LE CATHOSCOPE FRANÇAIS

50, Rue J.-P. Timbaud - COURBEVOIE - FRANCE

23DFP4

Cathode Ray tube

GENERAL DESCRIPTION

The 23DFP4 is an electrostatic focus and magnetic deflection, direct viewing, rectangular picture tube. Feature of this tube include a very short overall length, a small neck diameter, an aluminized screen and a non-ion trap gun.

Heater, for unipotential cathode

Heater voltage (a.c. or d.c.)	6,3 volts
Heater current at 6.3 volts	0.3 ± 5% amp.
Warm-up time (average)	11 seconds (*)

Direct intereledtrode capacitances

Grid n°1 to all other electrodes	6 pF
Cathode to all other electrodes	5 pF
External conductive coating to anode	
maximum	2000 pF
minimum	1500 pF

Optical Data

Phosphor Number	Aluminized P4
Light Transmittance at Center, Approximate	53 Percent
Fluorescence	White
Phosphorescence	White
Persistence	Short

Focusing method : electrostatic
Deflecting method : magnetic
Deflection angle (approx.)

diagonal	110°
horizontal	99°
vertical	82°

Electron gun : type requiring non ion-trap magnet.

Tube dimensions

overall length	14" ± 5/16" (355,5 ± 8 mm)
greatest width	20 1/2" ± 1/8" (520,5 ± 3,2 mm)
greatest height	16 1/2" ± 1/8" (419 ± 3,2 mm)
diagonal	23 25/64" ± 1/8" (595 + 3,2 mm)
Neck length	4 1/4" ± 1/8" (107,5 ± 3,2 mm)

.../...

from JEDEC release #3833, July 30, 1962

Minimum Useful Screen Dimensions (Projected)

Horizontal axis	19 1/4" (489mm)
Vertical axis	15 1/8" (385 mm)
Diagonal	22 5/16" (566 mm)
Projected area	280 sq. in. (1806 cm2)

Weight (approx.)	26 lbs (12 kg)
Bulb	(See drawing)
Cap	Recessed small cavity J1-21
Base	B7-208
Basing	8HR

Socket connections

Pin n°1 = heater
Pin n°2 = grid n°1
Pin n°3 = grid n°2
Pin n°4 = grid n°4 (focus)
Pin n°6 = grid n°1
Pin n°7 = cathode
Pin n°8 = heater
Cap = grid n°3 - grid n°5 - collector

(*) The time required for the voltage across the heater to reach 80 per cent of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the rated heater voltage divided by the rated heater current.

MAXIMUM RATINGS

Absolute maximum Values
Cathode Drive Servide

Unless otherwise specified, voltage values are positive with respect to grid n°1.

Anode to grid n°1 voltage	20000 max. volts
	14000 min volts
Grid n°4 to grid n°1 voltage	
positive value	1100 max. volts
negative value	550 max. volts
Grid n°2 to grid n°1 voltage	700 max. volts
Grid n°2 to cathode voltage	550 max. volts
Cathode to grid n°1 voltage	
Positive peak value	220 max. volts
Positive bias value	154 max. volts
Negative bias value	0 max. volt
Negative peak value	2 max. volts

Peak heater cathode voltage

- Heater negative with respect to cathode :
  during equipment warm-up period not exceeding 15 seconds ... 450 max. volts
  After equipment warm-up period ... 200 max. volts
- Heater positive with respect to cathode ... 200 max. volts

Grid n°1 circuit resistance ... 1.5 max. megohms

TYPICAL OPERATING CONDITIONS

Cathode drive Service

Anode to grid n°1 voltage ...	16 000		18 000	volts
Grid n°2 to grid n°1 voltage ...	400	400	500	volts
Grid n°2 current ...	-15 to +15		-15 to +15	ua
Grid n°4 to grid n°1 voltage (1) ...	0 to 400		0 to 400	volts
Grid n°4 current ...	-25 to +25		-25 to +25	ua
Cathode to grid n°1 voltage for visual extinction of focused raster ...	42 to 78	42 to 78	47 to 92	volts
Field strength of adjustable centering magnet ...	0 to 8	0 to 8	0 to 8	gausses

(1) The grid n°4 voltage required for optimum focus of any individual tube may have a value anywhere between 0 and 400 volts. It is independent of anode current and will remain essentially constant for values of anode voltage or grid n°2 voltage within design ranges shown for these items.

It is necessary to provide means such as a potentiometer for adjusting the focusing voltage.

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NOTES for DIMENSIONAL OUTLINE

Note 1 - The plane through the tube axis and pin 4 vary from the plane through the tube axis and anode terminal by angular tolerance (measured about the axis) of ± 30°. Anode terminal is on same side as pin 4.

Note 2 - Socket for this base should not be rigidly mounted; it should have flexible leads and be allowed to move freely. The design of the socket should be such that the circuit wiring cannot impress lateral strains through the socket contacts on the base pins. Bottom circumference of base wafer will fall within a circle concentric with bulb axis and having a diameter of 1 3/4".

Note 3 - Width of undisturbed region between mold-match line and splice line is 19/32" minimum. This should be the maximum width of tube support band.

Note 4 - With tube neck inserted through flared end of the reference-line gauge JEDEC G.126 and with tube seated in gauge, the reference-line is determined by the intersection of the plane CC' of the gauge with the glass funnel.

