DESCRIPTION AND RATING

CATHODE-RAY TUBE 5QP4

5-INCH ROUND, GLASS — DEFLECTION - MAGNETIC

FOCUS - MAGNETIC — FACEPLATE - CLEAR, METAL BACKED

The 5QP4 is a magnetic-focus and magnetic-deflection direct-view cathode-ray tube for industrial applications. A feature of this tube is a reflective metal-backed screen which reduces undesirable screen charging and increases high-light brightness.

TECHNICAL INFORMATION

GENERAL

Electrical

Heater Voltage	6.3	Volts
Heater Current	0.6 ± 10%	Ampere
Focusing Method - Magnetic		
Deflecting Method - Magnetic		
Deflecting Angle, approximate	53	Degrees
Phosphor - P4, Sulfide Type		
Fluorescence - White		
Persistence - Short		
Faceplate - Clear		
Direct Interelectrode Capacitances, approximate		
Cathode to All Other Electrodes	5	uuf
Grid-No. 1 to All Other Electrodes	6	uuf

Mechanical

Over-all Length	11 1/8 ± 3/8	Inches
Greatest Diameter of Bulb	4 15/16 ± 3/32	Inches
Minimum Useful Screen Diameter	4 1/4	Inches

Anode Contact - Recessed Small-ball Cap, J1-22

Base - Long Medium-shell Octal 8-pin, B8-65

Basing - 5AN

Base Pin Connections

Pin 1 - No Connection	Pin 5 - Grid-No. 1
Pin 2 - Heater	Pin 6 - No Connection
Pin 3 - Grid-No. 2	Pin 7 - Cathode
Pin 4 - No Connection	Pin 8 - Heater

Anode Contact Alignment

Anode Contact Aligns With Pin-No. 5 ± 5 Degrees

Net Weight, approximate	1.5	Pounds

MAXIMUM RATINGS Design Center Values

Anode Voltage	12000 Max	Volts D-c
Grid-No. 2 Voltage	410 Max	Volts D-c
Grid-No. 1 Voltage		
Negative-bias Value	125 Max	Volts D-c
Positive-bias Value*	0 Max	Volts D-c
Positive-peak Value	2 Max	Volts

GENERAL ELECTRIC

from RTMA release #1054, Feb. 12, 1952

MAXIMUM RATINGS Design Center Values

Peak Heater-cathode Voltage†		
Heater Negative with Respect to Cathode		
During Warm-up Period Not to Exceed 15 Seconds	410 Max	Volts D-c
After Equipment Warm-up Period	125 Max	Volts D-c
Heater Positive with Respect to Cathode	125 Max	Volts D-c

JETEC COMPARATIVE CONDITIONS

Anode Voltage	12000	Volts
Grid-No. 2 Voltage	300	Volts
Grid-No. 1 Voltage‡	-28 to -72	Volts
Focusing-coil Current, approximate§	150	Milliamperes

RECOMMENDED OPERATING CONDITIONS

Anode Voltage◊ (Average Brightness = 20 Foot-Lamberts)	10000	Volts
Grid-No. 2 Voltage	300	Volts
Grid-No. 1 Voltage‡	-28 to -72	Volts
Focusing-coil Current (RTMA Coil No. 106 at 2 3/4 Inches), approximate	137	Milliamperes

