GAS PHOTOTUBE
RED-INFRARED SENSITIVE

DATA

General:
Spectral Response.
Wavelength of Maximum Response.
Cathode:
Shape.
Minimum Projected Length.*
Minimum Projected Width.*
Center Length (from bottom edge of base)
Direct Interelectrode Capacitance.
Mounting Position.
Maximum Overall Length.
Maximum Seated Length.
Maximum Diameter.
Bulb.
Base.

BOTTOM VIEW

DIRECTION OF LIGHT

Pin 1 - No Connection
Pin 2 - No Connection
Pin 4 - Anode
Pin 6 - No Connection
Pin 8 - Cathode

Maximum Ratings, Absolute Values:
ANODE-SUPPLY VOLTAGE (DC or Peak AC)
CATHODE-CURRENT DENSITY.
AVERAGE CATHODE CURRENT°C
AMBIENT TEMPERATURE.

Characteristics:
Maximum Dark Current at 90 volts
Sensitivity:
At 8000 Angstroms.
Luminous:
At 0 Cycles.
At 5000 Cycles.
At 10000 Cycles.
Max. Gas Amplification Factor.

Minimum Circuit Values:
Minimum DC Load Resistance:
With anode-supply voltage of 75 volts or less:
For dc currents above 3.5 \( \mu \text{Amp} \):
For dc currents below 3.5 \( \mu \text{Amp} \):
With anode-supply voltage of 0 volts:
For dc currents above 2 \( \mu \text{Amp} \):
For dc currents below 2 \( \mu \text{Amp} \):

* on plane perpendicular to indicated direction of incident light.
° on the basis of the use of a sensitive cathode area 1/2" in diameter.

AUG. 15, 1946
OUTLINE DIMENSIONS
for the 930 are the same as those for the 929

Spectral Sensitivity Characteristic of Phototube having S-1 Response is shown at the beginning of this section

AVERAGE ANODE CHARACTERISTICS

ANODE MICROAMPERES

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

CE-4806R1
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 lengtha ................................ 13/16"
Minimum projected widtha ................................ 5/8"
Direct Interelectrode Capacitance (Approx.) ............ 2.4 μf
Maximum Overall Length .................................. 3-1/16"
Maximum Seated Length .................................. 2-1/2"
Seated Length to Center of Cathode ................. 1-5/8" ± 3/32"
Maximum Diameter .......................................... 1-9/32"
Operating Position ........................................... Any
Weight (Approx.) .............................................. 0.9 oz
Bulb .......................................................... T9
Socket .......................................................... Cinch No.8JM-1, or equivalent
Base .......................................................... Intermediate-Shell Octal 5-Pin
Arrangement 1, (JEDEC No.B5-10)

Basing Designation for BOTTOM VIEW ..................... 3J

Pin 1 – No Connection
Pin 2 – No Connection
Pin 4 – Anode
Pin 6 – No Connection
Pin 8 – Photocathode

Maximum Ratings, Absolute-Maximum Values:

<table>
<thead>
<tr>
<th></th>
<th>Rating I</th>
<th>Rating II</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANODE-SUPPLY VOLTAGE</td>
<td>(DC or Peak AC)</td>
<td>70 max.</td>
</tr>
<tr>
<td>AVERAGE CATHODE-CURRENT DENSITYb</td>
<td>60 max.</td>
<td>30 max.</td>
</tr>
<tr>
<td>AVERAGE CATHODE CURRENTb</td>
<td>6 max.</td>
<td>3 max.</td>
</tr>
<tr>
<td>AMBIENT TEMPERATURE</td>
<td>100 max.</td>
<td>100 max.</td>
</tr>
</tbody>
</table>

Characteristics:

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

Min. Median Max.

Sensitivity:
Radiant, at 8000 angstroms ........................................... 0.013 amp/watt

Indicates a change.
### Luminous:
- At 0 cps: 90, 135, 205 μA/lumen
- At 5000 cps: 111 μA/lumen
- At 10000 cps: 101 μA/lumen
- Gas Amplification Factor: 10
- Anode Dark Current at 25°C: 0.1 μA

### Minimum Circuit Values:
*With an anode-supply voltage of 70 or less* 90 volts

#### DC Load Resistance:
- For dc currents above 3 μA: 0.1 min.
- For dc currents below 3 μA: 0 min.
- For dc currents above 2 μA: 2.5 min.
- For dc currents below 2 μA: 1 min.

---

*On plane perpendicular to indicated direction of incident radiation.*

*Average over any interval of 30 seconds maximum.*

*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.*

*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 PHOTSENSITIVE 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 5581 also applies to the 930
AVERAGE ANODE CHARACTERISTICS

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