

ELECTRONIC TUBE REFERENCE

D3A

Voltage - Pentode electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

PENTODE

High-transconductance long-life pentode designed for wide-band amplification, explicitly co-designated with type 7721.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9EQ	BASE PINS	9
NOMINAL HEATER	6.3 V / 315 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

9EQ - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1	–	K – Cathode	CONNECTED
PIN2	–	G1 – Control Grid	CONNECTED
PIN3	–	K – Cathode	CONNECTED
PIN4	–	H – Heater	CONNECTED
PIN5	–	H – Heater	CONNECTED
PIN6	–	–	IC
PIN7	–	P – Plate (Anode)	CONNECTED
PIN8	–	G3 – Suppressor Grid	CONNECTED
PIN8	–	IS – Internal Screen	CONNECTED
PIN9	–	G2 – Screen Grid	CONNECTED

SECTION RATINGS

SECTION1 Pentode	
PLATE RESISTANCE	120000 Ω
TRANSCONDUCTANCE	0.035 S
MAXIMUM PLATE VOLTAGE	220 V
MAXIMUM SCREEN VOLTAGE	180 V
MAXIMUM PLATE DISSIPATION	4.2 W
MAXIMUM SCREEN DISSIPATION	1 W
MAXIMUM CATHODE CURRENT	30 mA
WARM-UP TIME	60 s
<i>Wideband pentode values; peak plate/screen ratings retained as parameters.</i>	

The Telefunken D3A is a high-transconductance long-life pentode for wide-band amplification, with the sheet explicitly pairing D3A and 7721.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1959 Telefunken

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

1959 TELEFUNKEN

Section 1 · Pentode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Supply Voltage	190 V	—
Screen Supply Voltage	160 V	—
Plate Current	24 mA	—
Transconductance	35000 μ S	—
Plate Resistance	120000 ohm	—
Guaranteed Life	10000 h	Average of 100 tubes
Noise Figure	7 dB	100MHz
Approximate Gain-Bandwidth Figure	230 MHz	—



SOURCE OPERATING CONDITIONS

1960 CBS Hytron

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

1960 CBS HYTRON

Section 1 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	10 pF	—
Output capacitance	2 pF	—
Grid-to-plate capacitance	0.035 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak plate voltage	400 V	IntermittentOperation
Peak screen-grid voltage	400 V	IntermittentOperation
Plate supply voltage	190 V	ClassA
Screen-grid supply voltage	160 V	ClassA

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate current	22 mA	—
Screen-grid current	6 mA	—
Equivalent noise resistance	50 0hm	—



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

1963 Siemens

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

1963 SIEMENS

Section 1 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical Plate Voltage	190 V	PentodeConnection
Typical Screen Voltage	160 V	PentodeConnection
Typical Plate Current	22 mA	PentodeConnection
Typical Screen Current	6 mA	PentodeConnection



SOURCE DATA APPENDIX

1965 Ericsson Longlife

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1965 ERICSSON LONGLIFE
Section 1 · Pentode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input capacitance	10 pF	—
Output capacitance	2 pF	—
Grid-to-plate capacitance	0.035 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak plate voltage	400 V	IntermittentOperation
Peak screen-grid voltage	400 V	IntermittentOperation
Plate supply voltage	190 V	ClassA
Screen-grid supply voltage	160 V	ClassA
Transconductance minimum	30000 uS	—
Transconductance maximum	40000 uS	—

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate current	22 mA	—
Screen-grid current	6 mA	—
Transconductance	35000 uS	—
Plate resistance	0.12 MOhm	—
Equivalent noise resistance	150 Ohm	—



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ELECTRON TUBE DATABASE

SOURCE DATA APPENDIX

1999 Philips 0-D

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

1999 PHILIPS 0-D
Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	Nominal
Heater current	315 mA	Nominal

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Life test	10000 hours	Published datasheet value
Heater current I	315 mA	Published datasheet value
Anode current I,	22 mA	Published datasheet value
Mutual conductance S	35 mA/V	Published datasheet value
Heater voltage Vi	6.3 v	Published datasheet value
Heater current I ϕ	315 mA	Published datasheet value
Anode supply voltage Vba	190 v	Published datasheet value
Grid No	2 s	Published datasheet value
Grid No	3 v	Published datasheet value
Grid No.1 supply voltage +Vbgl	10 A	Published datasheet value
Anode current I	22 mA	Published datasheet value
Grid No	2 mA	Published datasheet value
Mutual conductance S	35 mA/V	Published datasheet value
Negative grid current -Igl max	0.3 ma	Published datasheet value
Frequency =	100 MHz	Published datasheet value
Frequency =	100 MHz	Published datasheet value
Frequency =	100 MHz	Published datasheet value
As triode (grid No	2 a	Published datasheet value
Anode supply voltage Vba	160 A	Published datasheet value
Grid No	3 v	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 supply voltage +Vbgl	10 v	Published datasheet value
Anode current Iy	24 mA	Published datasheet value
Mutual conductance S	41 mA/V	Published datasheet value
anode and other electrodes Ring min	500 MΩ	Published datasheet value
Voltage between electrodes =	300 V	Published datasheet value
grid No	1 a	Published datasheet value
Voltage between electrodes =	50 V	Published datasheet value
cathode, heater and screen Cgl/gZgSkfs	10 pF	Published datasheet value

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