

RCA  
2P22  
IMAGE ORTHICON

Obsolete type--data are presented for JETEC Registration Records only

DATA

General:

|   |                              |        |
|---|------------------------------|--------|
| Heater, for Unipotential Cathode:                           |                              |        |
| Voltage (AC or DC) . . . . .                                | 6.3 ± 10%                    | volts  |
| Current . . . . .   | 0.6                          | Ampere |
| Direct Interelectrode Capacitance:                          |                              |        |
| Anode to All Other Electrodes . . . . .                     | 9.5                          | μuf    |
| Photocathode, Semitransparent:                              |                              |        |
| Response . . . . .  | See Accompanying Curve       |        |
| Useful Image Size (1 x 1 aspect ratio) . . . . .            | 1-1/32" Max. Diagonal        |        |
| Focusing Method . . . . .                                   | Magnetic                     |        |
| Deflection Method . . . . .                                 | Magnetic                     |        |
| Overall Length . . . . .                                    | 8-13/16" ± 1/4"              |        |
| Maximum Bulb Radius . . . . .                               | 1-3/32"                      |        |
| Base . . . . .  | Small-Button Trihexal 18-Pin |        |
| Mounting Position . . . . .                                 | Any                          |        |
| Focusing Coil Length . . . . .                              | 6"                           |        |
| Deflecting-Coil Length . . . . .                            | 3-3/16"                      |        |
| Alignment-Coil Length† . . . . .                            | 29/32"                       |        |
| Photocathode Distance Inside End of Focus Coil . . . . .    | 0.6"                         |        |
| Deflection Coil Distance Inside End of Focus Coil . . . . . | 3"                           |        |

Maximum Ratings, Absolute Values:

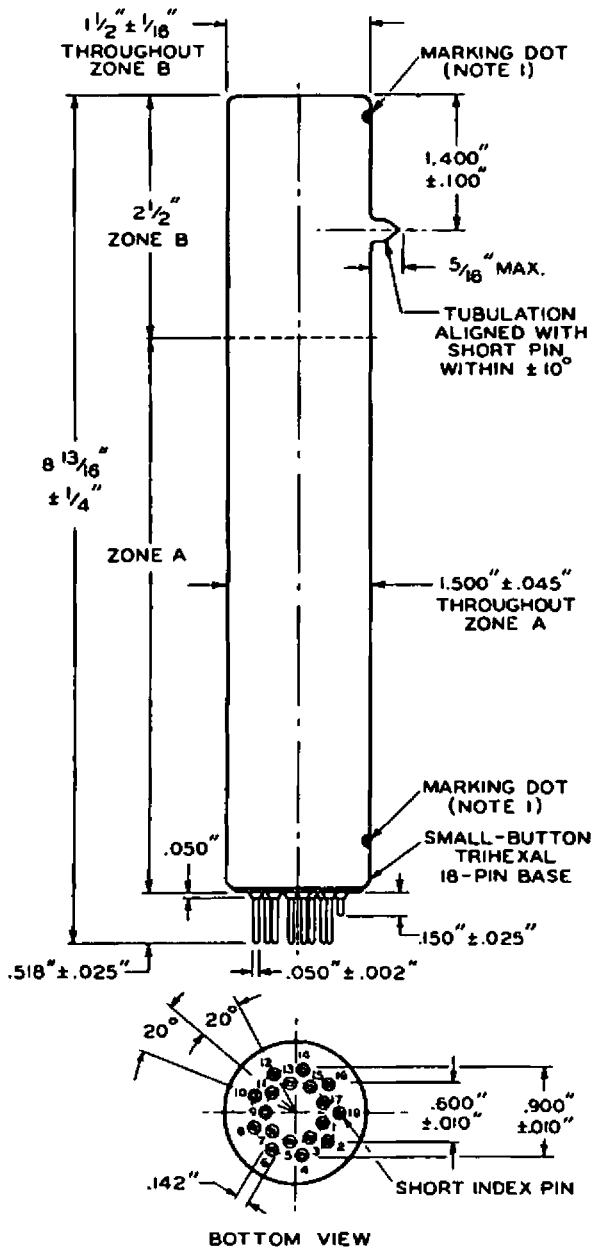
|   |           |       |
|---|-----------|-------|
| PHOTOCATHODE:                                     |           |       |
| Voltage . . . . .                                 | -400 max. | volts |
| Illumination . . . . .                            | 10 max.   | ft-c  |
| AMBIENT TEMPERATURE . . . . . 60 max. °C          |           |       |
| TARGET & GRID-NO.6 VOLTAGE:                       |           |       |
| Positive Value . . . . .                          | 50 max.   | volts |
| Negative Value . . . . .                          | 50 max.   | volts |
| GRIDS No.4 & No.5 VOLTAGE . . . . .               | 200 max.  | volts |
| GRIDS No.2 & No.3 & DYNODE-No.1 VOLTAGE . . . . . | 300 max.  | volts |
| GRID-No.1 VOLTAGE:                                |           |       |
| Negative bias value . . . . .                     | 50 max.   | volts |
| Positive bias value . . . . .                     | 0 max.    | volts |
| PEAK HEATER-CATHODE VOLTAGE:                      |           |       |
| Heater negative with respect to cathode . . . . . | 125 max.  | volts |
| Heater positive with respect to cathode . . . . . | 10 max.   | volts |
| ANODE-SUPPLY VOLTAGE● . . . . .                   | 1650 max. | volts |
| VOLTAGE PER MULTIPLIER STAGE . . . . .            | 350 max.  | volts |

