

TELEVISION PICTURE TUBE TYPE 23CGP4

92° Magnetic Deflection
 Rectangular Glass
 Aluminized Screen
 Gray Filter Glass

6.3 Volt, 450 Ma. Heater
 Electrostatic Focus
 5½" Neck Length

External Conductive Coating
 Spherical Faceplate
 No Ion Trap
 15-1/8" x 19-1/4" Screen Size

ELECTRICAL

Focusing Method Electrostatic
 Deflection Angles (Approx.)
 Horizontal 80 Degrees
 Vertical 65 Degrees
 Diagonal 92 Degrees
 Direct Interelectrode Capacitances:
 Cathode to all other Electrodes, approximate 5 $\mu\mu\text{f}$
 Grid #1 to all other Electrodes, approximate 6 $\mu\mu\text{f}$
 External Conductive Coating to Anode 2500 max. $\mu\mu\text{f}$
 1700 min. $\mu\mu\text{f}$
 Heater Current at 6.3 Volts 450 \pm 5% Ma.
 Heater Warm-up Time (Note 1). 11 Seconds

OPTICAL

Phosphor Number Aluminized P4
 Light Transmittance at Center, (Approx.) 78 Percent

MECHANICAL

Overall Length 18 \pm 3/8 Inches
 Greatest Dimensions of Tube:
 Diagonal 23-25/64 \pm 1/8 Inches
 Width 20-1/2 \pm 1/8 Inches
 Height 16-1/2 \pm 1/8 Inches
 Minimum Useful Screen Dimensions (Projected):
 Diagonal 22-5/16 Inches
 Horizontal Axis 19-1/4 Inches
 Vertical Axis 15-1/8 Inches
 Area 282 Sq. Inches
 Neck Length 5-1/2 \pm 3/16 Inches
 Bulb J187C1
 Bulb Contact J1-21
 Base B6-203
 Basing 12L
 Weight 27 Pounds

RATINGS

Design Maximum System
 Unless Otherwise Specified, Voltage Values are Positive
 and Measured with Respect to Grid 1.
 Maximum Anode Voltage (Note 2) 22000 Volts
 Minimum Anode Voltage (Note 2). 11000 Volts
 Maximum Grid 4 Voltage +1200 -400 Volts
 Maximum Grid 2 Voltage 700 Volts
 Cathode Voltage:
 Maximum Negative Bias Value 0 Volts
 Maximum Negative Peak Value 2 Volts
 Maximum Positive Bias Value. 154 Volts
 Maximum Positive Peak Value 220 Volts
 Maximum Heater-Cathode Voltage
 Heater Negative with Respect to Cathode
 During warm-up period not to exceed 15 seconds. . . 450 Volts
 After Equipment Warm-up Period 200 Volts
 Heater Positive with Respect to Cathode 200 Volts

