

## MULTIPLIER PHOTOTUBE TYPE 7909

The type 7909 is a 3/4" diameter 10-stage multiplier phototube having a flat end-window photocathode with an S-11 spectral response. This type incorporates an integral, potted voltage-divider resistor network to achieve maximum compactness of associated equipment.

| ELECTRICAL:  | Min. | Avg.    | Max. |                              |
|--|------|---------|------|------------------------------|
| Spectral Response . . . . .  | --   | S11     | --   |                              |
| Cathode Luminous Sensitivity<br>with 200 Volts, d-c Between<br>Cathode and All Other<br>Electrodes . . . . .           | 30   | --      | --   | $\mu\text{A}/\text{Lumen}$   |
| Anode Luminous Sensitivity<br>with 105 Volts d-c/Stage . . . . .   | 3    | --      | --   | $\text{A}/\text{Lumen}$      |
| Cathode Radiant Sensitivity at<br>0.44 Microns with 200 Volts<br>Between Cathode and All<br>Other Electrodes . . . . . | --   | 0.045   | --   | $\mu\text{A}/\mu\text{Watt}$ |
| Anode Dark Current with 105<br>Volts/Stage (25° C) . . . . .   | --   | --      | 0.05 | $\mu\text{Ampere}$           |
| Current Amplification with<br>105 Volts/Stage . . . . .  | --   | 150,000 | --   |                              |
| Wavelength at Maximum<br>Response . . . . .  | 3900 | 4400    | 4900 | Angstroms                    |
| Wavelength at 10% of Maximum<br>Response on long Wavelength<br>Side . . . . .  | 5850 | 6125    | 6400 | Angstroms                    |
| Wavelength at 10% of Maximum<br>Response on short Wavelength<br>Side . . . . .   | 3000 | 3250    | 3500 | Angstroms                    |

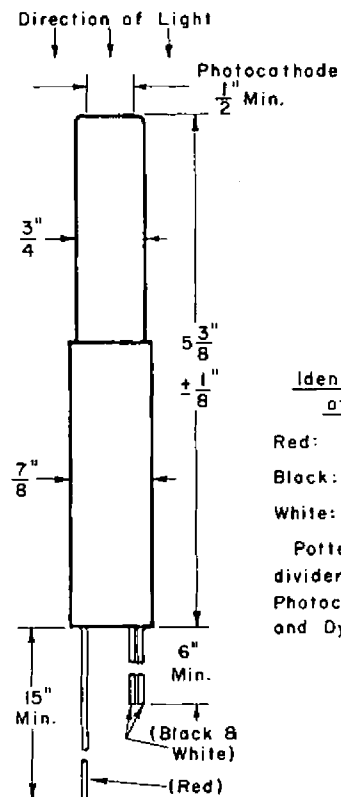
| MECHANICAL:                                |                       |
|--|-----------------------|
| Window Diameter (Min.) . . . . .           | 1/2"                  |
| Tube Diameter . . . . .                    | 7/8"                  |
| Overall Length (Excluding Leads) . . . . . | 5-3/8" $\pm$ 1/8"     |
| Base . . . . .                             | Potted Flexible Leads |
| Mounting Position . . . . .                | Any                   |
| Window Index of Refraction . . . . .       | 1.5                   |

### MAXIMUM RATINGS:

#### Absolute Maximum Values

|  |     |      |                    |
|--|-----|------|--------------------|
| Peak Cathode Current (Note 1) . . . . .      | 10  | max. | $\mu\text{Ampere}$ |
| Average Anode Current (Note 2) . . . . .     | 1   | max. | Ma.                |
| Peak Anode Current . . . . .                 | 5   | max. | Ma.                |
| Average Anode Dissipation (Note 2) . . . . . | 0.5 | max. | Watt               |
| Peak Anode Dissipation . . . . .             | 2.0 | max. | Watt               |
| Ambient Temperature . . . . .                | 75  | max. | °C                 |

1. The cathode current given here is that current at which the response of the cathode current ceases to be a linear function of the light intensity because of cathode resistance. In general, the cathode current must be kept well below this value in order to satisfy the maximum ratings on the anode current.
2. Averaged over a 30 second interval maximum.



#### Identification of Leads

- Red: Photocathode
- Black: Dynode 10
- White: Anode
- Potted Voltage divider is between Photocathode Lead and Dynode 10 Lead.