GAS PHOTOTUBE

Cathode Semi-cylindrical
Photosurface S2
Window Area 1 sq.in.
Direct Interelectrode Capacitance 3.0 μf
Maximum Overall Length 4-1/8"
Maximum Seated Height 3-1/2"
Maximum Diameter 1-3/16"
Bulb (lime glass) T-8

Base Tapered Small 4-Pin
Pin 1-No Connection Pin 3-No Connection
Pin 2-Anode (+) Pin 4-Cathode (-)
Mounting Position Any

BOTTOM VIEW

Maximum Ratings Are Absolute Values

MAXIMUM RATINGS and CHARACTERISTICS
Anode-Supply Voltage (D.C. or Peak A.C.) 90 max. volts
Anode Current* 20 max. μamp.
Ambient Temperature 100 max. °C
Luminous Sensitivity:*
At 0 cycles 150 μamp./lumen
At 5000 cycles 120 μamp./lumen
At 10000 cycles 105 μamp./lumen
Sensitivity at 8000 Angstroms 0.0145 μamp./μwatt
Gas Amplification Factor Not over 10.5
D-C Resistance of Load:
With anode-supply voltage of 75 volts or less
For d-c currents above 3.5 μamp. 0.1 min. megohm
below 3.5 μamp. No Minimum
With anode-supply voltage of 90 volts
For d-c currents above 2.0 μamp. 4.0 min. megohms
below 2.0 μamp. 1.0 min. megohm

* on the basis of the use of a sensitive cathode area 1/2" in diameter.
* Subject to variations as explained on sheet PHOTOTUBE SENSITIVITY MEASUREMENTS in the front of this section.

OUTLINE DIMENSIONS
for the 918 are the same as those for the 868.

Spectral Sensitivity Characteristic of S2 Photosurface in lime-glass bulb is shown at beginning of this section.

Indicates a change.

Mar. 20, 1943
Gas Phototube

SIDE-ON TYPE HAVING S-1 RESPONSE

DATA

General:
Spectral Response: S-1
Wavelength of Maximum Response: 8000 ± 1000 angstroms
Cathode:
Shape: Semicylindrical
Minimum projected length: 1-1/4"
Minimum projected width: 5/8"
Direct Interelectrode Capacitance (Approx.): 3 μf
Maximum Overall Length: 4-1/8"
Maximum Seated Length: 3-1/2"
Seated Length to Center of Cathode: 2-1/8" ± 3/32"
Maximum Diameter: 1-1/8"
Operating Position: Any
Weight (Approx.): 1.1 oz
Bulb: T8
Socket: Amphenol No. 77-MIP-4-T, or equivalent
Base: Dwarf-Shell Small 4-Pin (JEDEC No. A4-26)
Basing Designation for BOTTOM VIEW: 2K

Pin 1—No Connection
Pin 2—Anode
Pin 3—No Connection
Pin 4—Photocathode

Direction of Radiation

Maximum Ratings, Absolute-Maximum Values:

<table>
<thead>
<tr>
<th>Rating I</th>
<th>Rating II</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANODE—SUPPLY VOLTAGE (DC or Peak AC)</td>
<td>70 max.</td>
</tr>
<tr>
<td>AVERAGE CATHODE—CURRENT DENSITY</td>
<td>50 max.</td>
</tr>
<tr>
<td>AVERAGE CATHODE CURRENT</td>
<td>10 max.</td>
</tr>
<tr>
<td>AMBIENT TEMPERATURE</td>
<td>100 max.</td>
</tr>
</tbody>
</table>

Characteristics:

With an anode-supply voltage of 90 volts unless otherwise specified

<table>
<thead>
<tr>
<th>Min.</th>
<th>Median</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity: Radiant, at 8000 angstroms</td>
<td>0.014</td>
<td>amp/watt</td>
</tr>
<tr>
<td>Luminous:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>At 0 cps</td>
<td>120</td>
<td>150</td>
</tr>
<tr>
<td>At 5000 cps</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>At 10000 cps</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>Gas Amplification Factor</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Anode Dark Current at 25°C</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

*indicates a change.
Minimum Circuit Values:

With an anode-supply voltage of 70 or less 90 volts DC Load Resistance:

For dc currents above

5 μa. . . . . . . . . . . . 0.1 min. – megohm

For dc currents below

5 μa. . . . . . . . . . . 0 min. – megohms

For dc currents above

3 μa. . . . . . . . . . . – 2.5 min. megohms

For dc currents below

3 μa. . . . . . . . . . . – 0.1 min. megohm

a On plane perpendicular to indicated direction of incident radiation.
b Averaged over any interval of 30 seconds maximum.
c For conditions where the light source is a tungsten-filament lamp operated at a color temperature of 2870° K. A dc anode supply voltage of 90 volts and a 1-megohm load resistor are used. For the 0-cycle measurement, a light input of 0.1 lumen is used. For the 5000- and 10,000-cycle measurements, the light input is varied sinusoidally about a mean value of 0.015 lumen from zero to a maximum of twice the mean value.
d The ratio of luminous sensitivity at an anode supply voltage of 90 volts to luminous sensitivity at an anode supply voltage of 25 volts. In each case, sensitivity is obtained under conditions where the light source is a tungsten-filament lamp operated at a color temperature of 2870° K. the light input is 0.1 lumen, and the load resistor has a value of 1 megohm.

SPECTRAL-SENSITIVITY CHARACTERISTIC OF PHOTONSENSOR DEVICE HAVING S-I RESPONSE

and

FREQUENCY-RESPONSE CHARACTERISTICS OF GAS PHOTOTUBES

are shown at the front of this section

DIMENSIONAL OUTLINE

shown under Type IP37 also applies to the 918

RADIO CORPORATION OF AMERICA
Electron Tube Division Harrison, N. J.
AVERAGE ANODE CHARACTERISTICS

LIGHT SOURCE IS A TUNGSTEN-FILAMENT LAMP OPERATED AT COLOR TEMPERATURE OF 2870°K.

ANODE MICROAMPERES

ANODE VOLTS

92CM-435IR3