



5584

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GAS PHOTOTUBE

BLUE SENSITIVE, TWIN TYPE

General:

DATA

Spectral Response	S-4
Wavelength of Maximum Response	4000 $\pm$ 500 Angstroms
Cathode (Each):	
Shape	Quarter-Cylindrical
Minimum Projected Length*	1-3/16"
Minimum Projected Width*	1/4"
Direct Interelectrode Capacitances:	
Cathode to Anode $\blacklozenge$	1.6 . . μf
Cathode to Cathode $\blacksquare$	1.8 . . μf
Anode to Anode $\bullet$	0.44 . . μf
Maximum Overall Length	4"
Maximum Seated Length	3-3/8"
Seated Length to Center of Cathode	2-1/8" $\pm$ 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

Pin 1 - Cathode,
Unit No.2

Pin 2 - Anode,
Unit No.2



DIRECTION OF LIGHT

Pin 3 - Anode,
Unit No.1

Pin 4 - Cathode,
Unit No.1

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.	$\mu\text{amp/sq.in.}$
AVERAGE CATHODE CURRENT ^o	2 max.	. . . μamp
AMBIENT TEMPERATURE	75 max.	. . . $^{\circ}\text{C}$

Characteristics (Each Unit):

	<u>Min.</u>	<u>Av.</u>	<u>Max.</u>	
Dark Current at 90 Volts . .	-	-	0.050	. . . μamp
Sensitivity:				
At 4000 Angstroms.	-	0.11	-	$\mu\text{amp}/\mu\text{watt}$
Luminous:				
At 0 Cycles.	80	120	175	$\mu\text{amp}/\text{lumen}$
At 5000 Cycles	-	110	-	$\mu\text{amp}/\text{lumen}$
At 10000 Cycles.	-	96	-	$\mu\text{amp}/\text{lumen}$
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

* , $\blacklozenge$, $\blacksquare$, $\bullet$, ^o: See next page.

APRIL 15, 1947

TUBE DEPARTMENT

TENTATIVE DATA

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

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GAS PHOTOTUBE

With anode-supply voltage of 100 volts

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

* On plane perpendicular to indicated direction of incident light.

◆ Each unit, with other unit grounded.

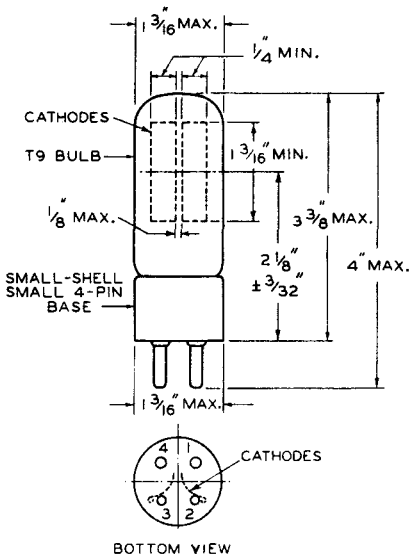
■ Anodes grounded.

● 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



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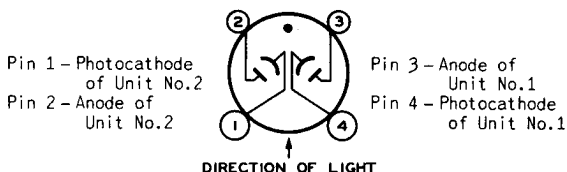
Gas Phototube

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

DATA

General:

Spectral Response.	S-4
Wavelength of Maximum Response	4000 $\pm$ 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 μ f
Cathode to anode ^c	1.6 μ f
Anode to anode ^d	0.4 μ f $\leftarrow$
Maximum Overall Length	4"
Maximum Seated Length.	3-3/8"
Seated Length to Center of Cathode	2-1/8" $\pm$ 3/32"
Maximum Diameter	1-3/16"
Operating Position	Any
Weight (Approx.)	1.1 oz $\leftarrow$
Bulb	T9
Socket	Amphenol No.77-MIP-4-T, or equivalent $\leftarrow$
Base	Small-Shell Small 4-Pin (JEDEC No.A4-5)
Basing Designation for BOTTOM VIEW	.4BG



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 ^a	20 max.	10 max.	μ a/sq.in.
AVERAGE CATHODE CURRENT ^a	4 max.	2 max.	μ a
AMBIENT TEMPERATURE.	75 max.	75 max.	$^{\circ}$ C

 $\leftarrow$ Indicates a change.

► Characteristics:

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

	Min.	Median	Max.	
Sensitivity:				
Radiant, at 4000 angstroms. . .	-	0.12	-	amp/watt
Luminous: ^f				
At 0 cps.	80	120	175	μ a/lumen
At 5000 cps.	-	110	-	μ a/lumen
At 10000 cps.	-	96	-	μ a/lumen
Ratio of Luminous Sensitivities (Unit No.1 to Unit No.2). . .	0.5	1.15	2.0	
Gas Amplification Factor ^g . . .	-	-	5.5	
Anode Dark Current at 25° C . .	-	-	0.050	μ a

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 μ a. .	0.1 min.	-	megohm
For dc currents below 3 μ a. .	0 min.	-	megohm
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 With anodes grounded.

^c Each unit, with other unit grounded.

^d With cathodes grounded.

^e Averaged over any interval of 30 seconds maximum.

^f 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-megohm 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.

^g 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 PHOTSENSITIVE DEVICE HAVING S-4 RESPONSE

and

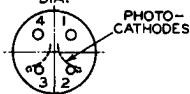
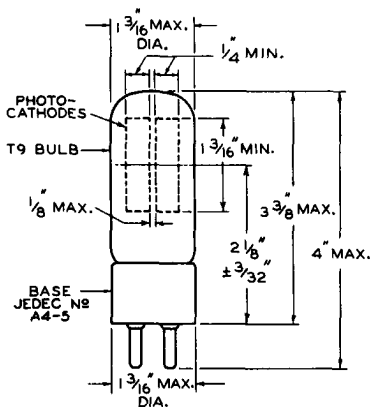
FREQUENCY-RESPONSE CHARACTERISTICS OF GAS PHOTOTUBES

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.



92CM-4561R4

