ELECTRONIC TUBE REFERENCE

DN778

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
CATHODERAY

Philips flat-face oscilloscope CRT for oscillography, using electrostatic beam control. Manufacturer documentation provides heater, focusing and deflection, capacitance, scan sensitivity, screen, and operating data; selected variants use post-deflection acceleration.

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

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 1'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 accelerato;'onage gy = 300::«1&2 1000t	**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 t0	**-60 V**	Published datasheet condition
norizontal 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 cOtés 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
tfie 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 1'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
Undeflected spot position. R	**4 mm**	Published datasheet condition
Position du spot non—dévié. R	**4 mm**	Published datasheet condition

Tube Tinker

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