



Thomas

INDUSTRIAL & MILITARY TUBES ENGINEERING DATA Sheet 1 of 4

TYPE 5CKP-A

DESCRIPTION

The Thomas 5CKP-A is a 5-inch diameter magnetic deflection and focus cathode-ray tube featuring a very high resolution gun and a clear non-browning faceplate of optical quality and flatness.

The fine grained phosphor screen used in this tube has a low noise level and is normally provided with an aluminized backing for maximum brightness and stability in performance.

For maximum protection against corona effects in high voltage and high altitude operations, the tube is provided with a molded accelerator lead.

ELECTRICAL DATA

Focusing Method	Magnetic
Deflection Method	Magnetic
Deflection Angle, Approximately	42 Degrees
Direct Interelectrode Capacitances, Approximately	
Cathode to All	2.0 uuf
Grid No. 1 to All	9.0 uuf

OPTICAL DATA

Phosphor Number	1	11	16	24
Fluorescence	Green	Blue	Violet	Green
Phosphorescence	Green	Blue	Violet	Green
Persistence	Medium	Med-Short	Very Short	Short
Faceplate	Flat, Clear			

MECHANICAL DATA

Overall Length	16 5/8 ± 3/8 Inches
Neck Length	12 1/8 Inches
Greatest Diameter of Bulb	5 1/4 ± 3/32 Inches
Minimum Useful Screen Diameter	4 1/4 Inches
Bulb Contact	Special Molded Contact
Bulb Number	J42ZB1A
Weight	Approximately 2 Pounds
Base	B7-51
Basing	12AM
Mounting Position	Any

from JEDEC release #3893, Sept. 24, 1962

THOMAS ELECTRONICS, INC., PASSAIC, NEW JERSEY



Thomas

INDUSTRIAL & MILITARY TUBES

ENGINEERING DATA Sheet 2 of 4

TYPE 5CKP-A

MECHANICAL DATA (Continued)

Bulb Contact Alignment:

Center Line of Molded Contact Aligns
with Vacant Pin No. 3

± 10 Degrees

Molded Contact on Same Side as Pin 3

RATINGS (Absolute Maximum Values)

Heater Voltage	6.3 Volts
Heater Current @ 6.3 Volts	0.6 $\pm 10\%$ Ampere
Accelerator Voltage	22,000 Max. Volts DC
Accelerator Voltage	10,000 Min. Volts DC
Grid No. 2 Voltage	1,500 Max. Volts DC
Grid No. 1 Voltage	
Negative Bias Value	200 Max. Volts DC
Positive Bias Value	-2 Max. Volts DC
Positive Peak Value	0 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

Accelerator Voltage	20,000 Volts DC
Grid No. 2 Voltage	1,000 Volts DC
Grid No. 1 Voltage (Note 1)	-35 to -110 Volts DC
Focusing Coil Current (Note 2)	Approx. 135 mA
Line Width (Note 3)	.001 Inch Max.
Spot Position (Note 4)	Within a 7.5mm Radius Circle

MAXIMUM CIRCUIT VALUES

Grid No. 1 Circuit Resistance	1.5 Max. Megohms
-------------------------------	------------------

NOTES

1. **Visual extinction** of the undeflected, focused spot.
2. As measured with the center of the air gap of the JEDEC #106 focus coil located 3-1/2 inches from the reference line.

To obtain optimum tube performance, care should be taken to align the focus coil with respect to the beam axis. Good alignment is indicated by a minimum swing of the beam when going through focus (from zero to maximum current).



Thomas

INDUSTRIAL & MILITARY TUBES
ENGINEERING DATA Sheet 3 of 4

TYPE 5CKP-A

NOTES (Continued)

3. As measured at the tube face center with the raster adjusted for best center focus and at an accelerator current of 25 uA. Line width determined by the shrinking raster method.
4. With the tube shielded against external influences, the undeflected, unfocused spot will fall within a 7.5 mm radius circle concentric with the tube face center.

