



5QP4-A CATHODE-RAY TUBE

5-INCH ROUND, GLASS
FOCUS—MAGNETIC
DEFLECTION—MAGNETIC

53-DEGREE DEFLECTION ANGLE
FACEPLATE—SPHERICAL, CLEAR
HIGH-RESOLUTION GUN

ALUMINIZED SCREEN

DESCRIPTION AND RATING

The 5QP4-A is a magnetic-focus and -deflection direct-view cathode-ray tube for use as a view-finder for television cameras. It has a high-resolution gun which affords an exceptionally narrow trace on the fluorescent screen. The screen is aluminized to increase light output, reduce undesirable screen charging, and prevent ion-spot blemish.

GENERAL

ELECTRICAL

Heater Voltage	6.3	Volts
Heater Current	0.6 $\pm 10\%$	Amperes
Focusing Method—Magnetic		
Deflecting Method—Magnetic		
Deflection Angle, approximate	53	Degrees
Direct Interelectrode Capacitances, approximate		
Cathode to All Other Electrodes	5	$\mu\mu\text{f}$
Grid-No. 1 to All Other Electrodes	8	$\mu\mu\text{f}$

OPTICAL

Phosphor Number—P4, Sulfide Type
Fluorescent Color—White
Phosphorescent Color—White
Persistence—Short
Faceplate—Clear

MECHANICAL

Over-all Length	11 $\frac{1}{8}$ $\pm \frac{3}{8}$	Inches
Greatest Bulb Diameter	4 $\frac{15}{16}$ $\pm \frac{3}{32}$	Inches
Minimum Useful Screen Diameter	4 $\frac{1}{4}$	Inches
Bulb Number, ASA Designation—J39 $\frac{1}{2}$ L		
Bulb Contact—Recessed Small-ball Cap, JETEC No. J1–22		
Base—Long Medium-shell Octal 8-Pin, JETEC No. B8–65		
Basing, JETEC Designation—5AN		
Bulb Contact Alignment		
Anode Contact Aligns with Pin No. 5 ± 10 Degrees		
Mounting Position—Any		

GENERAL  ELECTRIC

MAXIMUM RATINGS

DESIGN-CENTER VALUES*

Anode Voltage†	12,000	Max Volts DC
Grid-No. 2 Voltage	700	Max Volts DC
Grid-No. 1 Voltage		
Negative-Bias Value	180	Max Volts DC
Positive-Bias Value	0	Max Volts DC
Positive-Peak Value	2	Max Volts
Peak Grid-No. 1 Drive from Cutoff	65	Volts
Peak Heater-Cathode Voltage		
Heater Negative with Respect to Cathode	180	Max Volts
Heater Positive with Respect to Cathode	180	Max Volts

TYPICAL OPERATING CONDITIONS

Anode Voltage‡	10,000	Volts DC
Grid-No. 2 Voltage	300	Volts DC
Grid-No. 1 Voltage§	-33 to -77	Volts DC
Focusing-Coil Current, approximateπ	137	Milliamperes DC
Line Width A▲	0.16	Millimeters

CIRCUIT VALUES

Grid-No. 1 Circuit Resistance	1.5	Max Megohms
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* The maximum ratings provide a ten percent safety factor in accordance with the standard design-center system of rating cathode-ray tubes; that is, the tube will withstand the combined effects of variations in line voltage and components provided the maximum design-center values are not exceeded by more than ten percent.

† Anode and Grid-No. 3 which are connected together within the tube are referred to herein as anode.

‡ Brightness and focus quality decrease with decreasing anode voltage. In general, the anode voltage should not be less than 5,000 volts.

§ For visual extinction of undeflected focused spot.

π For JETEC focusing coil No. 106 with distance from the yoke reference line to center of air gap equal to 2¾ inches.

▲ Measured in accordance with MIL-E-1B, paragraph 4.12.6.2 at an anode current of 200 microamperes.

