

ELECTRONIC TUBE REFERENCE

DB778

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
CATHODERAY

Philips DB-series electrostatic cathode-ray instrument tube for oscillographic and measurement display, with manufacturer-defined screen persistence, focusing, deflection, and accelerating characteristics for type DB778.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6.3 V / 300 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Cathode Ray
No fixed ratings recorded.
Electrostatic focusing/deflection CRT section; electrical/screen/deflection data retained in parameter rows.

Flat-face post-deflection-acceleration cathode-ray oscilloscope tube. The source provides CRT heater, focusing/deflection, capacitance, scan/sensitivity and operating data where published.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1963 Philips Electron Tubes Handbook V2

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

1963 PHILIPS ELECTRON TUBES HANDBOOK V2

Section 1 · Cathode Ray

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Useful screen diameter	68 mm	Useful screen diameter 68 mm
Heater voltage Vf	6.3 V	Heater voltage Vf = 6.3 V
Heater current If	300 mA	Heater current If = 0.3 A
Grid No	3.5 pF	Grid No.1 to all other electrodes Cg1 = 3.5 pF
Cathode to all other electrodes Cg	2.6 pF	Cathode to all other electrodes Cg = 2.6 pF
The post accelerator helix is connected between	66 A	The post accelerator helix is connected between 66 and g5.
Post accelerator voltage Vg	1200 V	Post accelerator voltage Vg6 = 1200 V
Grid No	4 V	Grid No.4 voltage Vg4 = 300 V
Grid No	300 V	Grid No.4 voltage Vg4 = 300 V
Grid No	2 V	Grid No.2 voltage Vg2 = 1200 V
Grid No	1200 V	Grid No.2 voltage Vg2 = 1200 V
Beam current Ig	10 uA	Beam current Ig6 = 10 μA
Line width l.w	0.65 mm	Line width l.w. = 0.65 mm
Post accelerator voltage V	4000 V	Post accelerator voltage V66 1200 4000 V
Grid No	-30--60 V	Grid No.1 voltage Vg1 = -36 to -72 -30 to -60 V 2)
Grid No	1 V	Grid No.1 voltage Vg1 = -36 to -72 -30 to -60 V 2)
Post accelerator voltage Vg	1200 V	Post accelerator voltage Vg6 min. 1200 V
Second accelerator voltage V	300 V	Second accelerator voltage V84 = min. 300 V
First accelerator voltage V	800 V	First accelerator voltage V82 = min. 800 V 7)

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No	1 V	Grid No.1 voltage
Grid No	30–60 V	Grid No.1 voltage 2) -VB1 = 30 to 60 V per kV of Vg2
Grid No	1 V	Grid No.1 voltage 2) -VB1 = 30 to 60 V per kV of Vg2
Useful screen diameter	68 mm	Useful screen diameter
Post-deflection acceleration present	1	Source explicitly describes post-deflection acceleration

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Focusing electrode voltage Vg	1000 V	Focusing electrode voltage Vg3 = max. 1000 V
cathode positive Vkf(k pos) = max	200 V	cathode positive Vkf(k pos) = max. 200 V
cathode negative Vkf(k neg) = max	125 V	cathode negative Vkf(k neg) = max. 125 V



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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 · Cathode Ray

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Diametre utile de l'écran	68 mm	Published datasheet condition
alimentation parallele Ir	300 mA	Published datasheet condition
Capacitances Ce,	4.9 PF	Published datasheet condition
Capacitances Ce, = 4,9 PF Cpy	4 pF	Published datasheet condition
Capacites c	3.2 pF	Published datasheet condition
Cpy	3.5 pF	Published datasheet condition
CD'KI	3.5 pF	Published datasheet condition

