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GAS PHOTOTUBE

BLUE-SENSITIVE

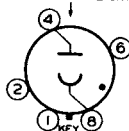
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DATA

General:

Spectral Response.	S-4
Wavelength of Maximum Response	4000 $\pm$ 500 Angstroms
Cathode:	
Shape.	Semi-Cylindrical
Minimum Projected Length*.	13/16"
Minimum Projected Width*.	5/8"
Direct Interelectrode Capacitance.	2.6 μ f
Maximum Overall Length	3-1/16"
Maximum Seated Length.	2-1/2"
Seated Length to Center of Cathode	1-5/8" $\pm$ 3/32"
Maximum Diameter	1-5/16"
Bulb	T-9
Mounting Position	Any
Base	Intermediate-Shell Octal 5-Pin

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)	100 max.	..	volts
PEAK CATHODE CURRENT	10 max.	..	μ amp
PEAK CATHODE-CURRENT DENSITY	100 max.	μ amp/sq.in.	
AVERAGE CATHODE CURRENT ^o	3 max.	..	μ amp
AMBIENT TEMPERATURE.	75 max.	..	$^{\circ}$ C

Characteristics:

	<u>Nin.</u>	<u>Au.</u>	<u>Max.</u>	
Dark Current at 90 Volts	—	—	0.050	.. μ amp
Sensitivity:				
At 4000 Angstroms.	—	0.125	—	μ amp/ μ watt
Luminous:				
At 0 Cycles.	75	135	205	μ amp/lumen
At 5000 Cycles	—	124	—	μ amp/lumen
At 10000 Cycles.	—	108	—	μ amp/lumen
Gas Amplification Factor	—	—	5.5	

Minimum Circuit Values:

DC Load Resistance:

With anode-supply voltage of 80 volts or less

For dc currents {	above 3 μ amp	0.1	megohm
	below 3 μ amp	No Minimum	

With anode-supply voltage of 100 volts

For dc currents {	above 1 μ amp	2.5	megohms
	below 1 μ amp	0.1	megohm

* , ^o : See next page.

APRIL 15, 1947

TUBE DEPARTMENT

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

TENTATIVE DATA

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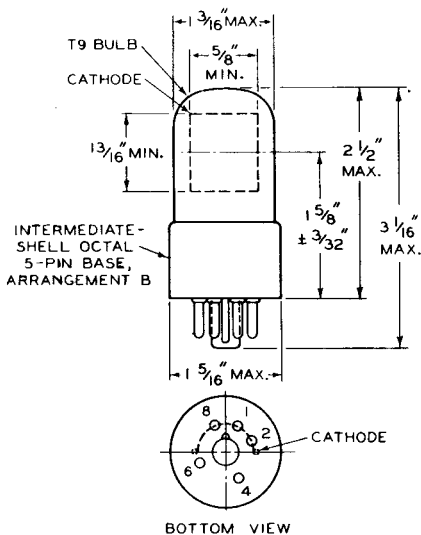


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GAS PHOTOTUBE

- * On plane perpendicular to indicated direction of incident light.
 O 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



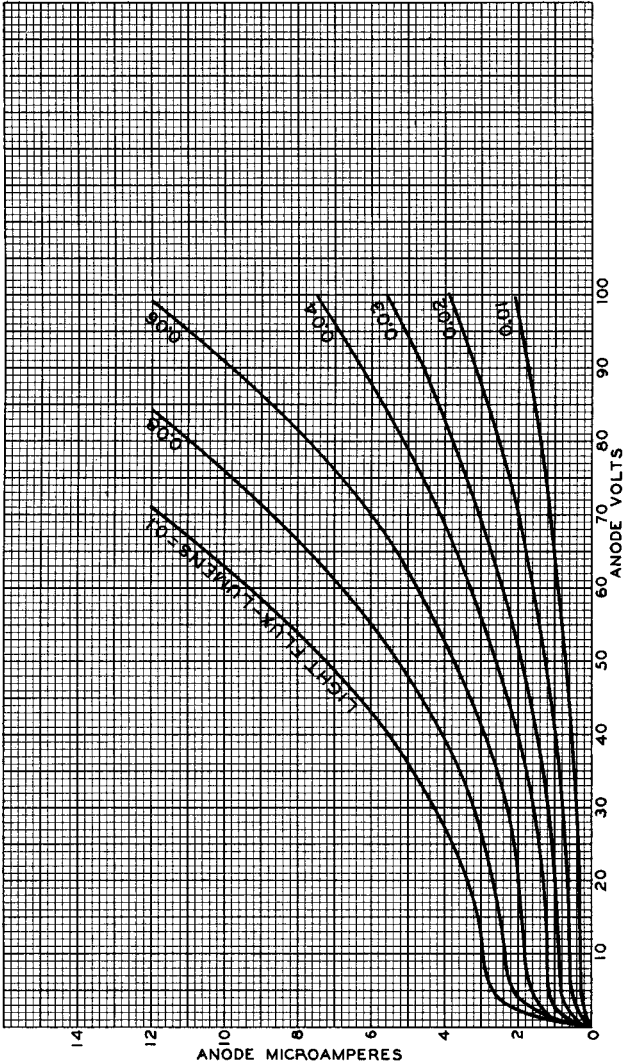
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5581

