GAS PHOTOTUBE
VIOLET — GREEN SENSITIVE

Phototube Spectral Response

Cathode:
Shape: Semi-cylindrical
Width: 11/16"
Length: 1-5/8"
Minimum Projected Area: 0.9 sq.in.
Center Length (from bottom edge of base): 2-1/8" ± 3/32"

Direct Interelectrode Capacitance: 3 μf
Maximum Overall Length: 4-1/8"
Maximum Seated Height: 3-1/2"
Maximum Diameter: 1-3/16"
Bulb: T-8
Base: Tapered Small 4-Pin
Pin 1 — No Connection
Pin 2 — Anode (+)
Pin 3 — No Connection
Pin 4 — Cathode (-)
Any

BOTTOM VIEW (2K)

Maximum Ratings Are Absolute Values

MAXIMUM RATINGS and CHARACTERISTICS

Anode—Supply Voltage (D.C. or Peak A.C.) 100 max. volts
Cathode Current Density 100 max. μamp./sq.in.
Average Cathode Current 20 max. μamp.
Dark Current 0.1 max. μamp.
Ambient Temperature 100 max. °C

Characteristics:

Wavelength of Max. Response 4200 angstroms
Sensitivity at Max. Response 0.010 μamp./μwatt
Luminous Sensitivity:
At 0 cycles 40 μamp./lumen
At 5000 cycles 35 μamp./lumen
At 10000 cycles 31 μamp./lumen

Gas Amplification Factor: Not over 9

Minimum D—C Resistance of Load:

With anode-supply voltage of 75 volts or less
For d—c currents:
above 3.5 μamp. 0.1 megohm
below 3.5 μamp. No Minimum

With anode-supply voltage of 100 volts
For d—c currents:
above 2 μamp. 2.5 megohms
below 2 μamp. 0.1 megohm

* Subject to variations as explained on sheet PHOTOTUBE SENSITIVITY MEASUREMENTS in front of this section.

OUTLINE DIMENSIONS

for the IP29 are the same as those for the 868.

Spectral Sensitivity Characteristic of Phototube having S3 Response is shown at the beginning of this section.
Gas Phototube

SIDE-ON TYPE HAVING S-3 RESPONSE

DATA

General:
Spectral Response .................. S-3
Wavelength of Maximum Response ... 4200 ± 1000 angstroms

Cathode:
Shape .......................... Semicylindrical
Minimum projected lengtha ........ 1-1/4"
Minimum projected widtha .......... 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 ←
Dwaryf Shell Small 4-Pin (JEDEC No.A4-26) ←
Base .............................. Basing Designation for BOTTOM VIEW ................ 2K

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

DIRECTION OF LIGHT

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>80 max. 100 max. volts</td>
</tr>
<tr>
<td>AVERAGE CATHODE-CURRENT DENSITYb</td>
<td>50 max. 25 max. μa/sq. in.</td>
</tr>
<tr>
<td>AVERAGE CATHODE CURRENTb</td>
<td>10 max. 5 max. μa</td>
</tr>
<tr>
<td>AMBIENT TEMPERATURE</td>
<td>100 max. 100 max. °C</td>
</tr>
</tbody>
</table>

Characteristics:

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

Min. Median Max.

Sensitivity:
Radiant, at 4200 angstroms. ... − 0.011 − amp/watt
Luminous:c
At 0 cps. ......................... 20 40 70 μa/lumen
At 5000 cps ...................... − 35 − μa/lumen
At 10000 cps ...................... − 31 − μa/lumen
Gas Amplification Factord .... − − 9
Anode Dark Current at 25°C ...... − − 0.10 μa

← Indicates a change.
Minimum Circuit Values:

With an anode-supply voltage of 80 or less 100 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 light.
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 PHOTOSENSITIVE DEVICE HAVING S-3 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 IP29
AVERAGE ANODE CHARACTERISTICS

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