



3MPI

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OSCILLOGRAPH TUBE

ELECTROSTATIC FOCUS

ELECTROSTATIC DEFLECTION

DATA

General:

Heater, for Unipotential Cathode:

Voltage. 6.3 ac or dc volts

Current. 0.6 amp

Direct Interelectrode Capacitances (Approx.):

Cathode to All Other Electrodes. 2.2

Grid No.1 to All Other Electrodes. 10.3 μf DJ₁ to DJ₂ 1.3 μf DJ₃ to DJ₄ 1.2 μf DJ₁ to All Other Electrodes Except DJ₂ 4.4 μf DJ₂ to All Other Electrodes Except DJ₁ 5.6 μf DJ₃ to All Other Electrodes Except DJ₄ 5.0 μf DJ₄ to All Other Electrodes Except DJ₃ 4.5 μf

Phosphor (For Curves, see front of this Section) No.1

Fluorescence Green

Persistence. Medium

Focusing Method. Electrostatic

Deflection Method. Electrostatic

Overall Length 8" $\pm$ 1/4"Greatest Diameter of Bulb. 3" $\pm$ 1/16"

Minimum Useful Screen Diameter 2-3/4"

Mounting Position. Any

Base Small-Shell Duodecal 12-Pin

Basing Designation for Bottom View 12F

Pin 1-Heater

Pin 2-Grid No.1

Pin 3-Anode No.1

Pin 4-Deflecting Electrode

DJ₂

Pin 5-Deflecting Electrode

DJ₄

Pin 6-No

Connection

Pin 7-Deflecting Electrode

Pin 8-Deflecting Electrode DJ₁

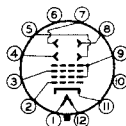
Pin 9-Anode No.2, Grid No.2

Pin 10-No

Connection

Pin 11-Cathode

Pin 12-Heater

*DJ₁ and DJ₂ are nearer the screen**DJ₃ and DJ₄ are nearer the base*

With DJ₁ positive with respect to DJ₂, the spot is deflected toward pin 4. With DJ₃ positive with respect to DJ₄, the spot is deflected toward pin 1.

The plane through the tube axis and pin 4 may vary from the trace produced by DJ₁ and DJ₂ by an angular tolerance (measured about the tube axis) of 10°.

Maximum Ratings, Design-Center Values:

ANODE-No.2* VOLTAGE# 2500 max. volts

* Anode No.2 and grid No.2 which are connected together within tube, are referred to herein as anode No.2.

The product of anode-No.2 voltage and average anode-No.2 current should be limited to 6 watts.

3MPI



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ANODE-NO.1 VOLTAGE	1000 max.	volts
GRID-NO.1 VOLTAGE:		
Negative bias value.	200 max.	volts
Positive bias value.	0 max.	volts
Positive peak value.	2 max.	volts
PEAK VOLTAGE BETWEEN ANODE NO.2 AND ANY DEFLECTING ELECTRODE. . .	500 max.	volts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	125 max.	volts
Heater positive with respect to cathode.	125 max.	volts

Equipment Design Ranges:

For any anode-No.2 voltage (E_{b2}) between
recommended minimum* and 2500 volts

Anode-No.1 Voltage . . .	20% to 35% of E_{b2}	volts
Max. Grid-No.1 Voltage for Visual Cutoff .	6.3% of E_{b2}	volts
Anode-No.1 Cur. for any Operating Condition. .	-15 to +10 . .	microamperes
Deflection Factors:		
DJ_1 & DJ_2	115 to 145	vdc/in./kv of E_{b2}
DJ_3 & DJ_4	110 to 140	vdc/in./kv of E_{b2}

Examples of Use of Design Ranges:

For anode-No.2 voltage of	1000	2000	volts
Anode-No.1 Voltage . . .	200-350	400-700	volts
Max. Grid-No.1 Voltage for Visual Cutoff .	-63	-126	volts
Deflection Factors:			
DJ_1 & DJ_2	115-145	230-290	volts dc/in.
DJ_3 & DJ_4	110-140	220-280	volts dc/in.

Maximum Circuit Values:

Grid-No.1-Circuit Resistance	1.5 max.	megohms
Resistance in Any Deflecting- Electrode Circuit [□]	5.0 max.	megohms

* Brilliance and definition decrease with decreasing anode-No.2 voltage. Recommended minimum for the 3MPI in general service is 1000 volts but a value as low as 500 volts may be used under conditions of low-velocity deflection and low ambient-light levels.

□ It is recommended that the deflecting-electrode-circuit resistances be approximately equal.



3MPI

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