SYLVANIA

engineering data service

SYLVANIA
5BGP1
5BGP*

CHARACTERISTICS

GENERAL DATA

Focusing Method	Electrostatic
Deflection Method	Electrostatic
Phosphors	Aluminized

Types*	Fluorescence	Phosphorescence	Persistence
5BGP1	Green	.....	Medium
5BGP2	Blue-Green	Green	Long
5BGP5	Blue	.....	Very Short
5BGP7	Blue-White	Yellow	Long
5BGP11	Blue	.....	Short
5BGP15	Blue-Green	.....	Extremely Short

Faceplate . . . . . Clear

**In addition to the types shown, the 5BGP- can be supplied with several other screen phosphors.*

ELECTRICAL DATA

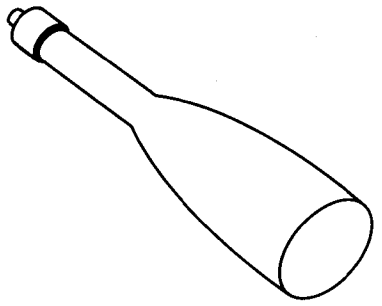
Heater Voltage	6.3 Volts
Heater Current	0.6 ± 10% Amperes
Direct Interelectrode Capacitances (approx.)	
Cathode to All Other Electrodes	4.8 μμf
Grid No. 1 to All Other Electrodes	6.7 μμf
D1 to D2	1.8 μμf
D3 to D4	1.3 μμf
D1 to All Other Electrodes Except D2	3.3 μμf
D2 to All Other Electrodes Except D1	3.3 μμf
D3 to All Other Electrodes Except D4	2.7 μμf
D4 to All Other Electrodes Except D3	2.7 μμf
Post Accelerator Helix Resistance	200 to 600 Megohms

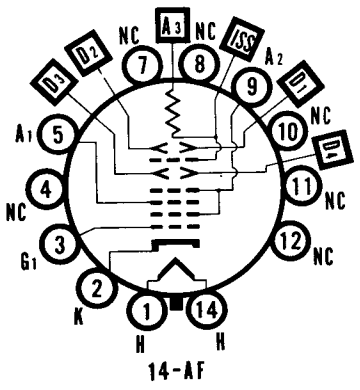
MECHANICAL DATA

Minimum Useful Screen Diameter	4½ Inches
Anode No. 3 Contact (Recessed Small Cavity Cap)	J1-21
Bulb (Modified)	J42K
Base (Medium Shell Diheptal 12-Pin)	B12-37
Basing	14AF
Base Alignment	
D3-D4 trace aligns with Pin No. 1	±10 Degrees
Positive Voltage on D1 deflects beam approx. toward Pin No. 4	
Positive Voltage on D3 deflects beam approx. toward Pin No. 1	
Angle Between traces D1-D2 and D3-D4	90 ± 1 Degrees
Bulb Contact Alignment	
J1-21 contact aligns with D1-D2 trace	±10 Degrees
J1-21 contact on same side as Pin No. 4	

QUICK REFERENCE DATA

5" Direct Viewed
Flat Faceplate
Round Glass Type
Electrostatic Deflection
Electrostatic Focus
Helical Resistor Post Deflection Acceleration
High Deflection Sensitivity
High Deflection Accuracy
Aluminized Screen





14-AF

SYLVANIA
ELECTRONIC TUBES
A Division of
Sylvania Electric Products, Inc.
PICTURE TUBE OPERATIONS
SENECA FALLS, NEW YORK

Prepared and Released By The
TECHNICAL PUBLICATIONS SECTION
EMPORIUM, PENNSYLVANIA

APRIL, 1959

MAXIMUM RATINGS (Absolute Maximum Values)

Anode No. 2 Input	6	Watts	Max.
Anode No. 3 Voltage	13,200	Volts dc	
Isolation Shield Voltage	2300	Volts dc	
Anode No. 2 Voltage	2200	Volts dc	
Ratio of Anode No. 3 Voltage to Anode No. 2 Voltage	6 : 1	Maximum	
Anode No. 1 (Focus Electrode) Voltage	880	Volts dc	
Grid No. 1 Voltage			
Negative Bias Value	220	Volts dc	
Positive Bias Value	0	Volts dc	
Positive Peak Plate	2	Volts	
Peak Heater-Cathode Voltage			
Heater Negative with Respect to Cathode			
During Warm-up Period Not to Exceed 15 Seconds	200	Volts	
After Equipment Warm-up Period	140	Volts	
Heater Positive with Respect to Cathode	140	Volts	
Peak Voltage Between Anode No. 2 and Any			
Deflection Plate	550	Volts	

TYPICAL OPERATING CONDITIONS

Anode No. 3 Voltage[1]	10,000	Volts dc	
Isolation Shield Voltage[2]	1575 to 1700	Volts dc	
Anode No. 2 Voltage[3]	1670	Volts dc	
Anode No. 1 Voltage for Focus	180 to 590	Volts dc	
Grid No. 1 Voltage Required for Cutoff[4]	−50 to −80	Volts dc	
Deflection Factor[5]			
Deflection Plates 1-2	70 to 86	Volts dc/Inch	
Deflection Plates 3-4	28.4 to 34.8	Volts dc/Inch	
Pattern Distortion at 100% Useful Scan[6]	1%	Maximum	
Undeflected Spot Position[7] (Deviation from Center)	5	MM.	Max.
Useful Scan			
D1-D2	10	cm.	
D3-D4	6	cm.	