MAXIMUM CIRCUIT VALUES

Grid-No. 1 Circuit Resistance	1.5 Max	Megohms

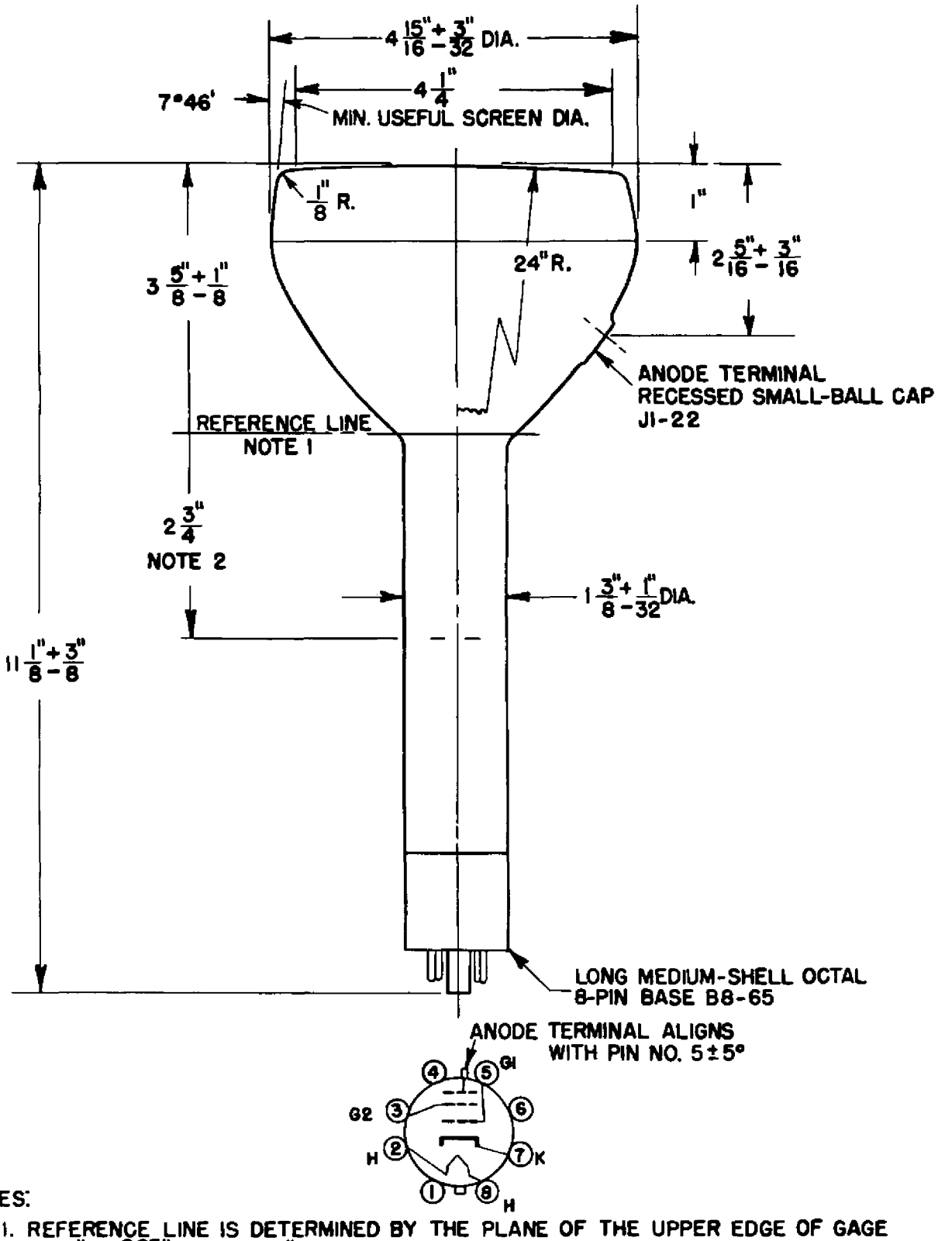
* At or near this rating, the effective resistance of the anode supply should be adequate to limit the anode input power to 6 watts.

† Cathode should be returned to one side or to the midtap of the heater transformer winding.

‡ For visual extinction of undeflected focused spot.

§ For RTMA focusing coil No. 106 or equivalent, with the combined grid-No. 1 bias voltage and video-signal voltage adjusted to produce a high-light brightness of 20 foot-lamberts on a 2 7/8- by 3 7/8-inch picture area and with the distance from the reference line to center of air gap equal to 2 3/4 inches.

◊ Brilliance and definition decrease with decreasing anode voltage. In general the anode voltage should not be less than 5000 volts.



NOTES:

1. REFERENCE LINE IS DETERMINED BY THE PLANE OF THE UPPER EDGE OF GAGE 1.430" $^{+.003"}_{-.000"}$ ID AND 2" LONG WHEN THE GAGE IS RESTING ON THE BULB.
2. RECOMMENDED POSITION FOR CENTER OF FOCUSING FIELD.

N15197AZ

January 22, 1952

5QP4
Outline

GENERAL ELECTRIC

ELECTRONICS DIVISION, TUBE DEPARTMENT

SCHENECTADY, NEW YORK