



Thomas

ENGINEERING DATA

19CAP4
Phototron
Picture
Tube

from JEDEC release #3461, Oct. 23, 1961

CHARACTERISTICS

GENERAL DATA

Focusing Method Tri Potential
 Deflecting Method.....Magnetic
 Deflecting Angle-Diagonal (Approx.) 110 Degrees
 Horizontal 99 Degrees
 Vertical 82 Degrees
 Phosphor.....P4 Aluminized
 Fluorescence..... White
 Persistence.....Medium
 Faceplate.....Grey Filter Glass
 Light Transmission 78%(Approx.)

THE 19CAP4 IS A DIRECT-VIEW PICTURE TUBE FOR USE IN TELEVISION RECEIVERS AND INCLUDES SUCH FEATURES AS:

- A. A short straight electron gun not requiring an ion trap
- B. A short neck
- C. A diagonal deflection angle of 110°
- D. A grey tinted face.
- E. Rectangular Glass Type.
- F. Flat compound face.
- G. Tri Potential Focus
- H. Metal Backed Screen

NOTES

1. Grid No. 4 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 15 1/8 x 12 raster.
4. Visual extrinction of focused raster. Extinction of stationary focused spot will require that these values be about 5 volts more negative.

THOMAS ELECTRONICS, INC.
118 9th STREET
PASSAIC, NEW JERSEY

ELECTRICAL DATA

Heater Voltage.....6.3 Volts
 Heater Current......6 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

MECHANICAL DATA

Minimum Useful Screen Dimensions..... 15 1/8 x 12 Inches
 Minimum Useful Screen Area (Approx.)..... 172 Sq. In.
 Bulb Contact (Recessed Small Cavity Cap)..... J1-2L
 Base (Small Wafer Eightar 7 Pin).....B7-208
 Basing..... 8JR
 J1-2L Contact Aligns with Pin Position No. 4 ± 30 Degrees
 Bulb Weight..... 13 1/2 Lbs

RATINGS

MAXIMUM RATINGS (Design Maximum Values)

Anode Voltage (Note 1)..... 20,000 Volts dc
 Grid No. 3 Voltage (Focusing electrode).... -350 to +700 Volts dc
 Grid No. 2 Voltage..... 600 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 200 Volts dc
 Heater Positive with Respect to Cathode..... 200 Volts dc

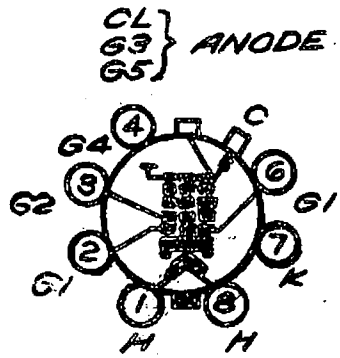
RECOMMENDED OPERATION CONDITIONS

Anode Voltage 16,000 Volts dc
 Grid No. 3 Voltage (Note 3) 0 to + 400 Volts dc
 Grid No. 2 Voltage..... 500 Volts dc
 Grid No. 1 Voltage (Note 4) -43 To -78 Volts dc

