



ELECTRONIC TUBE REFERENCE

ECC189

Voltage - Dual Triode (similar high frequency) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

TRIODE-TRIODE

Variable-mu twin triode intended for VHF cascode RF amplification with automatic gain control, particularly in television and radio tuner front ends.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9C12	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

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	2720 Ω
TRANSCONDUCTANCE	0.0125 S
AMPLIFICATION FACTOR	31.25
MAXIMUM PLATE VOLTAGE	130 V
MAXIMUM PLATE DISSIPATION	1.8 W
MAXIMUM CATHODE CURRENT	22 mA
Triode section; values semantically promoted from published characteristics/maximum-ratings tables where present.	

SECTION2 Triode	
PLATE RESISTANCE	2720 Ω
TRANSCONDUCTANCE	0.0125 S
AMPLIFICATION FACTOR	31.25
MAXIMUM PLATE VOLTAGE	130 V
MAXIMUM PLATE DISSIPATION	1.8 W
MAXIMUM CATHODE CURRENT	22 mA
<i>Second physical triode section; added to align rows with SectionCount.</i>	

Variable-mu low-noise dual triode for cascode VHF amplifier service.

SOURCE OPERATING CONDITIONS

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1953 La Radiotechnique

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

1953 LA RADIOTECHNIQUE

Section 1 · Triode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Indirect (cathodes isolees du filament)	63 V	Triode
Alimentation en paraliele ! f	365.5 mA	Triode
Capacite entre les anodes Caa'	0.015 pF	Triode
Capacite grille G-anode AA' Cga'	0.004 pF	Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Tension de l'anode	90 V	Triode
Tension de la grille	-12 V	Triode
Courant anodique	15 mA	Triode
Resistance interne	2.72 kohm	Triode
Pente nominale	125 mA/V	Triode
Resistance equivalente de souffle	0 ohm	Triode
Tension de la grille a 5% de S nominaie. Vg (5%)	-5 V	Triode
Tension de la grille a 1 % de S nominale. Vg (1%)	-9 V	Triode
Puissance dissipee sur l'anode	1.8 W	Triode
Courant cathodique	22 mA	Triode
Tension de la grille	50 V	Triode

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Resistance du circuit de la grille G	1 Mohm	Triode
en en se nn nn » Rkf	20 kohm	Triode
500 u suu 000e u000 Vkf	50 V	Triode
130 V	150 V	Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Capacite de la grille. Cg (K+f+—b)	3.4 pF	Triode
Capacite de l'anode Ca (kK+t+b)	2.4 pF	Triode
grille.....	19 pF	Triode
ment	22 pF	Triode
cathode	0.17 pF	Triode
grille	1.9 pF	Triode
thode	6.3 pF	Triode
Capacite de l'anode. Ca'! (g'+f+b)	39 pF	Triode
lament	3 pF	Triode



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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	34	CascodeRF
Plate resistance	2500 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	-1.4 V	CascodeRF
Plate current	15 mA	CascodeRF



SOURCE DATA APPENDIX

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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	1.8 W	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	12500 μ S	—
Amplification factor	31.25	—
Plate resistance	2.5 kohm	—
Transconductance at grid -5 V	625 μ S	VariableMu
Transconductance at grid -9 V	125 μ S	VariableMu

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-plate capacitance	1.9 pF	—
Input capacitance	3.5 pF	—
Output capacitance	2.3 pF	—



SOURCE OPERATING CONDITIONS

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1967 Mullard Receiving Tubes for Maintenance

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

1967 MULLARD RECEIVING TUBES FOR MAINTENANCE

Section 1 · Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ca ' - g' 1.9	1.9 pF	Published in approved ECC189.pdf target datasheet; Section1
Cg ' - I; : ' + h + s 3.5	3.5 pF	Published in approved ECC189.pdf target datasheet; Section1
Ca: - k'+h+s 2.3	1.7 pF	Published in approved ECC189.pdf target datasheet; Section1
Ca " - g'" 1.9	1.9 pF	Published in approved ECC189.pdf target datasheet; Section1
Cl1 " - 2: " + h + s 4.0	3.4 pF	Published in approved ECC189.pdf target datasheet; Section1
Ck "' - h 3.0	3 pF	Published in approved ECC189.pdf target datasheet; Section1
Ca '" - k " 170	0.18 pF	Published in approved ECC189.pdf target datasheet; Section1

