from JEDEC release #3069, Dec. 12, 1960

Thomas

23AQP4 Phototron Picture Tube

ENGINEERING DATA

CHARACTERISTICS

GENERAL DATA

Focusing Method	Electrostatic
Deflecting Method	Magnetic
Deflecting Angle-Diagonal (Approx.)	114 Degrees
Horizontal	102 Degrees
Vertical	84 Degrees
Phosphor	P4 Aluminized
Fluorescence	White
Persistence	Medium
Faceplate	Gray Filter Glass
Light Transmission	76% (Approx.)

ELECTRICAL DATA

Heater Voltage	6.3 Volts
Heater Current	.3 Ampere ± 5%
Direct Interelectrode Capacitances (Approx.)	
Cathode to All Other Electrodes	5 uuf
Grid No. 1 to All Other Electrodes	6 uuf
Ion Trap Magnet	None
Heater Warm-up	18 Seconds

MECHANICAL DATA

Minimum Useful Screen Dimensions	19 1/4 x 15 3/16 Inches
Minimum Useful Screen Area (Approx.)	282 Sq. In.
Bulb Contact (Recessed Small Cavity Cap)	J1-21
Base (Small Wafer Eightar 7 Pin	B7-208
Basing	8 HR
J1-21 Contact Aligns with Pin Position No. 4 ± 30 Degrees	
Bulb Weight	24 Lbs

RATINGS

MAXIMUM RATINGS (Design Maximum Values)

Anode Voltage (Note 1)	19,800 Volts dc
Grid No. 4 Voltage (Focusing electrode)	-500 to + 1000 Volts dc
Grid No. 2 Voltage	550 Volts dc
Grid No. 1 Voltage	
Negative Bias Value	154 Volts dc
Positive Bias Value	0 Volts dc
Positive Peak Value	2 Volts
Peak Heater-Cathode Voltage (Note 2)	
Heater Negative with Respect to Cathode	
During Warm-up Period Not to exceed 15 sec.	450 Volts dc.
After Equipment Warm-up Period	180 Volts dc.
Heater Positive with Respect to Cathode	180 Volts dc.

RECOMMENDED OPERATING CONDITIONS

Anode Voltage	18,000 Volts dc.
Grid No. 4 Voltage (Note 3)	0 to +400 Volts dc.
Grid No. 2 Voltage	400 Volts dc.
Grid No. 1 Voltage (Note 4)	-44 to -94 Volts dc.

CIRCUIT VALUES

Grid No. 1 Circuit Resistance	1.5 Max. Megohm
External Conductive Coating to Anode Capacitance	2500 uuf. Max.

The 23AQP4 is a direct-view picture tube for use in television receivers and includes such features as:

- A short straight electron gun not requiring an ion trap.
- A short neck.
- A diagonal deflection angle of 114°
- A gray tinted face.
- Rectangular Glass Type.
- Flat compression face.
- Electrostatic Focus.
- Metal Backed Screen.
- Heater Warm-up 18 Sec.

NOTES

1. Grid No. 5, Grid No. 3, and the collector are connected together within the tube, and referred to herein as anode.

2. Cathode should be returned to one side or to the mid-tap of the heater transformer winding.

3. For focus with anode current of 100 ua. and 19 1/4 x 15 3/16" raster.

4. Visual extinction of focused raster. Extinction of stationary focused spot will require that these values be about 5 volts more negative.