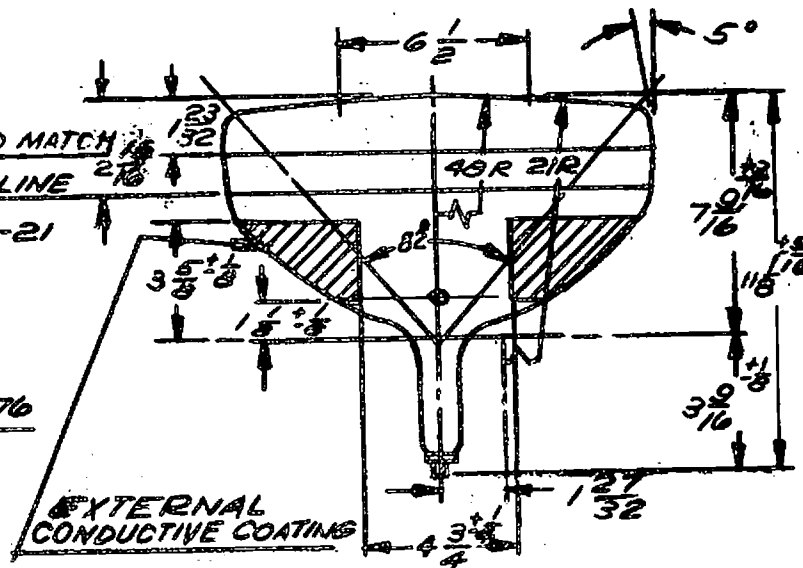
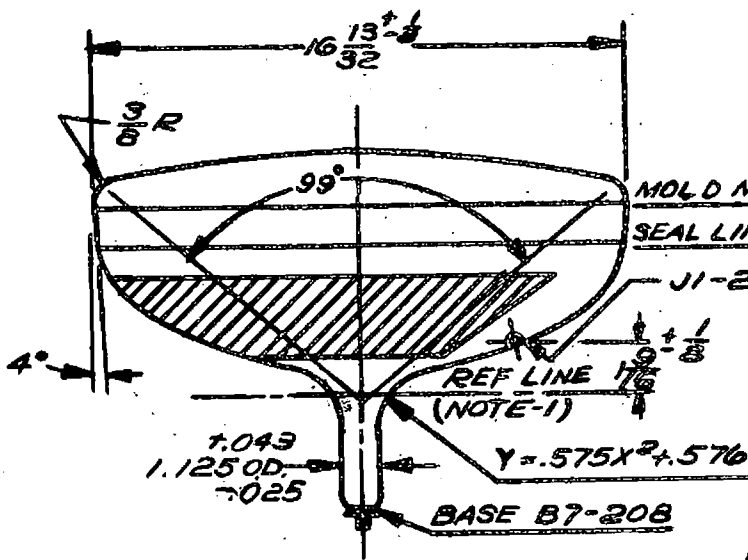
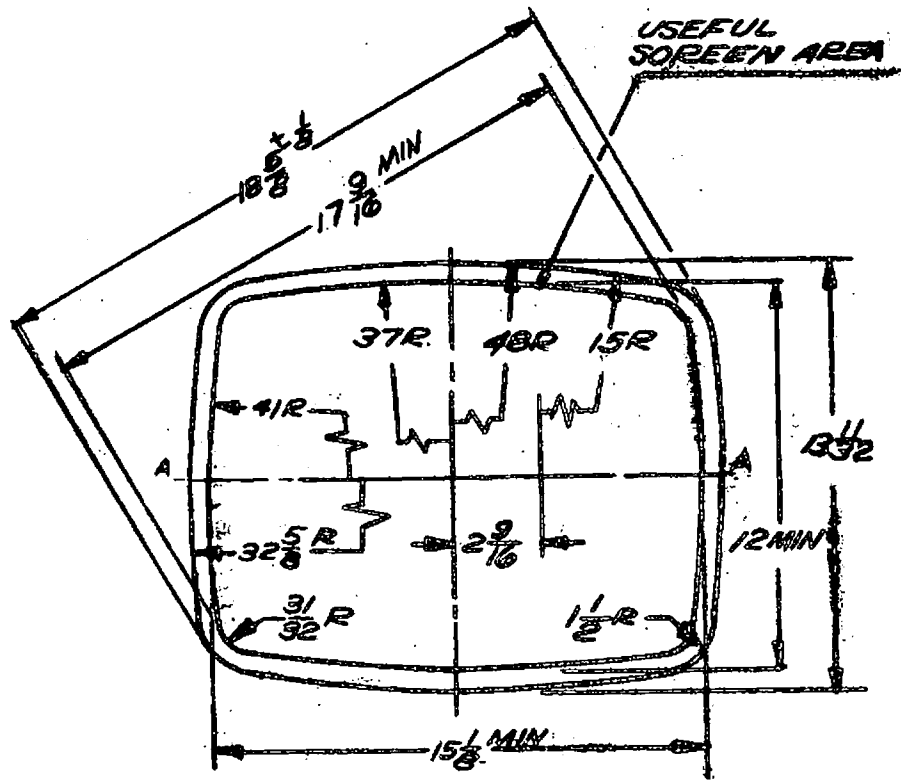
CIRCUIT VALUES

Grid No.1 Circuit Resistance..... 1.5 Max. Megohm
 External Conductive Coating to Anode
 Capacitance 1500 uuf. Max.
 1000 uuf. Min.

SOCKET CONNECTIONS
BOTTOM VIEW



- CL } ANODE
G3 }
G5 }
- 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 : ANODE (GRID NO 3,
GRID NO 5, COLLECTOR
C : EXTERNAL
CONDUCTIVE COATING



- Reference Line is determined by plane C-C^o of JEDEC No. 126 Reference Line Gauge, when the gauge is seated against the bulb.
- Base Pin No. 4 aligns with horizontal centerline (A-A^o) within 30^o and is on same side as anode contact, J1-21.
- Dimensions are in inches.
- External Conductive Coating must be grounded.
- Anti-corona coating around connector.
- Bulge at splice-line seal may increase the indicated maximum value for envelope width, diagonal, and height by not more than 1/4", but at any point around the seal, the bulge will not protrude more than 1/8" beyond the envelope width, diagonal, and height.