCE	0.0125 S
AMPLIFICATION FACTOR	33
MAXIMUM PLATE VOLTAGE	130 V
MAXIMUM PLATE DISSIPATION	1.85 W
MAXIMUM CATHODE CURRENT	25 mA
<i>Second physical triode restored.</i>	

Medium-mu industrial twin triode used as a cascode amplifier in VHF color and black-and-white television tuners.



SOURCE OPERATING CONDITIONS

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195X Tesla

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

195X TESLA

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HeaterVoltageNominal	6.3 V	Nominal
HeaterCurrentNominal	365 mA	Nominal
Maximum Plate Voltage	130 V	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	12500 μS	Typical
Amplification Factor	33	Typical
Plate Resistance	2640 ohm	Typical



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1963 Amperex Condensed

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1963 AMPEREX CONDENSED

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Published heater rating
Heater current	365 mA	Published heater rating
Amplification factor	33	CascodeRF
Plate resistance	2650 ohm	CascodeRF

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	12500 μ S	CascodeRF

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	90 V	CascodeRF
Control-grid bias	-1.3 V	CascodeRF
Plate current	15 mA	CascodeRF



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1963 Philips Electron Tubes Handbook V1a

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

1963 PHILIPS ELECTRON TUBES HANDBOOK V1A

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	90 V	—
Plate current	15 mA	—
Maximum plate voltage	130 V	—
Maximum plate dissipation	1.85 W	—
Maximum cathode current	25 mA	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	12500 μ S	—
Amplification factor	33	—
Plate resistance	2.64 kohm	—
Equivalent noise resistance	300 ohm	—

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-plate capacitance	1.4 pF	—
Input capacitance	3.3 pF	—
Output capacitance	2.5 pF	—



SOURCE DATA APPENDIX

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1967 Mullard Receiving and Amplifying Valves

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1967 MULLARD RECEIVING AND AMPLIFYING VALVES

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	15 mA	EachSection;Va=90V
Transconductance	12500 uS	EachSection;Va=90V
Amplification Factor	33	EachSection;Va=90V
Plate Resistance	2600 ohm	EachSection;Va=90V
Plate Resistance	2600 ohm	—
Transconductance	12500 uS	—
Amplification Factor	33	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum Plate Voltage	130 V	—
Maximum Plate Dissipation	1.8 W	—
Maximum Cathode Current	25 mA	—
Interelectrode Capacitance Data Published	1	SourceTablePresent



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1972 Philips Receiving Tubes

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1972 PHILIPS RECEIVING TUBES

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage V_i	6.3 V	—
Heater current I	365 mA	—



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1975 RCA RC30

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

1975 RCA RC30

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Load Resistance 2000	4000 Ω	Published in approved ECC88 target datasheet entry; Section1
TotalHarmonic Distortion 10	10 %	Published in approved ECC88 target datasheet entry; Section1
Maximum-Signal Power Output 2.1	3.8 W	Published in approved ECC88 target datasheet entry; Section1
For fixed-bias operation	0.1 M Ω	Published in approved ECC88 target datasheet entry; Section1
For cathode-bias operation	0.5 M Ω	Published in approved ECC88 target datasheet entry; Section1
Heater Voltage (ac/dc)	6.3 V	Published in approved ECC88 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Current	365 mA	Published in approved ECC88 target datasheet entry; Section1
Peak value	-150 V	Published in approved ECC88 target datasheet entry; Section1
Average value 50	-130 V	Published in approved ECC88 target datasheet entry; Section1
Plate Supply Voltage	130 V	Published in approved ECC88 target datasheet entry; Section1
Cathode Current	25 mA	Published in approved ECC88 target datasheet entry; Section1
Plate Dissipation	1.8 W	Published in approved ECC88 target datasheet entry; Section1
Negative Grid "Voltage	50 V	Published in approved ECC88 target datasheet entry; Section1
Plate Supply Voltage (cold condition)	550 V	Published in approved ECC88 target datasheet entry; Section1
Plate Current	15 mA	Published in approved ECC88 target datasheet entry; Section1
Equivalent Noise Resistance	300 Ω	Published in approved ECC88 target datasheet entry; Section1
Grid-Circuit Resistance	1 M Ω	Published in approved ECC88 target datasheet entry; Section1
Heater to Cathode Circuit Resistance	0.02 M Ω	Published in approved ECC88 target datasheet entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate 1.4	1.4 pF	Published in approved ECC88 target datasheet entry; Section1
Grid to Cathode, Heater, and Internal Shield	3.3 pF	Published in approved ECC88 target datasheet entry; Section1
Cathode to Grid, Heater, and Internal Shield	6 pF	Published in approved ECC88 target datasheet entry; Section1
Plate to Cathode, Heater, and Internal Shield	1.8 pF	Published in approved ECC88 target datasheet entry; Section1
Plate to Grid, Heater, and Internal Shield	2.8 pF	Published in approved ECC88 target datasheet entry; Section1
Plate to Cathode	1.8 pF	Published in approved ECC88 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater to Cathode	2.7 pF	Published in approved ECC88 target datasheet entry; Section1
Grid to Heater	0.13 pF	Published in approved ECC88 target datasheet entry; Section1
Plate of Unit No. 1 to Plate of Unit No. 2	0.045 pF	Published in approved ECC88 target datasheet entry; Section1
Grid of Unit No. 2 to Plate of Unit No. 1	0.005 pF	Published in approved ECC88 target datasheet entry; Section1



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1999 Philips E-Z

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

1999 PHILIPS E-Z

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage Vi	6.3 V	Heater voltage Vi 6.3 V
Heater current I	365 mA	Heater current I 365 mA

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes, and their source documents.

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