AVERAGE ANODE CHARACTERISTICS



Gas Phototube

SIDE-ON TYPE HAVING S-4 RESPONSE

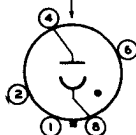
DATA

General:

Spectral Response.	S-4
Wavelength of Maximum Response	4000 $\pm$ 500 angstroms
Cathode:	
Shape.	Semicylindrical
Minimum projected length ^a	13/16"
Minimum projected width ^a	5/8"
Direct Interelectrode Capacitance(Approx.)	2.6 μ f
Maximum Overall Length	3-1/16"
Maximum Seated Length.	2-1/2"
Seated Length to Center of Cathode	1-5/8" $\pm$ 3/32"
Maximum Diameter	1-9/32" $\leftarrow$
Operating Position	Any
Weight (Approx.)	0.9 oz $\leftarrow$
Bulb	T9
Socket	Cinch No. 8JM-1, or equivalent $\leftarrow$
Base	Intermediate-Shell Octal 5-Pin Arrangement 1, $\leftarrow$ (JEDEC No. B5-10)
Basing Designation for BOTTOM VIEW	3J $\leftarrow$

DIRECTION OF LIGHT

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



Pin 6—No Connection
Pin 8—Photocathode

Maximum Ratings, Absolute-Maximum Values:

	Rating 1	Rating 11	
ANODE-SUPPLY VOLTAGE (DC or Peak AC).	80 max.	100 max.	volts
AVERAGE CATHODE-CURRENT DENSITY ^b	60 max.	30 max.	μ a/sq. in.
AVERAGE CATHODE CURRENT ^b	6 max.	3 max.	μ a
AMBIENT TEMPERATURE.	75 max.	75 max.	$^{\circ}$ C

Characteristics:

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

	Min.	Median	Max.	
Sensitivity:				
Radiant, at 4000 angstroms.	—	0.13	—	amp/watt
Luminous: ^c				
At 0 cps	75	135	205	μ a/lumen
At 5000 cps.	—	124	—	μ a/lumen
At 10000 cps	—	108	—	μ a/lumen

 $\leftarrow$ Indicates a change

	Min.	Median	Max.	
Gas Amplification Factor ^d . . .	—	—	5.5	
Anode Dark Current	—	—	0.05	μ a

Minimum Circuit Values:

With an anode-supply voltage of	80 or less	100	volts
DC Load Resistance:			
For dc currents above			
3 μ a	0.1 min.	—	megohm
For dc currents below			
3 μ a	0 min.	—	megohms
For dc currents above			
1 μ a	—	2.5 min.	megohms
For dc currents below			
1 μ a	—	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.

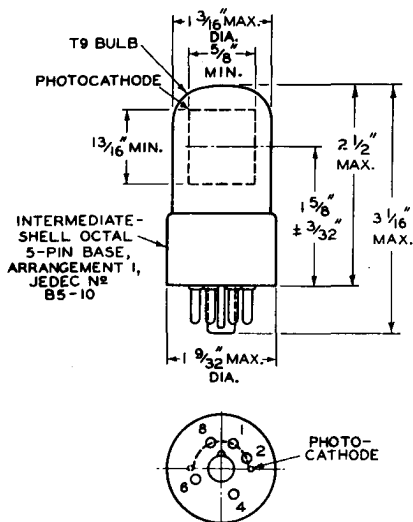
**SPECTRAL-SENSITIVITY CHARACTERISTIC
OF PHOTOSENSITIVE DEVICE HAVING S-4 RESPONSE**

and

**FREQUENCY-RESPONSE CHARACTERISTICS
OF GAS PHOTOTUBES**

are shown at the front of this section





92CM-6137R3



