



CATHODE-RAY TUBE

DESCRIPTION

The 5QP4 is a magnetic-focus and magnetic-deflection direct-view cathode-ray tube for industrial applications. A feature of this tube is a reflec-

tive metal-backed screen which reduces undesirable screen charging and increases high-light brightness.

TECHNICAL INFORMATION

GENERAL

Electrical

Heater voltage.....	6.3 volts
Heater current	$0.6 \pm 10\%$ 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

GENERAL  ELECTRIC


Electronic
TUBE

TECHNICAL INFORMATION (CONT'D)

Mechanical

Over-all length	11 $\frac{1}{8}$ $\pm$ $\frac{3}{8}$ inches
Greatest diameter of bulb	4 $\frac{15}{16}$ $\pm$ $\frac{3}{32}$ inches
Minimum useful screen diameter	4 $\frac{1}{4}$ 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 $\pm$ 5 degrees	
Net weight, approximate	1.5 pounds

MAXIMUM RATINGS, Design Center Values

Anode voltage	12,000 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
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	12,000	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 $\frac{3}{4}$ inches), approximate	137	milliamperes

MAXIMUM CIRCUIT VALUES

Grid-No. 1 circuit resistance	1.5 max	megohms
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*At or near this rating, the effective resistance of the anode supply should be adequate to limit the anode input power to 6 watts.

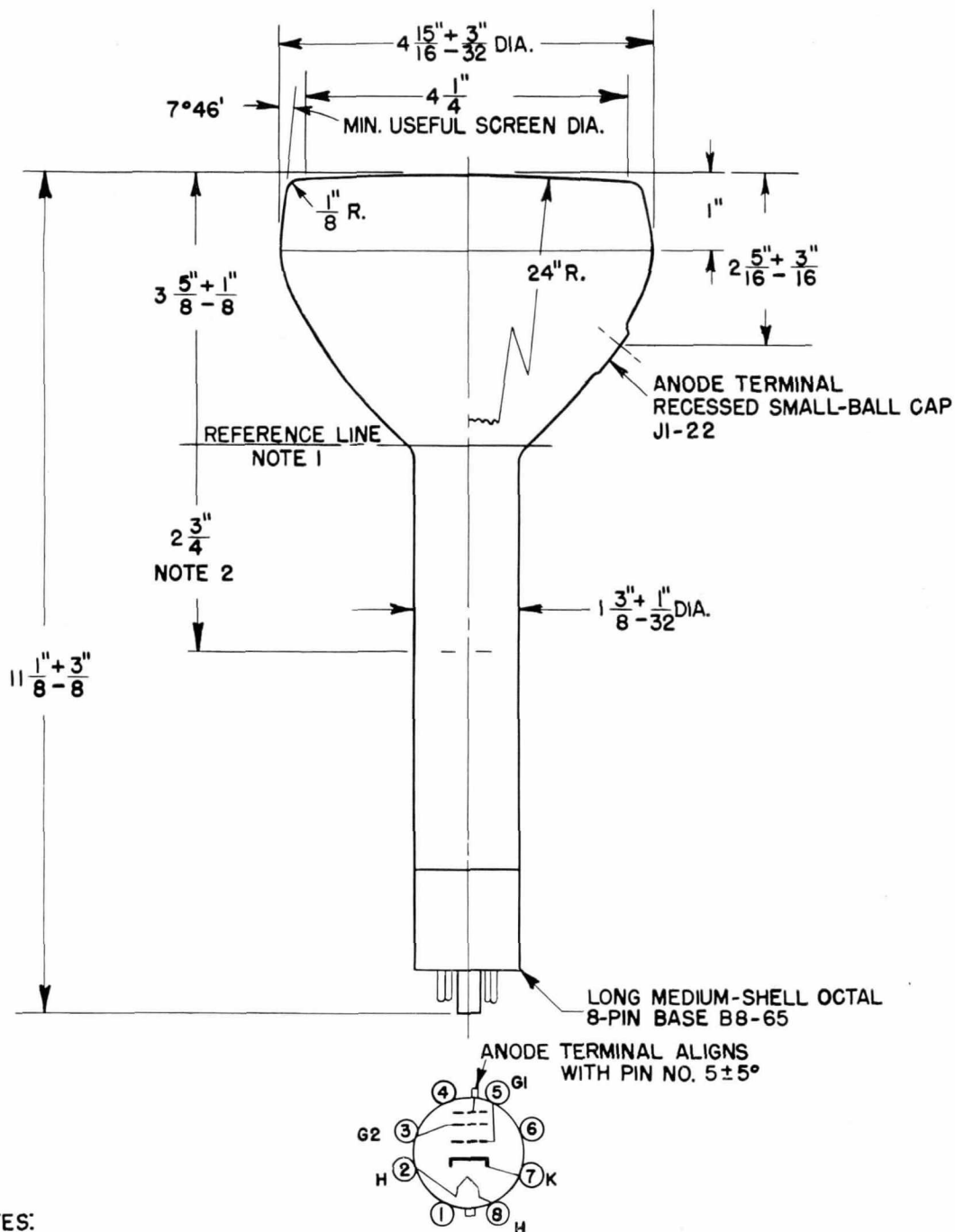
†Cathode should be returned to one side or to the midtap of the heater transformer winding.

‡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 $\frac{7}{8}$ - by 3 $\frac{7}{8}$ -inch picture area and with the distance from the reference line to center of air gap equal to 2 $\frac{3}{4}$ inches.

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

OUTLINE



NOTES:

1. REFERENCE LINE IS DETERMINED BY THE PLANE OF THE UPPER EDGE OF GAGE $1.430" \pm .003"$ ID AND 2" LONG WHEN THE GAGE IS RESTING ON THE BULB.
2. RECOMMENDED POSITION FOR CENTER OF FOCUSING FIELD.

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