



Thomas

INDUSTRIAL & MILITARY TUBES

ENGINEERING DATA

Sheet 1 of 4

TYPE 5EDP-

DESCRIPTION

The 5EDP- is a 5-inch diameter magnetic deflection and electrostatic focus cathode-ray tube. The tube features a very high resolution gun and a clear non-browning faceplate of optical quality and flatness. The electrostatic focus lens is designed to provide exceptional uniformity of line width, and when a good quality deflection yoke is employed with the tube it is not normally necessary to apply dynamic focus correction.

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

A potted base is provided for maximum protection against corona effects.

GENERAL CHARACTERISTICS

ELECTRICAL DATA

Focusing Method	Electrostatic
Deflection Method	Magnetic
Deflection Angle, Approximately	42 Degrees
Direct Interelectrode Capacitances	
Cathode to All	7.0 uuf Max.
Grid No. 1 to All	12.0 uuf Max.
Grid No. 2 to All	11.0 uuf Max.

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	18 $\pm$ 3/8 Inches
Greatest Diameter of Bulb	5 $\frac{1}{4}$ $\pm$ 3/32 Inches
Minimum Useful Screen Diameter	4 1/4 Inches
Bulb Number	J42ZB1A
Weight	Approximately 2 $\frac{1}{2}$ Pounds
Base	B6-63
Basing	12-Q
Mounting Position	Any

from JEDEC release #3774, June 18, 1962

THOMAS ELECTRONICS, INC., PASSAIC, NEW JERSEY



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TYPE SEDP-

MECHANICAL DATA (Continued)

Bulb Contact Alignment
J1-22 Contact Aligns with vacant Pin 3 ± 10 Degrees
J1-22 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	30,000 Max. Volts DC
Focusing Electrode Voltage	9,000 Max. Volts DC
Grid No. 2 Voltage	1,000 Max. Volts DC
Grid No. 1 Voltage	
Negative Bias Value	150 Max. Volts DC
Positive Bias Value	0 Max. Volts DC
Positive Peak Value	2 Max. Volts
Peak Heater-Cathode Voltage	
Heater negative with respect to cathode	150 Max. Volts
Heater positive with respect to cathode	150 Max. Volts

TYPICAL OPERATING CONDITIONS

Accelerator Voltage (Note 1)	25,000 Volts DC
Focusing Electrode Voltage (Note 2)	6,300 to 7,500 Volts DC
Grid No. 2 Voltage	650 Volts DC
Grid No. 1 Voltage (Note 3)	-30 to -70 Volts DC
Accelerator Current	2.5 μ Adc
Focusing Electrode Current (Notes 4 & 5)	(typical) 20 μ Adc
Line Width (Notes 4 & 6)	.001 Inch Max.
Spot Position (Note 7)	Within a 5mm Radius Circle.

MAXIMUM CIRCUIT VALUES

Grid No. 1 Circuit Resistance	1.5 Max. Megohms
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NOTES

1. For best operation, the accelerator voltage should not be less than 20,000 volts. At lower voltages, a decrease in brilliance and definition will occur.
2. The focusing electrode voltage remains essentially constant for all values of accelerator current.



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NOTES (Continued)

3. Visual extinction of the undeflected, focused spot.
4. For an accelerator current as indicated.
5. The focusing electrode supply should be capable of 300 uA average current.
6. As measured at the tube face center with the raster adjusted for best center focus. Line width determined by the shrinking raster method.
7. With the tube shielded against external influences, the undeflected and focused spot will fall within a 5mm radius circle concentric with the tube face center.

