



from JEDEC release
#3069, Dec. 12, 1960



19BFPL4
PHOTOTRON
PICTURE
TUBE

ENGINEERING DATA

CHARACTERISTICS

GENERAL DATA

Focusing Method..... Electrostatic
Deflecting Method Magnetic
Deflecting Angle-Diagonal (Approx.)..... 92 Degrees
 Horizontal 80 Degrees
 Vertical..... 65 Degrees
Phosphor..... P4 Aluminized
Fluorescence..... White
Persistence Sh= Medium
Faceplate Gray Filter Glass
Light Transmission 78% (Approx.)

THE 19BFPL4 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 diagonal deflection angle of 92°.
- A gray tinted face.
- Rectangular glass type.
- Flat compound face.
- Electrostatic Focus.
- Metal Backed Screen.

ELECTRICAL DATA

Heater Voltage..... 6.3 Volts
Heater Current..... .6 Ampere \pm 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

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 15 1/8" x 12" raster.
4. Visual extinction of focused raster. Extinction of stationary focused spot will require that these values be about 5 volts more negative.

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) J1-21
Base B6-203
Basing 12L
 J1-21 Contact Aligns with Pin Position No. 6 \pm 30 Degrees
Bulb Weight 14 3/4 Lbs

RATINGS

MAXIMUM RATINGS (Design Maximum Values)

Anode Voltage (Note 1)..... 20,000 Volts dc
Grid No. 4 Voltage (Focusing electrode)..... -550 To +1100 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 200 Volts dc
Heater Positive with Respect to Cathode 200 Volts dc

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

RECOMMENDED OPERATING CONDITIONS

Anode Voltage 16,000 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)..... -36 To -94 Volts dc

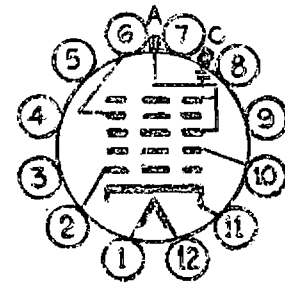
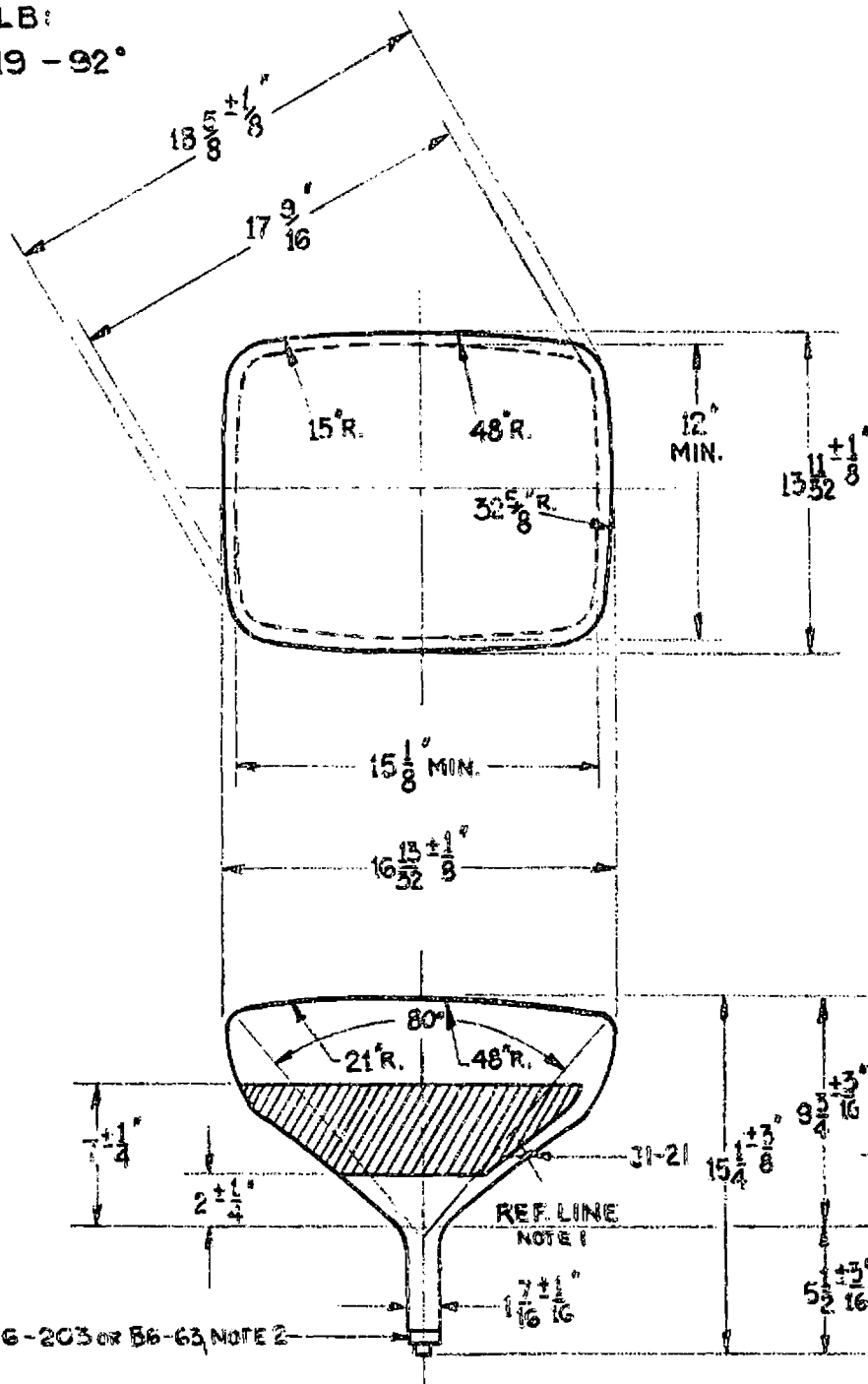
CIRCUIT VALUES