11th May 1962

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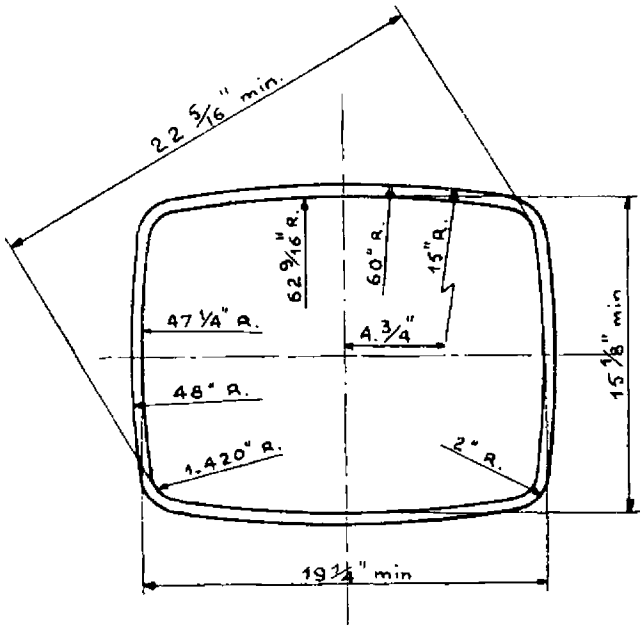

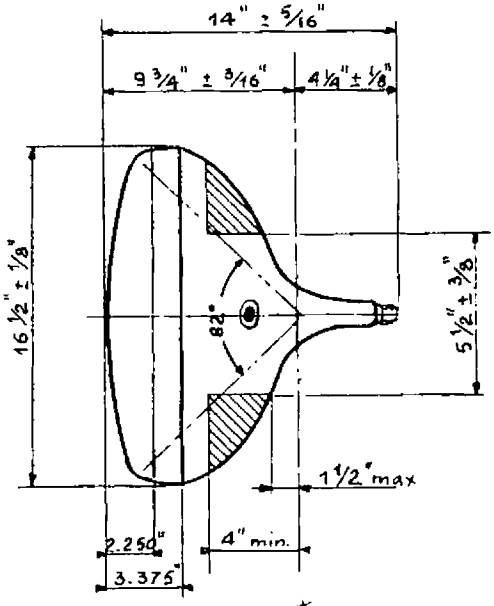

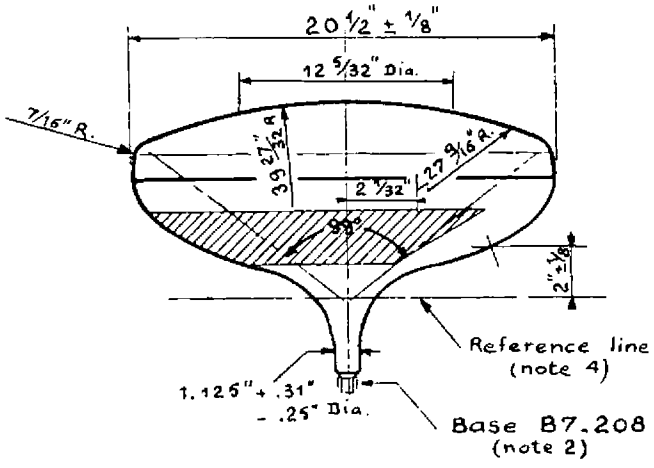

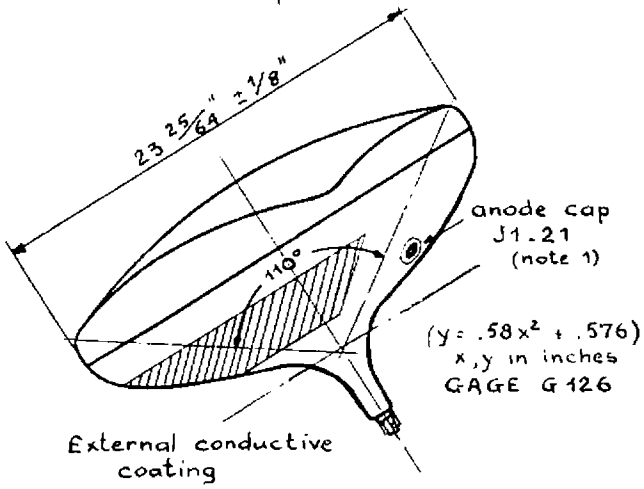

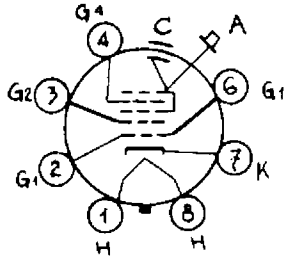

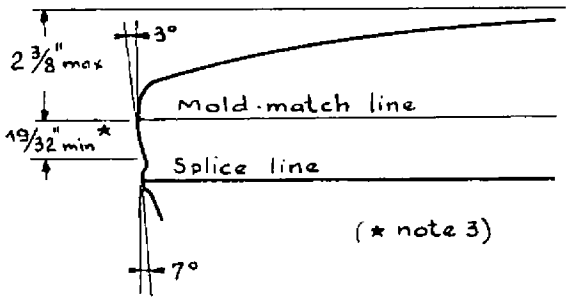

C : External conductive coating

Cap : G3 - G5 - collector