

## Gas Phototube

**SIDE-ON TYPE**

**S-1 RESPONSE**

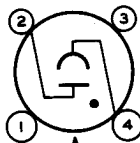
**For Industrial Applications Critical as  
to Microphonics and Sensitivity Gradient**

### DATA

**General:**

Spectral Response . . . . .	S-1
Wavelength of Maximum Response. . . . .	8000 ± 1000 angstroms
Cathode:	
Shape . . . . .	Semicylindrical
Minimum projected length <sup>a</sup> . . . . .	1-1/4"
Minimum projected width <sup>a</sup> . . . . .	5/8"
Direct Interelectrode Capacitance (Approx.) . . . . .	2.6 pf
Maximum Overall Length. . . . .	4-7/16"
Maximum Seated Length . . . . .	3-13/16"
Seated Length to Center of Cathode. . . . .	2-1/8" ± 3/32"
Maximum Diameter. . . . .	1-1/8"
Operating Position. . . . .	Any
Weight (Approx.) . . . . .	1.3 oz
Bulb. . . . .	T8
Socket. . . . .	Amphenol No. 77-MIP-4-T, or equivalent
Base. . . . .	Dwarf-Shell Small 4-Pin (JEDEC No. A4-26)
	Non-hygroscopic
Basing Designation for BOTTOM VIEW. . . . .	2K

Pin 1 - No Internal  
Connection  
Pin 2 - Anode



**DIRECTION OF RADIATION**

Pin 3 - No Internal  
Connection  
Pin 4 - Photocathode

**Maximum Ratings, Absolute-Maximum Values:**

	Rating I	Rating II	
ANODE SUPPLY VOLTAGE (DC or Peak AC) . . . . .	70 max.	90 max.	volts
AVERAGE CATHODE-CURRENT DENSITY <sup>b</sup> . . . . .	50 max.	25 max.	µa/sq. in.
AVERAGE CATHODE CURRENT <sup>b</sup> . . . . .	10 max.	5 max.	µa
AMBIENT TEMPERATURE . . . . .	100 max.	100 max.	°C

**Characteristics:**

*With an anode-supply voltage of 50  
volts unless otherwise specified*

*Min. Typical Max.*

Sensitivity:			
Radiant, at 8000 angstroms. . . . .	-	0.0033	- a/w ←

← Indicates a change.



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Min. Typical Max.

Luminous: <sup>c</sup>				
At 0 cps. . . . .	17.5	35	70	μa/lumen
At 5000 cps . . . . .	-	30	-	μa/lumen
At 10000 cps. . . . .	-	26	-	μa/lumen
Sensitivity Difference between highest value and lowest value along cathode length <sup>d</sup> .	-	-	1.1	μa/lumen
Gas amplification Factor <sup>e</sup> . . .	-	-	2.5	
Anode Dark Current at 25° C . .	-	-	0.1	μa

## Minimum Circuit Values:

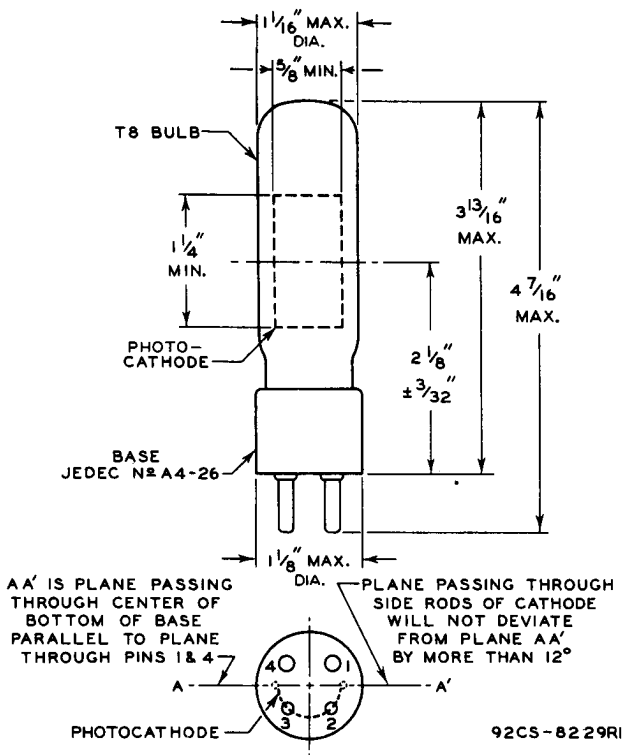
With an anode-supply voltage of	70 or less	90	volts
DC Load Resistance:			
For dc currents above 5 μa. . . . .	0.1 min.	-	megohm
For dc currents below 5 μa. . . . .	0 min.	-	megohm
For dc currents above 3 μa. . . . .	-	2.5 min.	megohms
For dc currents below 3 μa. . . . .	-	0.1 min.	megohm

- <sup>a</sup> On plane perpendicular to indicated direction of incident radiation.
- <sup>b</sup> Averaged over any interval of 30 seconds maximum.
- <sup>c</sup> For conditions where the light source is a tungsten-filament lamp operated at a color temperature of 2870° K. A dc anode supply of 50 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 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.
- <sup>d</sup> Measured under the same conditions as indicated under "c" with light input of 0.1 lumen and a rectangular light spot having a width of 0.315 inch and a length sufficient to cover the length of the cathode.
- <sup>e</sup> The ratio of luminous sensitivity at an anode-supply voltage of 50 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**



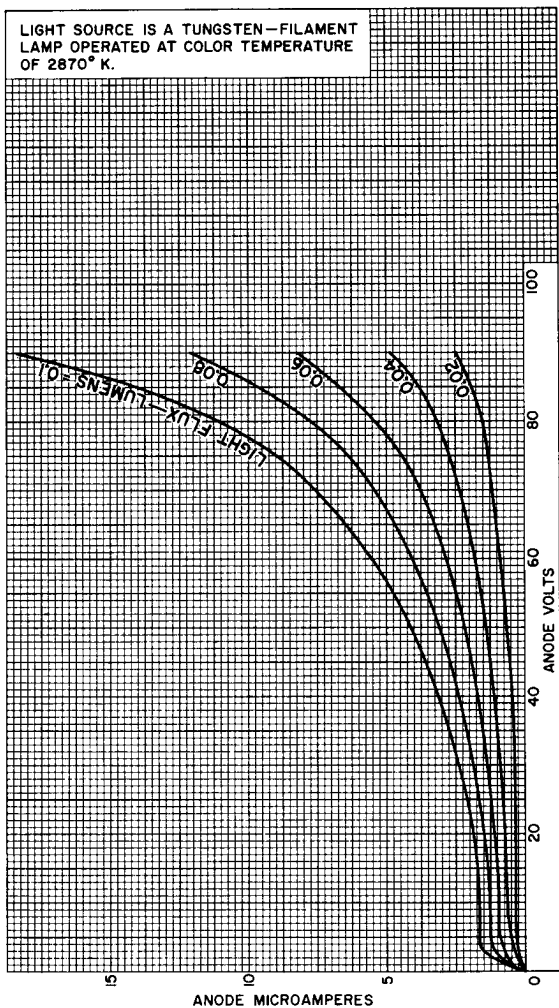
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## AVERAGE ANODE CHARACTERISTICS

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



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Electron Tube Division

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