**5584**

**GAS PHOTOTUBE**

**BLUE SENSITIVE, TWIN TYPE**

**General:**
Spectral Response. .............. S-4
Wavelength of Maximum Response .... 4000 ± 500 Angstroms
Cathode (Each):
Shape. .................. Quarter-Cylindrical
Minimum Projected Length* .......... 1-3/16"
Minimum Projected Width* .......... 1/4"
Direct Interelectode Capacitances:
Cathode to Anode ............................. 1.6 .... μf
Cathode to Cathode .......................... 1.8 .... μf
Anode to Anode .............................. 0.44 .... μf
Maximum Overall Length .............. 4"
Maximum Seated Length .............. 3-3/8"
Seated Length to Center of Cathode .... 2-1/8" ± 3/32"
Maximum Diameter .................. 1-3/16"
Bulb .................................. T-9
Mounting Position .................. Any
Base ................................ Small-Shell Small 4-Pin
Basing Designation for BOTTOM VIEW ........ 4BG

**Maximum Ratings, Absolute Values (Each Unit):**
ANODE-SUPPLY VOLTAGE (DC or Peak AC) .... 100 max. ... volts
PEAK CATHODE CURRENT ............ 10 max. .... μamp
PEAK CATHODE-CURRENT DENSITY .... 50 max. μamp/sq.in.
AVERAGE CATHODE CURRENT° ........ 2 max. .... μamp
AMBIENT TEMPERATURE ............. 75 max. .... °C

**Characteristics (Each Unit):**

<table>
<thead>
<tr>
<th>Min.</th>
<th>Av.</th>
<th>Max.</th>
</tr>
</thead>
</table>
| Dark Current at 90 Volts .... | -- | -- | 0.050 .... μamp
| Sensitivity: At 4000 Angstroms .................. | -- | 0.11 | -- μamp/μwatt
| Luminous: At 0 Cycles .................. | 80 | 120 | 175 μamp/lumen
| At 5000 Cycles  .................. | -- | 110 | -- μamp/lumen
| At 10000 Cycles .................. | -- | 96 | -- μamp/lumen
| Gas Amplification Factor ........ | -- | -- | 5.5

**Minimum Circuit Values (Each Unit):**

DC Load Resistance:
With anode-supply voltage of 80 volts or less
For dc currents above 3 μamp ........ 0.1 .... megohm
below 3 μamp ........ No Minimum
°, *, , , , o: See next page.
With anode-supply voltage of 100 volts
For dc currents
\[
\begin{align*}
\text{above 1 µamp} & \ldots 2.5 & \ldots \ldots \text{megohms} \\
\text{below 1 µamp} & \ldots 0.1 & \ldots \ldots \text{megohms}
\end{align*}
\]

* On plane perpendicular to indicated direction of incident light.
* Each unit, with other unit grounded.
* Anodes grounded.
* Cathodes grounded.

Averaged over any interval of 30 seconds maximum. Average current may be doubled when anode-supply voltage is limited to 80 volts.

SPECTRAL-SENSITIVITY CHARACTERISTIC
and
FREQUENCY-RESPONSE CHARACTERISTIC
of Gas Phototube having S-4 Response
are shown at beginning of this Section

AVERAGE ANODE CHARACTERISTICS
of Type 5584 are the same
as those shown under Type 5582
Gas Phototube

SIDE-ON, TWIN-UNIT TYPE HAVING S-4 RESPONSE

DATA

General:
Spectral Response. .............................................. S-4
Wavelength of Maximum Response : 4000 ± 500 angstroms
Cathode (Each):
  Shape. ......................................................... Quarter-Cylindrical
  Minimum projected length a. ................................. 1-3/16"
  Minimum projected width a. ................................ 1/4"
Direct Interelectrode Capacitances (Approx.):
  Cathode to cathode b. ...................................... 1.8 μf
  Cathode to anode c. ........................................ 1.6 μf
  Anode to anode d. .......................................... 0.4 μf ←
Maximum Overall Length ........................................ 4"
Maximum Seated Length ......................................... 3-3/8"
Seated Length to Center of Cathode .......................... 2-1/8" ± 3/32""
Maximum Diameter ............................................... 1-3/16"
Operating Position ............................................. Any
Weight (Approx.) ................................................ 1.1 oz ←
Bulb ................................................................. T9
Socket ............................................................. Amphenol No.77-MIP-4-T, or equivalent ←
Base ............................................................... Small-Shell Small 4-Pin (JEDEC No.A4-5)
  Basing Designation for BOTTOM VIEW .................. 4BG

Pin 1 – Photocathode of Unit No.2
Pin 2 – Anode of Unit No.2
Pin 3 – Anode of Unit No.1
Pin 4 – Photocathode of Unit No.1

DIRECTION OF LIGHT

Maximum Ratings, Absolute-Maximum Values:

Values are for Each Unit

Rating I  Rating II

ANODE-SUPPLY VOLTAGE
  (DC or Peak AC) ............................................. 80 max.  100 max.  volts
AVERAGE CATHODE-CURRENT
  DENSITY* ..................................................... 20 max.  10 max.  μA/sq.in.
  AVERAGE CATHODE CURRENT* .............................. 4 max.  2 max.  μA
AMBIENT TEMPERATURE ........................................ 75 max.  75 max.  °C

← Indicates a change.
Characteristics:

Values are for each unit with an anode-supply voltage of 90 volts unless otherwise specified.

<table>
<thead>
<tr>
<th>Sensitivity:</th>
<th>Min.</th>
<th>Median</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiant, at 4000 angstroms</td>
<td>-</td>
<td>0.12</td>
<td>-</td>
</tr>
<tr>
<td>Luminous:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At 0 cps</td>
<td>80</td>
<td>120</td>
<td>175</td>
</tr>
<tr>
<td>At 5000 cps</td>
<td>-</td>
<td>110</td>
<td>-</td>
</tr>
<tr>
<td>At 10000 cps</td>
<td>-</td>
<td>96</td>
<td>-</td>
</tr>
<tr>
<td>Ratio of Luminous Sensitivities (Unit No.1 to Unit No.2)</td>
<td>0.5</td>
<td>1.15</td>
<td>2.0</td>
</tr>
<tr>
<td>Gas Amplification Factor</td>
<td>-</td>
<td>-</td>
<td>5.5</td>
</tr>
<tr>
<td>Anode Dark Current at 25°C</td>
<td>-</td>
<td>-</td>
<td>0.050</td>
</tr>
</tbody>
</table>

Minimum Circuit Values:

Values are for Each Unit

With an anode-supply voltage of 80 or less 100 volts

DC Load Resistance:

- For dc currents above 3 μa, 0.1 min. - megohm
- For dc currents below 3 μa, 0 min. - megohm
- For dc currents below 1 μa, 2.5 min. megohms
- For dc currents below 1 μa, 0.1 min. megohm

- on plane perpendicular to indicated direction of incident light.
- with anodes grounded.
- each unit, with other unit grounded.
- with cathodes grounded.
- Averaged 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 of 90 volts and a 1-megoohm load resistor are used. For the 0-cycle measurement, a light input of 0.04 lumen is used. For the 5000- and 10000-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 0.04 lumen, and the load resistor has a value of 1 megohm.

SPECTRAL-SENSITIVITY CHARACTERISTIC OF PHOTOSENSITIVE DEVICE HAVING S-4 RESPONSE

and

FREQUENCY-RESPONSE CHARACTERISTICS OF GAS PHOTOTUBES are shown at the front of this section

AVERAGE-ANODE-CHARACTERISTICS CURVE shown under Type 5582 also applies to each unit of the 5584

- indicates a change.