



# 5FP14-A CATHODE-RAY TUBE

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

**53-DEGREE DEFLECTION ANGLE  
HIGH-RESOLUTION GUN  
PERSISTENCE—MEDIUM LONG**

## DESCRIPTION AND RATING

The 5FP14-A is a magnetic-focus and -deflection cathode-ray tube for radar applications. It employs a high-resolution electron gun which affords an exceptionally narrow trace on the fluorescent screen.

### 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 .....	5.0	$\mu\mu f$
Grid-No. 1 to All Other Electrodes .....	8.0	$\mu\mu f$

#### OPTICAL

Phosphor Number—P14  
 Fluorescent Color—Purple  
 Phosphorescent Color—Orange  
 Persistence—Medium Long  
 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—J39-1/2L  
 Bulb Contact—Recessed Small-ball Cap, JETEC No. J1-22  
 Base—Medium-shell Octal 8-Pin, JETEC No. B8-11 or  
     Long Medium-shell Octal 8-Pin, JETEC No. B8-65  
 Basing—JETEC Designation—5AN  
 Bulb Contact Alignment  
     Anode Contact Aligns with Pin No. 5  $\pm 10$  Degrees  
 Mounting Position—Any

**MAXIMUM RATINGS****DESIGN-CENTER VALUES\***

Anode Voltage† . . . . .	8000 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 Max	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 . . . . .	5000	Volts DC
Grid-No. 2 Voltage . . . . .	.250	Volts DC
Grid-No. 1 Voltage§ . . . . .	-25 to -70	Volts DC
Focusing-Coil Current $\pi$ , approximate . . . . .	.97	Milliamperes DC
Line Width $A\phi$ . . . . .	0.23	Max Millimeters
Spot Position▲ . . . . .	.9	Millimeters

**MAXIMUM 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. 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.

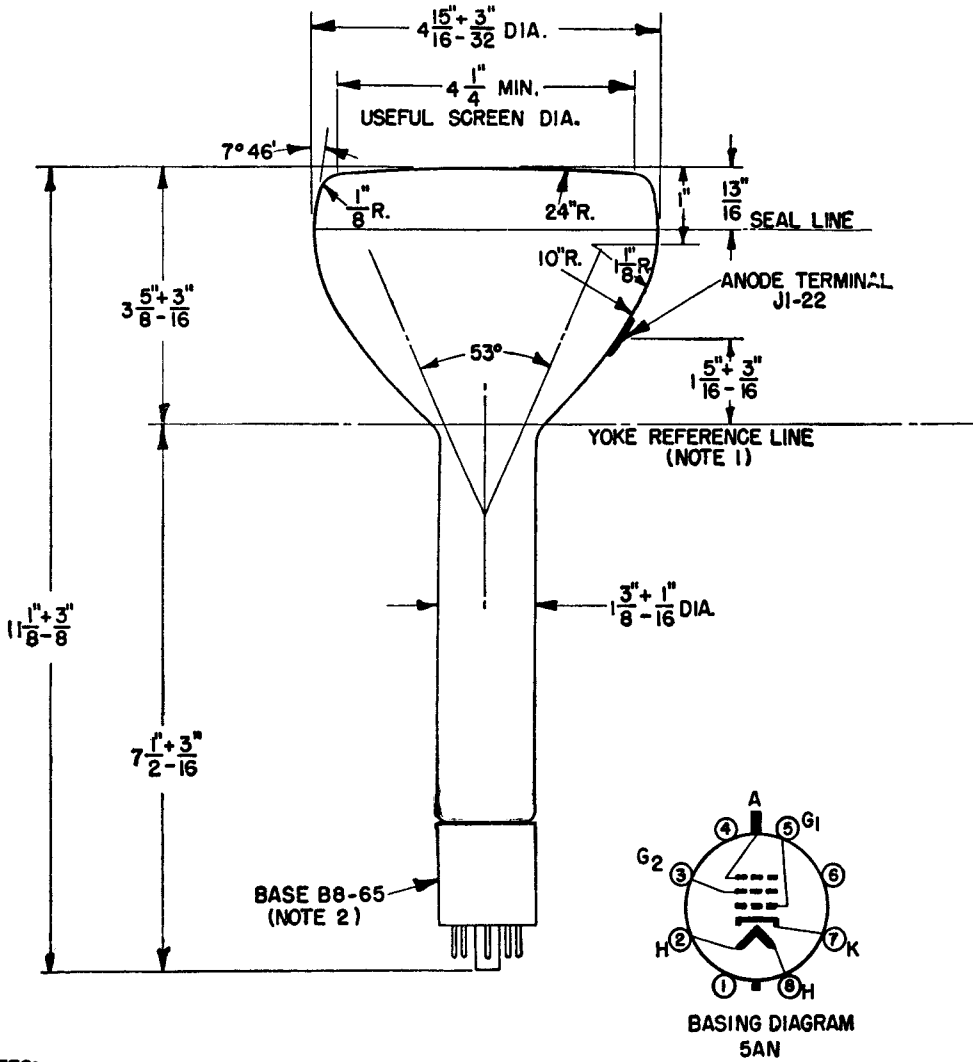
‡ Cathode should be returned to one side or to the midtap of the heater transformer winding.

§ For visual extinction of focused undeflected spot.

$\pi$  For JETEC focusing coil No. 106 with distance from the yoke-reference-line to center-of-air-gap equal to 2 $\frac{3}{4}$  inches.

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

▲ The center of the undeflected unfocused spot will fall within a circle of 9 millimeters radius concentric with the tube face.



**NOTES:**

1. REFERENCE LINE IS DETERMINED BY THE POINT WHERE A GAGE  $1.430 \pm .003$  INCHES INSIDE DIAMETER AND 2 INCHES IN LENGTH STOPS AGAINST THE CONE.
2. ANODE TERMINAL ALIGNS WITH PIN-NO. 5  $\pm 10$  DEGREES.