



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 ± 3/8 Inches |
| Greatest Diameter of Bulb | 5 1/4 ± 3/32 Inches |
| Minimum Useful Screen Diameter | 4 1/4 Inches |
| Bulb Number | J42ZB1A |
| Weight | Approximately 2 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

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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TYPE SEDP-

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

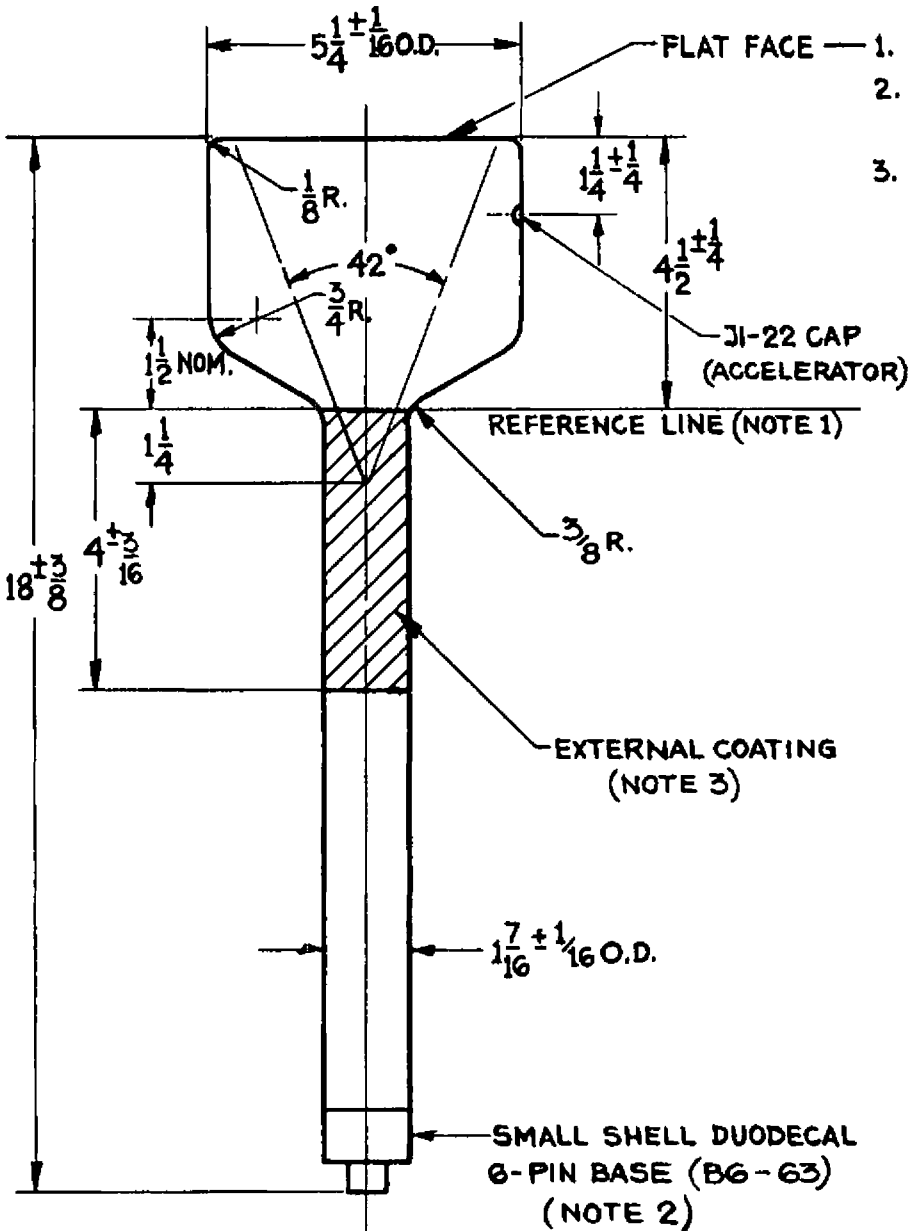
1. The external conductive coating should be grounded by fastening a 1/4" wide (Min.) flexible metal band securely around the coated portion of the neck.
2. To protect the tube against possible permanent damage, a high voltage insulating sleeve should be placed between the deflection yoke and the grounded 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.



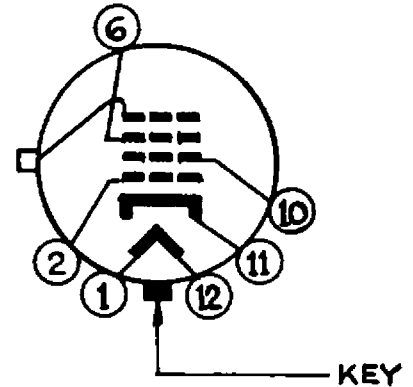
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5EDP-



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 \pm 10°, AND ON THE SAME SIDE.
3. EXTERNAL CONDUCTIVE COATING MUST BE GROUNDED.