TYPICAL OPERATING CONDITIONS

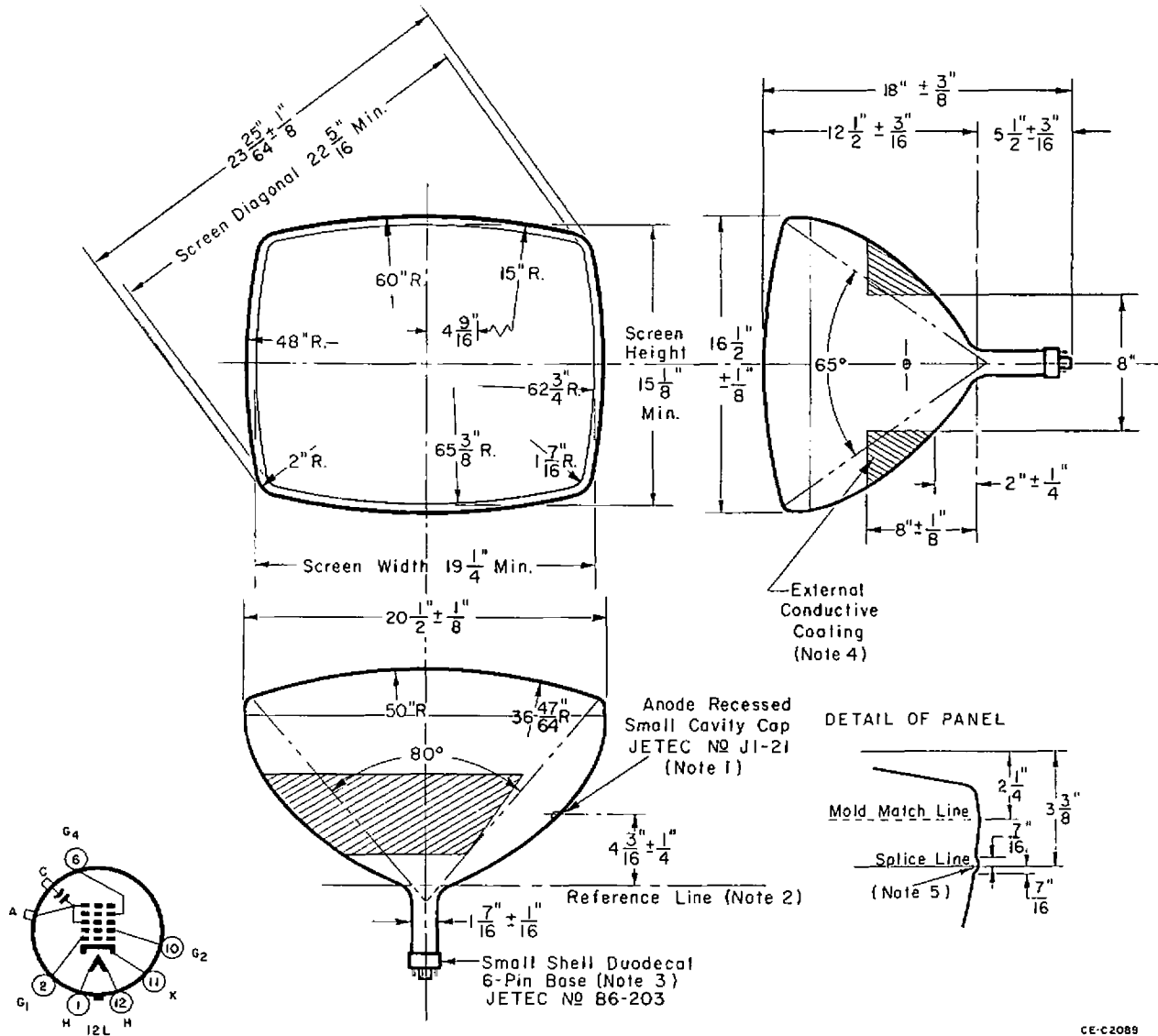
Cathode Drive Service
 Unless otherwise specified, all voltage values
 are positive with respect to Grid 1.
 Anode Voltage 16000 Volts DC
 Grid 4 Voltage (Focusing Electrode) 0 to 400 Volts DC
 Grid 2 Voltage (Note 3).500 Volts DC
 Cathode Voltage for Raster Cutoff. 45 to 95 Volts DC

LIMITING CIRCUIT VALUES

Maximum Grid #1 Circuit Resistance 1.5 Megohms
 Minimum Grids 2 & 4 Circuit Resistance (Note 4). .10000 Ohms

NOTES

1. Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% 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 rated heater voltage divided by rated heater current.
2. Operation with voltages in excess of 16KV may require shielding to limit radiation of very soft x-rays. Brilliance and definition decrease with decreasing anode voltage. Operation with anode voltage less than 11000 volts is not recommended.
3. It is recommended that not less than 300 volts on grid 2 be used as resolution is affected at lower voltages.
4. Protective resistance in the grid 2 and grid 4 (focus electrode) circuit is advisable to prevent damage.



1. Anode terminal alignment with pin 6 has angular tolerance about tube axis of $\pm 30^\circ$.
2. Yoke Reference Line is determined by plane surface of flared end of JEDEC Reference-Line Gauge No. 116 when seated on funnel of tube. With a minimum neck length tube, the PM centering magnet (0 to 8 gauss) should extend no more than 2-3/4" from Yoke Reference Line.
3. Lateral strains on the base pins must be avoided. The socket should have flexible leads permitting free movement. The perimeter of the base wafer will be inside a 2-3/4" diameter circle concentric with tube axis.
4. External conductive coating forms supplementary filter capacitor and must be grounded.
5. Splice-line seal bulge may protrude a maximum of 1/16" from dimension surface at any point around the seal.