

ELECTRONIC TUBE REFERENCE

DB711

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
CATHODERAY

Philips flat-face post-deflection-acceleration cathode-ray oscilloscope tube for oscillography, using electrostatic beam control. Manufacturer documentation provides screen, focusing and deflection, capacitance, sensitivity, rating, and operating data where published.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6.3 V / 95 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 Vp	6.3 V	Heater voltage Vp = 6.3 V
Heater current If	95 mA	Heater current If = 95 mA
Grid No	5.7 pF	Grid No.1 to all other electrodes CB1 = 5.7 pF
Cathode to all other electrodes Ck	3 pF	Cathode to all other electrodes Ck = 3.0 pF
Post accelerator voltage VB	1200 V	Post accelerator voltage VB6 = 1200 V
Second accelerator voltage VB	300 V	Second accelerator voltage VB4 = 300V
First accelerator voltage V	1200 V	First accelerator voltage V82 = 1200 V
Beam current IL	10 A	Beam current IL = 10A
Line width l.w	0.65 mm	Line width l.w. = 0.65 mm
Post accelerator voltage Vg b	1200 V	Post accelerator voltage Vg b = 1200 V
Focusing voltage Vg	20–150 V	Focusing voltage Vg3 = 20 to 150 V
First accelerator voltage Vg	1200 V	First accelerator voltage Vg2 = 1200 V
Negative grid No	1 V	Negative grid No.1 volt-
of focused spot -Vg	30–80 V	of focused spot -Vg1 = 30 to 80 V
Grid No	1 V	Grid No.1 voltage
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
Post• accelerator = max	2500 V	Post• accelerator = max. 2500 V
Second accelerator = max	2100 V	Second accelerator = max. 2100 V
Focusing voltage = max	1000 V	Focusing voltage = max. 1000 V
First accelerator = max	1600 V	First accelerator = max. 1600 V
grid No	4 A	grid No.4 and any de- = max. 500 V
grid No	500 V	grid No.4 and any de- = max. 500 V
cathode positive V _{kf} (k pos.) = max	100 V	cathode positive V _{kf} (k pos.) = max. 100 V
cathode negative V _{kf} (k neg.) = max	15 V	cathode negative V _{kf} (k neg.) = max.. 15 V
Cathode current I _k = max	200 uA	Cathode current I _k = max. 200 μARMS)
Mrel =Re	7 A	Mrel =Re7a five deflection factor



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
Useful screen diameter	68 mm	Published datasheet condition
Heater voltage V _f	6.3 V	Published datasheet condition
Heater current Tr	95 mA	Published datasheet condition
Published value	6 a	Published datasheet condition
My = 17.9 --	22.8 V	Published datasheet condition
Published value	8.8 V	Published datasheet condition
My = 31.3	40 V	Published datasheet condition
Vee/Veq = 4 My = 10.7	13.7 V	Published datasheet condition
Post accelerator voltage V _{gg}	1200 V	Published datasheet condition

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Second accelerator voltage V54	300 V	Published datasheet condition
First accelerator voltage Vgp	1200 V	Published datasheet condition
Post accelerator voltage Vg6	1200 V	Published datasheet condition
Isolation shield voltage Vgs = 300 f	30 V	Published datasheet condition
Focusing voltage Vg3 = 20 to	150 V	Published datasheet condition
First accelerator voltage Vgo	1200 V	Published datasheet condition
Negative grid No	1 v	Published datasheet condition
of focused spot -Vgy = 30 to	80 V	Published datasheet condition
in the x direction My 9.4 to	12 V	Published datasheet condition
in the y direction My 3.2 to	4.1 V	Published datasheet condition
in the x direction dx	60 mm	Published datasheet condition
in the y direction gy	45 mm	Published datasheet condition
iit	1 V	Published datasheet condition
Published value	40.8 mm	Published datasheet condition
a concentric square of	39.2 mm	Published datasheet condition
voltage vgs = m8X	2200 V	Published datasheet condition
Grid No	1 v	Published datasheet condition
grid No	4 a	Published datasheet condition
ed spot Vgy = 30 to	60 V	Published datasheet condition
2) For calculation of the grid No	3 v	Published datasheet condition
Published value	20 A	Published datasheet condition
0 7 2	3 V	Published datasheet condition
Published value	40 a	Published datasheet condition
Published value	1 V	Published datasheet condition
Published value	2.963 A	Published datasheet condition
Published value	1 ma	Published datasheet condition
Published value	5 A	Published datasheet condition

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
The resistance of the helix is	40 MΩ	Published datasheet condition
Post accelerator	2500 V	Published datasheet condition
voltage V_{eg}	1200 V	Published datasheet condition
Second accelerator	2100 V	Published datasheet condition
voltage $V_g = \min$,	300 V	Published datasheet condition
Focusing voltage V_{83}	1000 V	Published datasheet condition
First accelerator	1600 V	Published datasheet condition
voltage $e_z = \min$,	800 v	Published datasheet condition
negative value V_g , = max,	200 V	Published datasheet condition
Peak voltage between V_{x-g4} p	500 v	Published datasheet condition
V_{y-g4} D	500 v	Published datasheet condition
cathode positive $V_{ke}(k \text{ pos.})$	100 V	Published datasheet condition
cathode negative $V_{ke}(k \text{ neg.})$	157 V	Published datasheet condition
Screen dissipation $W_F = \max.$,	3 mW	Published datasheet condition
External grid No.1 resistance R_g	1 ma	Published datasheet condition
External grid No.1 resistance $R_{g1 \max}$	1.5 MΩ	Published datasheet condition