CIRCUIT VALUES

Grid No. 1 Circuit Resistance	1.5	Megohms	Max.

NOTES:

1. *It is recommended that the Anode No. 3 voltage be no less than 6000 volts for suitable light output.*
2. *The isolation shield and the lower end of the Post Accelerator helix are connected together within the tube. With the proper potential on this electrode combination, barrel and pin-cushion distortions are minimized.*
3. *Under the typical operating conditions listed the Anode No. 2 voltage is made variable from 1575 volts to 1850 volts to provide for astigmatism control. In order to maintain proper astigmatism adjustment as total cathode current is varied, it is recommended that the resistance in the Anode No. 2 circuit be limited to 12,500 ohms.*

NOTES: (Cont'd)

4. *Visual extinction of undeflected focused spot.*

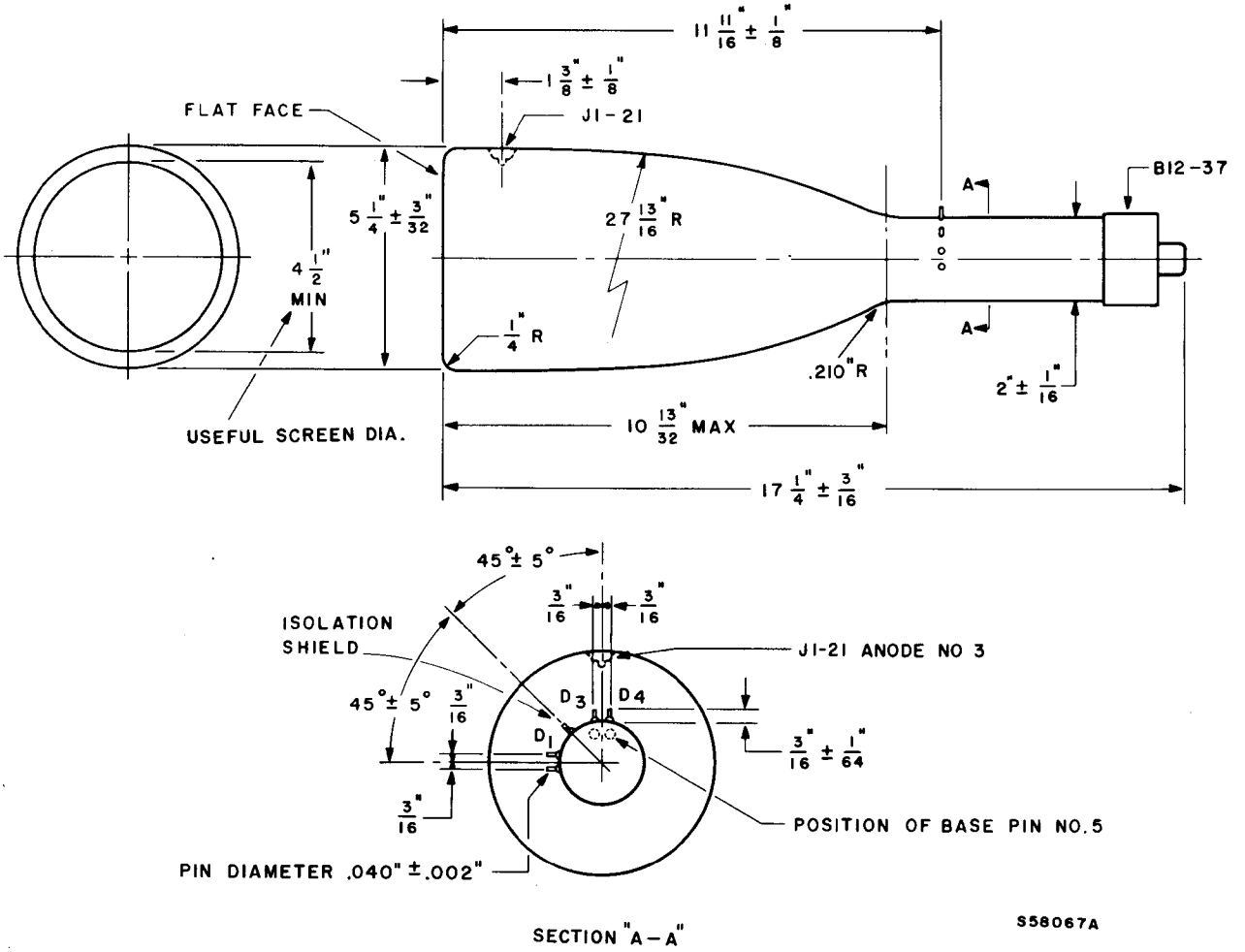
5. *If use is made of the full deflection capabilities of the tube, the deflection plates will intercept part of the electron beam near the edge of the scan; hence a low impedance deflection plate drive is desirable.*

6. *With a 6 x 10 cm rectangular raster centered on the face of the tube, the raster edges will not deviate from straight parallel lines by more than 1 mm total on the left and right edges, nor by more than 0.5 mm total at the top and bottom.*

7. *Connect deflection plates to Anode No. 2.*

WARNING:

X-ray radiation shielding may be necessary to protect against possible danger of personal injury from prolonged exposure at close range if this tube is operated at higher than the manufacturer's Maximum Rated Anode Voltage or 16,000 volts, whichever is less.



A Technical Publication of
SYLVANIA ELECTRIC
PRODUCTS INC.
EMPORIUM, PA.