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

11/17/60

BULB:
19-92°

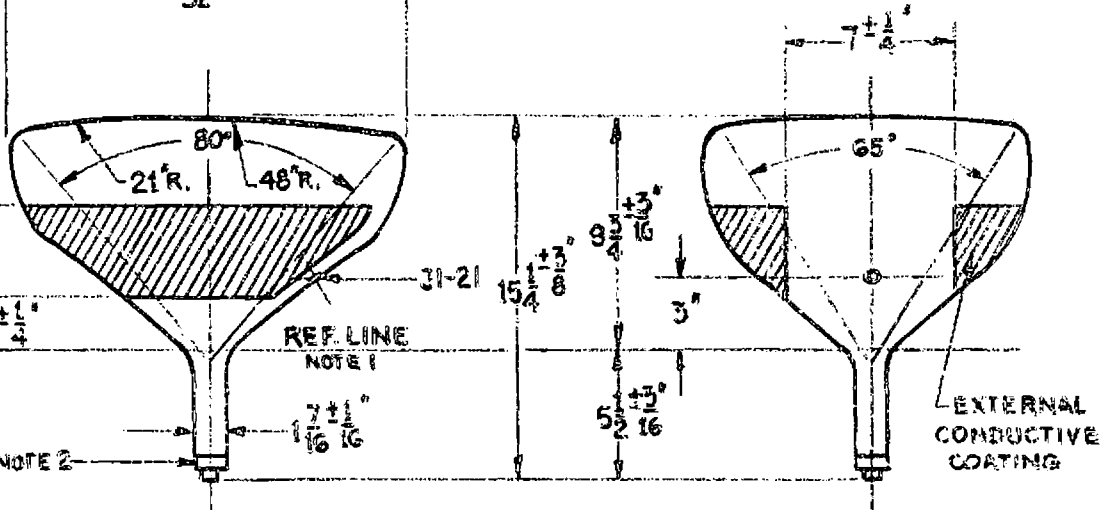
SOCKET CONNECTIONS
BOTTOM VIEW



12 L

- PIN 1: HEATER
- PIN 2: GRID #1
- PIN 6: GRID #4
- PIN 10: GRID #2
- PIN 11: CATHODE
- PIN 12: HEATER
- CAP: ANODE

C: EXTERNAL
CONDUCTIVE
COATING



B6-203 or B6-63 NOTE 2

DIAGRAM NOTES:

1. Reference line is determined by plane C-C' of JEDEC No. 116 Reference Line Gauge, when the gauge is seated against the bulb.
2. Base Pin No. 6 aligns with horizontal centerline (A-A') within 30° and is on same side as anode contact, J1-21.
3. Dimensions are in inches.
4. External Conductive Coating must be grounded.
5. Anti-corona coating around connector.
6. 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.
7. The tube should be supported on both sides of the bulge. The mechanism used should provide clearance for the maximum dimensions of the bulge. Tube mounting and yoke clamp supports must be spaced from the tube by the use of cushioning pads. Material to be used should be asphalt impregnated felt or equivalent.