PRECAUTIONARY NOTES

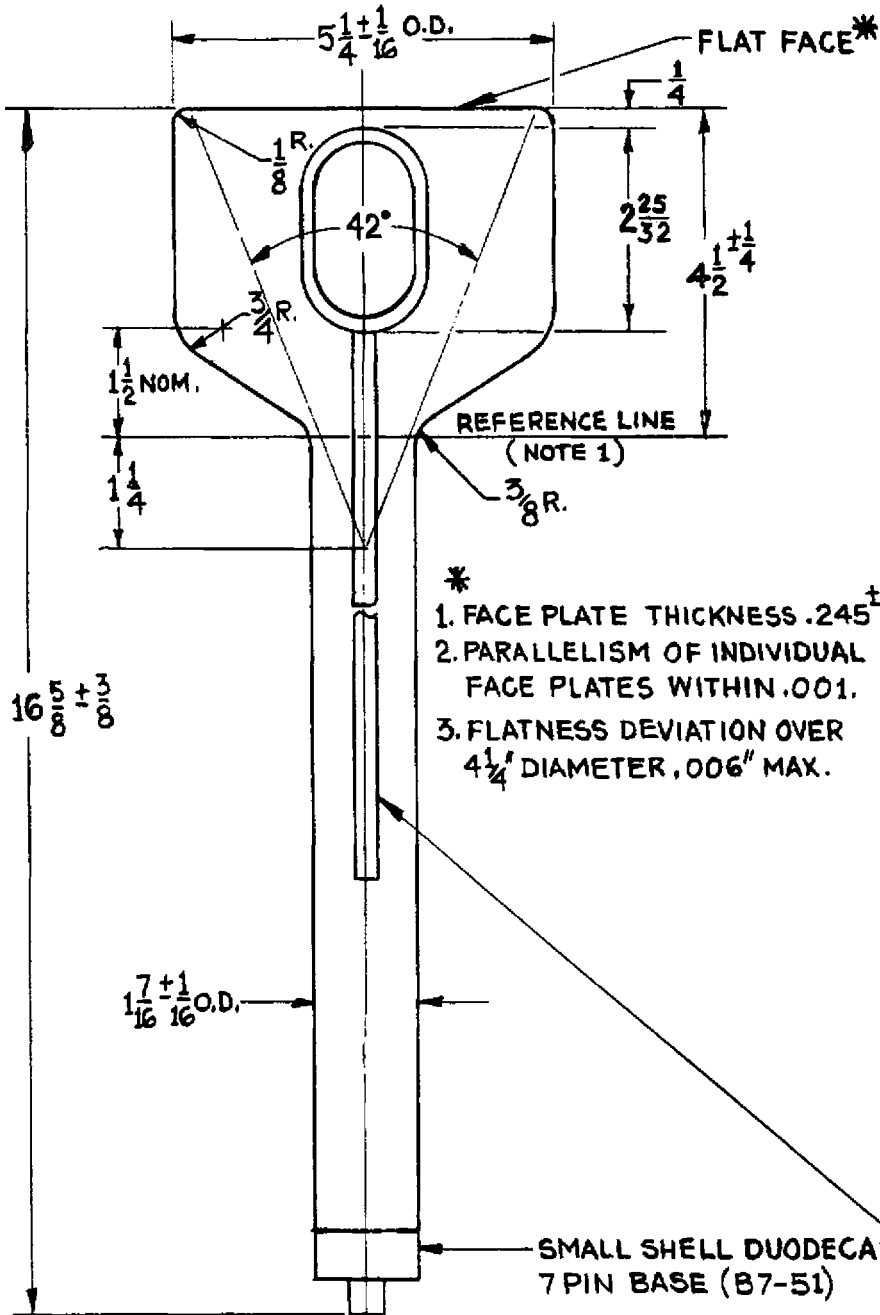
1. To prevent possible permanent damage to the tube, a high voltage insulating sleeve should be placed between the deflection yoke and the neck of the tube.
2. The tube should be adequately shielded for X-ray radiation.
3. To obtain maximum possible resolution it is recommended that the tube, coil, and yoke are shielded against external electrostatic and magnetic fields.



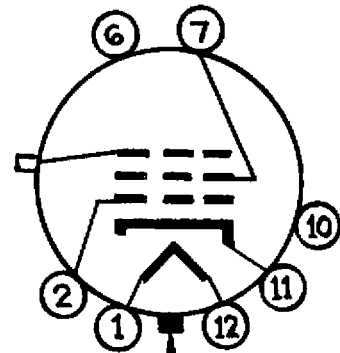
Thomas

INDUSTRIAL & MILITARY TUBES
ENGINEERING DATA

5CKP-



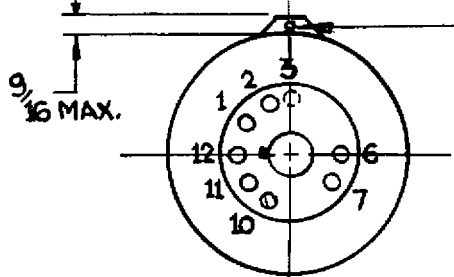
BOTTOM VIEW OF BASE



KEY

- *
 1. FACE PLATE THICKNESS .245 ±.005
 2. PARALLELISM OF INDIVIDUAL FACE PLATES WITHIN .001.
 3. FLATNESS DEVIATION OVER 4 1/4" DIAMETER, .006" MAX.

<u>PIN NO.</u>	<u>ELEMENT</u>
1	HEATER
2	GRID No. 1
7	GRID NO. 2
11	CATHODE
12	HEATER



NOTE:

1. THE POINT WHERE JEDEC G112 REFERENCE LINE GAUGE WILL STOP.