Typical Operation:

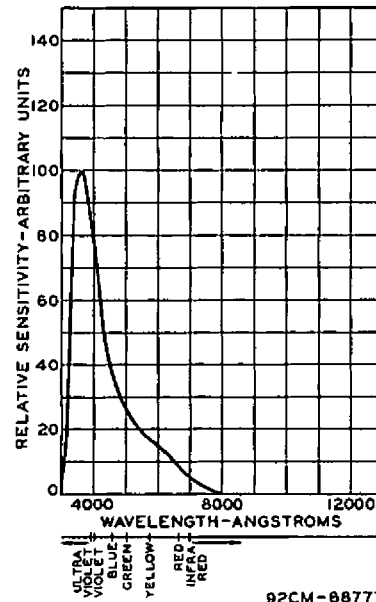
|   |          |         |
|---|----------|---------|
| Photocathode Voltage (Image Focus)* . . . . .   | -250     | volts   |
| Target & Grid No.6 Voltage <sup>o</sup> . . . . .   | 0        | volts   |
| Grids-No.5 (Decelerator) & No.4 (Beam Focus) Voltage <sup>#</sup> . . . . .                 | 90       | volts   |
| Grids-No.3 & No.2 & Dynode-No.1 Voltage . . . . .   | 210      | volts   |
| Grid-No.1 Voltage for Picture Cutoff <sup>⊕</sup> . . . . .                                 | -15      | volts   |
| Dynode-No.2 Voltage . . . . .   | 520      | volts   |
| Dynode-No.3 Voltage . . . . .   | 830      | volts   |
| Dynode-No.4 Voltage . . . . .   | 1140     | volts   |
| Dynode-No.5 Voltage . . . . .   | 1450     | volts   |
| Anode Voltage . . . . .   | 1500     | volts   |
| Anode Current (DC) . . . . .  | 15       | μamp    |
| Target Temperature Range . . . . .  | 35 to 45 | °C      |
| Ratio of Peak-to-Peak Highlight Video Signal<br>to RMS Noise Current (Approx.) . . . . . 15 |          |         |
| Minimum Peak-to-Peak Blanking Voltage . . . . .   | 10       | volts   |
| Field Strength at Center of Focusing Coil . . . . .   | 75       | gausses |

- † Coil is provided with two opposite sets of windings, and should permit adjustment from 0 to 45 ampere turns. Adjust current and rotation for brightest picture.
- Ratio of dynode voltages is shown under Typical Operation.
- \* Adjustable within +40% and -30% of this value.
- Adjustable within ±3 volts of indicated value, with blanking voltage off.
- # Adjustable within ±22.5% of indicated value.
- ⊕ Adjustable within ±67% of indicated value.

### DIMENSIONAL OUTLINE

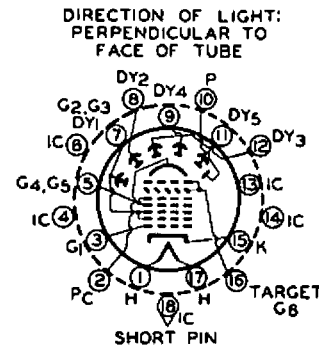


NOTE 1: MARKING DOTS ARE ALIGNED WITH SHORT PIN (N#18) AND INDICATE PROPER DIRECTION OF INSERTION IN FOCUS COIL.



Spectral Sensitivity Characteristic of Type 2P22 for Equal Values of Radiant Flux at all Wavelengths

### SOCKET CONNECTIONS Bottom View



- PIN 1: HEATER
- PIN 2: PHOTOCATHODE
- PIN 3: GRID NO. 1
- PIN 4: INTERNAL CONNECTION—DO NOT USE
- PIN 5: GRID NO. 4, GRID NO. 5
- PIN 6: INTERNAL CONNECTION—DO NOT USE
- PIN 7: GRID NO. 2, GRID NO. 3, DYNODE NO. 1
- PIN 8: DYNODE NO. 2
- PIN 9: DYNODE NO. 4
- PIN 10: ANODE
- PIN 11: DYNODE NO. 5
- PIN 12: DYNODE NO. 3
- PIN 13: INTERNAL CONNECTION—DO NOT USE
- PIN 14: INTERNAL CONNECTION—DO NOT USE
- PIN 15: CATHODE
- PIN 16: TARGET, GRID NO. 6
- PIN 17: HEATER
- PIN 18: INTERNAL CONNECTION—DO NOT USE