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
CD'KI = 3,5 pF CDzDz'	1.9 pF	Published datasheet condition
Useful screen diameter	68 mm	Published datasheet condition
in the x direction	60 mm	Published datasheet condition
in the y direction	45 mm	Published datasheet condition
Heater voltage Vp	637 V	Published datasheet condition
Heater current If	300 mA	Published datasheet condition
Grid No.1 to all other electrodes Cg1	3.5 pF	Published datasheet condition
except Xp plate Cx	1 q	Published datasheet condition
except Xp plate Cx1q	3.5 pF	Published datasheet condition
except xq plate Cxo	3.5 pF	Published datasheet condition
except yo» plate Cy,	3 pF	Published datasheet condition
except y1 plate Cy2	3 pF	Published datasheet condition
x1 plate to x2 plate Cx1-x2	1.7 pF	Published datasheet condition
¥1 plate to yo plate Cyy-y2	1.6 pF	Published datasheet condition
Isolationsschirm g	5 a	Published datasheet condition
Line width measured on a circle of	40 ma	Published datasheet condition
Published value	40 mm	Published datasheet condition
Linienbreite gemessen an einem Kreils von	40 mm	Published datasheet condition
1200 300 1200	0.45 mm	Published datasheet condition
4000 1000 1000	0.35 mm	Published datasheet condition
Vgg = 1200	4000 V	Published datasheet condition
Vgs = 300	1000 v	Published datasheet condition
Vey = 300	1000 v	Published datasheet condition
Vg, = 1200	1000 v	Published datasheet condition
30	-60 V	Published datasheet condition
¥ 2) = 3,274, 10,7	-13.7 V	Published datasheet condition
¥y 3) = 9,4- 12 31,3	-40 V	Published datasheet condition
Balayage utile = 45x60 45%	60 mm	Published datasheet condition
Post accelerator voltag e Vgg	1200 V	Published datasheet condition

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No	4 v	Published datasheet condition
Grid No.4 voltage Vgy	300 V	Published datasheet condition
Grid No	2 v	Published datasheet condition
Grid No.2 voltage Vge	1200 V	Published datasheet condition
Line width l.w	0.65 mm	Published datasheet condition
Post accelerator voltage Vgg = 1200	4000 V	Published datasheet condition
Isolation shield voltage Vgg = 300 +30 1000%	100 v	Published datasheet condition
Second accelerator voltage Vg3 = 300 to 1500	50 v	Published datasheet condition
voltage Vg3 = 20 to 150 35 to	165 V	Published datasheet condition
voltage Vgo 1200	1000 V	Published datasheet condition
Grid No	1 v	Published datasheet condition
Grid No.1 voltage Vgy = -36 to -72 30 to	-60 V	Published datasheet condition
horizontal Mx = 9.4 to 12 .3 to	40 V	Published datasheet condition
vertical My = 3.2 to 4.1 10,7 to	13.7 V	Published datasheet condition
on the sides of a square of	40.8 mm	Published datasheet condition
of	39.2 mm	Published datasheet condition
de	40.8 mm	Published datasheet condition
au dedans d'un carré concentrique avec côtés de	39.2 mm	Published datasheet condition
Seiten eines Quadrats von	40.8 mm	Published datasheet condition
konzentrischen Quadrats von	39.2 mm	Published datasheet condition
of	4 mm	Published datasheet condition
rayon de	4 mm	Published datasheet condition
) In general the voltages on g	5 a	Published datasheet condition
) In general the voltages on g5 and g	4 a	Published datasheet condition
Published value	84 ma	Published datasheet condition

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
tfe positive direction a variation of +i	0 V	Published datasheet condition
sides of a square with sides of	40.8 mm	Published datasheet condition
sides of	39.2 mm	Published datasheet condition
spot = 30 to	60 V	Published datasheet condition

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
La résistance de l'hélice est de	40 MΩ	Published datasheet condition
Der Widerstand der Spirale ist mindestens	40 MΩ	Published datasheet condition
Modulation voltage Vgip	25 ma	Published datasheet condition
Modulation voltage Vgip= max. 25 max,	25 V	Published datasheet condition
of deflection = max,	2 ma	Published datasheet condition
Pattern distortion = mgax,	2 ma	Published datasheet condition
Undelected spot position. R	4 mm	Published datasheet condition
Position du spot non-dévié. R	4 mm	Published datasheet condition

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