THOMAS ELECTRONICS, INC.
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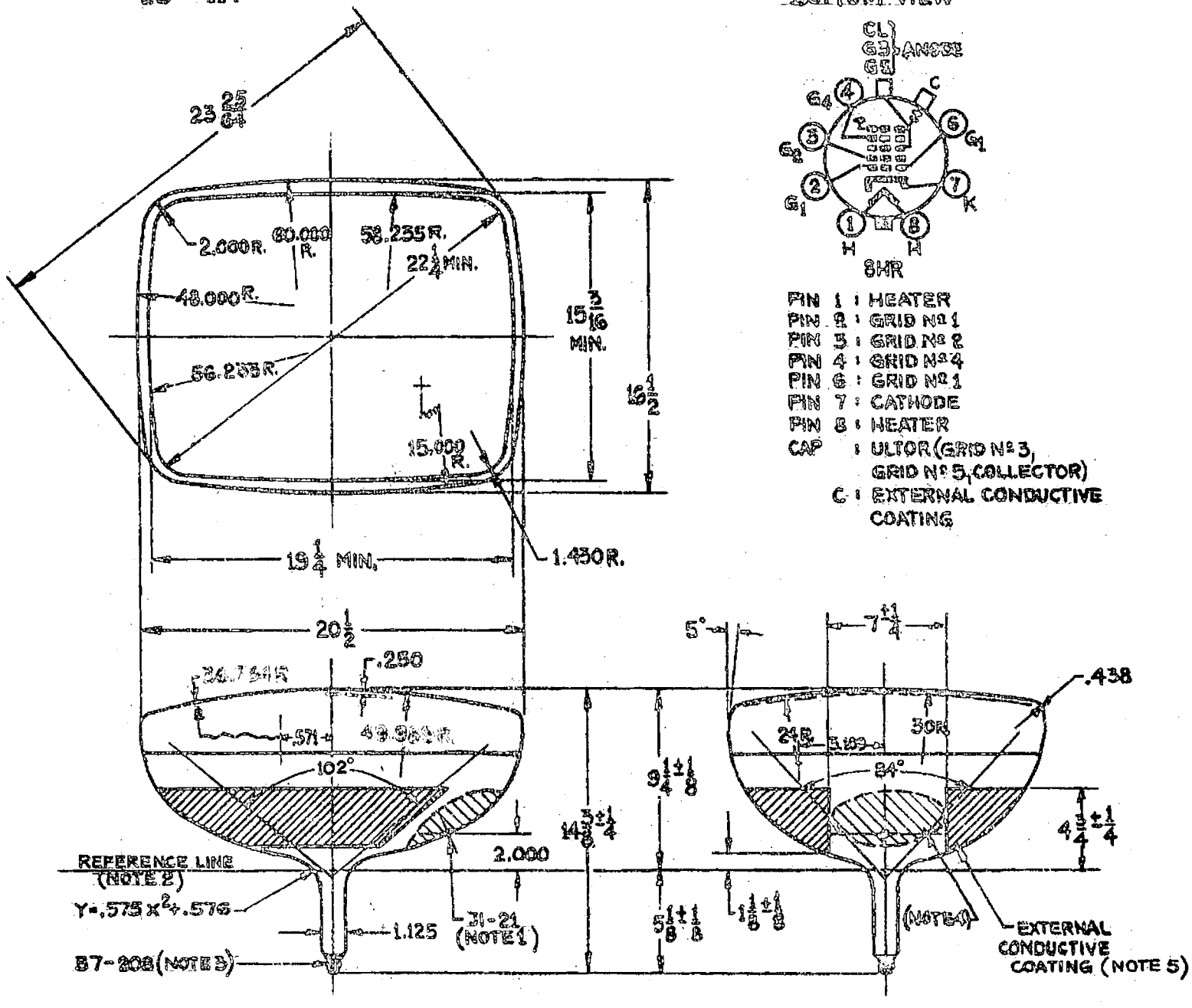
PASSAIC, NEW JERSEY

11/17/60

BULB: J197
23"-114



SOCKET CONNECTIONS
BOTTOM VIEW

PIN 1 : HEATER
PIN 2 : GRID No 1
PIN 3 : GRID No 2
PIN 4 : GRID No 4
PIN 6 : GRID No 1
PIN 7 : CATHODE
PIN 8 : HEATER
CAP : ULTOR (GRID No 3, GRID No 5, COLLECTOR)
C : EXTERNAL CONDUCTIVE COATING

DIAGRAM NOTES:

1. Base Pin No. 4 aligns with horizontal centerline (A-A') within 30° and is on same side as anode contact, J1-21.
2. Reference line is determined by plane C-C' of JEDEC No. 126 Reference Line Gauge, when the gauge is seated against the bulb.
3. Socket for this base should not be rigidly mounted; it should have flexible leads and be allowed to move freely. Bottom circumference of base shell will fall within a circle concentric with bulb axis and having a diameter of 1-3/4".
4. Anti-corona coating around connector.
5. External Conductive Coating must be grounded.