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
I"	15 mA	Published in approved ECC189.pdf target datasheet; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Ik max	22 mA	Published in approved ECC189.pdf target datasheet; Section1


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1968 Mazda Belvu

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

1968 MAZDA BELVU

Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Published nominal value
Heater current	365 mA	Published nominal value
Transconductance	12500 μ S	Published nominal or operating characteristic
Variable-mu transconductance	12.5 mA/V	At Va=90 V, Vg=-1.4 V
Grid voltage for 0.125 mA/V transconductance	-9 V	Published gain-control characteristic

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate dissipation	1.8 W	Published maximum rating


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1972 Philips Receiving Tubes

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

1972 PHILIPS RECEIVING TUBES

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage Vg	6.3 V	—
Heater current I	365 mA	—
Cathode to heater voltage V _{kf} max	—50 V	Maximum
hyp.c. component max	—130 V	Maximum



SOURCE DATA APPENDIX

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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
Heater Voltage (ac/dc)	6.3 V	Published in approved ECC189 target datasheet entry; Section1
Plate Voltage 90 90	90 V	Published in approved ECC189 target datasheet entry; Section1
Grid Voltage -1.2 -5	-9 V	Published in approved ECC189 target datasheet entry; Section1
Plate Resistance (Approx.)	2500 Ω	Published in approved ECC189 target datasheet entry; Section1
Transconductance 1 2500 625	125 μ S	Published in approved ECC189 target datasheet entry; Section1
Plate Current	15 mA	Published in approved ECC189 target datasheet entry; Section1
Plate Supply Voltage with plate current of	0 mA	Published in approved ECC189 target datasheet entry; Section1
Plate Supply Voltage with plate current of 0 mA	550 V	Published in approved ECC189 target datasheet entry; Section1
Plate Voltage (Each unit)	130 V	Published in approved ECC189 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid Voltage, Negative-bias value (Each unit)	50 V	Published in approved ECC189 target datasheet entry; Section1
Cathode Current (Each unit)	22 mA	Published in approved ECC189 target datasheet entry; Section1
Plate Dissipation (Each unit)	1.8 W	Published in approved ECC189 target datasheet entry; Section1
RMS voltage between cathode and heater	50 V	Published in approved ECC189 target datasheet entry; Section1
RMS voltage between cathode and heater*	50 V	Published in approved ECC189 target datasheet entry; Section1
DC voltage between cathode and heater*	130 V	Published in approved ECC189 target datasheet entry; Section1
Supply Voltage	180 V	Published in approved ECC189 target datasheet entry; Section1
transconductance of	125 μS	Published in approved ECC189 target datasheet entry; Section1
transconductance of 125 /imhos	500 mV	Published in approved ECC189 target datasheet entry; Section1
Grid-Circuit Resistance (Each unit)	1 MΩ	Published in approved ECC189 target datasheet entry; Section1
Heater Voltage (ac/dc)	6.3 V	Published in approved ECC189 target datasheet entry; Section1
Heater Current	300 mA	Published in approved ECC189 target datasheet entry; Section1
Grid to Plate	1.5 pF	Published in approved ECC189 target datasheet entry; Section1
Grid to Cathode and Heater	1.6 pF	Published in approved ECC189 target datasheet entry; Section1
Plate to Cathode and Heater	0.2 pF	Published in approved ECC189 target datasheet entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate to Cathode (Each Unit) 0.18	0.17 pF	Published in approved ECC189 target datasheet entry; Section1
100000 ohms cathode resistor,	2700 Ω	Published in approved ECC189 target datasheet entry; Section1

SOURCE OPERATING CONDITIONS

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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
Maximum cathode-heater voltage	50 V	—
Maximum cathode-heater voltage cathode positive	150 V	—