PRECAUTIONARY NOTES

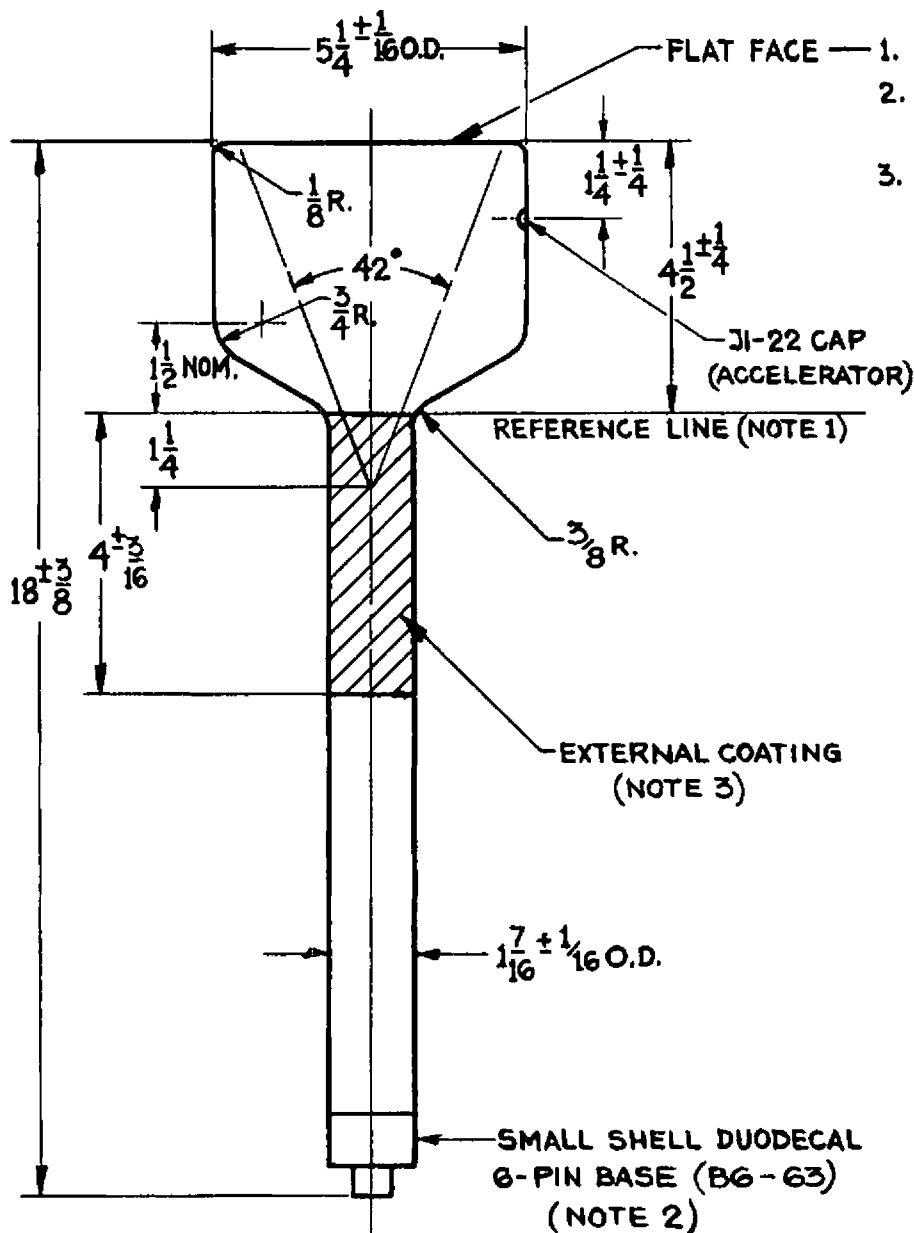
1. The external conductive coating should be grounded by fastening a 1/4" wide (Min.) flexible metal band securely around the coated portion of the neck.
2. To protect the tube against possible permanent damage, a high voltage insulating sleeve should be placed between the deflection yoke and the grounded coating on the neck.
3. The tube should be adequately shielded for X-ray radiation.
4. To obtain maximum possible resolution it is recommended the the tube and yoke are shielded against external electrostatic and magnetic fields.



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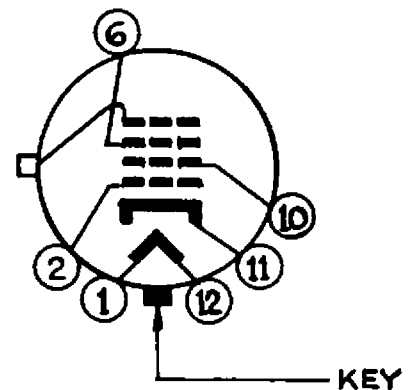
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5EDP-



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

BOTTOM VIEW OF BASE



PIN N ^o	ELEMENT
1	HEATER
2	GRID N ^o 1
6	FOCUSING ELECTRODE
10	GRID N ^o 2
11	CATHODE
12	HEATER

NOTES:

1. THE POINT WHERE JEDEC G112 REFERENCE LINE GAUGE WILL STOP.
2. THE JI-22 CAP ALIGNS WITH VACANT PIN POSITION N^o 3 ± 10°, AND ON THE SAME SIDE.
3. EXTERNAL CONDUCTIVE COATING MUST BE GROUNDED.