



IP41

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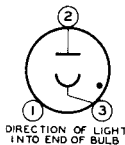
GAS PHOTOTUBE

END TYPE WITH S-1 RESPONSE

DATA

General:

Spectral Response	S-1
Wavelength of Maximum Response.	8000 $\pm$ 1000 angstroms
Cathode:	
Shape	Circular
Minimum Diameter.	9/16"
Direct Interelectrode Capacitance	1.8 μ if
Maximum Overall Length.	2-1/16"
Maximum Seated Length	1-19/32"
Maximum Diameter.	13/16"
Bulb.	T-6
Mounting Position	Any
Base.	Small-Shell Peewee 3-Pin
Basing Designation for BOTTOM VIEW	2F2

Pin 1—No
ConnectionPin 2—Anode
Pin 3—Cathode

Maximum Ratings, Absolute Values:

ANODE-SUPPLY VOLTAGE (DC or Peak AC)	90 max.	volts
PEAK CATHODE CURRENT.	5 max.	μ amp
PEAK CATHODE-CURRENT DENSITY.	75 max.	μ amp/sq. in.
AVERAGE CATHODE CURRENT ^o	1.5 max.	μ amp
AMBIENT TEMPERATURE	100 max.	$^{\circ}$ C

Characteristics:

	<u>Min.</u>	<u>Av.</u>	<u>Max.</u>	
DC Dark Current at 90 Volts:	—	—	0.1	μ amp
Sensitivity:				
At 8000 angstroms	—	0.009	—	μ amp/ μ watt
Luminous: [▲]				
At 0 cps.	50	90	145	μ amp/lumen
At 5000 cps.	—	77	—	μ amp/lumen
At 10000 cps.	—	67	—	μ amp/lumen
Gas Amplification Factor.	—	—	8.5	

^o Averaged over any interval of 30 seconds maximum. Average current may be doubled when anode-supply voltage is limited to 70 volts.

[▲] Measured with .06 lumen.

← Indicates a change.

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GAS PHOTOTUBE

Minimum Circuit Values:

DC Load Resistance:

With anode-supply voltage of 70 volts or less:

For dc currents { above $1.5 \mu\text{amp}$. . . 0.1 . . . megohm
 below $1.5 \mu\text{amp}$. . . No Minimum

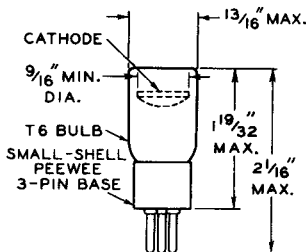
With anode-supply voltage of 90 volts:

For dc currents { above $1.0 \mu\text{amp}$. . . 2.5 . . . megohms
 below $1.0 \mu\text{amp}$. . . 0.1 . . . megohm

SPECTRAL-SENSITIVITY CHARACTERISTIC
 of Phototube having S-1 Response
 and

FREQUENCY-RESPONSE CHARACTERISTICS
 of Gas Phototubes

are shown at the front of this Section



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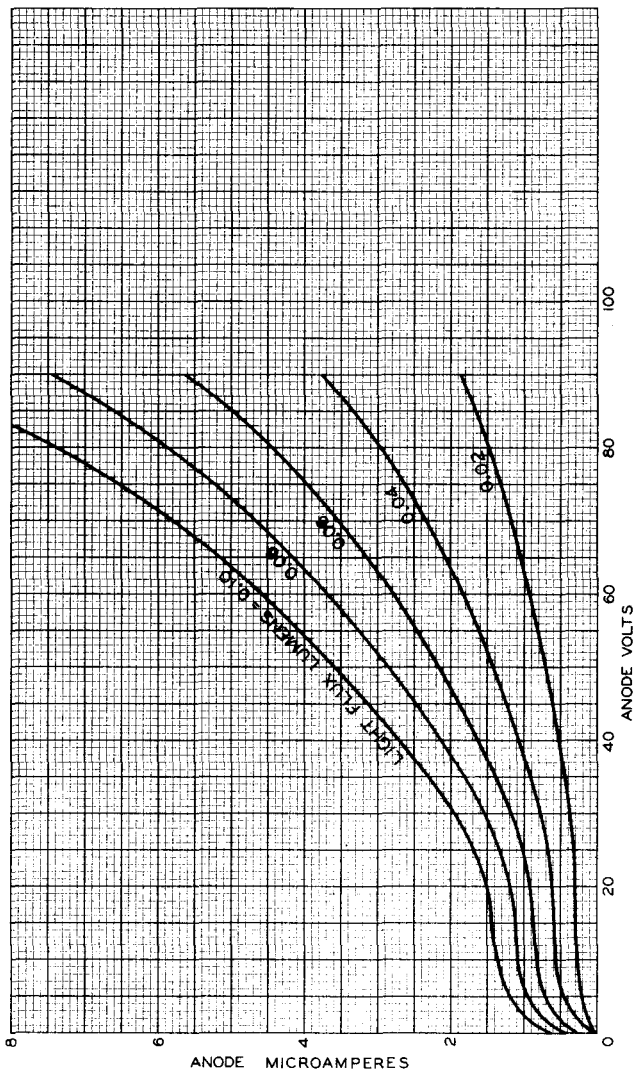
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AVERAGE ANODE CHARACTERISTICS



MAR. 18, 1946

TUBE DIVISION

92CM-6691

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY



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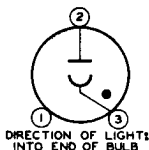
GAS PHOTOTUBE

HEAD-ON TYPE WITH S-1 RESPONSE

DATA**General:**

Spectral Response	S-1
Wavelength of Maximum Response	8000 $\pm$ 1000 angstroms
Cathode:	
Shape	Circular
Minimum diameter	9/16"
Direct Interelectrode Capacitance	1.8 μ f
Maximum Overall Length	2-1/16"
Maximum Seated Length	1-19/32"
Axial Distance from Bulb Top to Plane through	
Periphery of Cathode Area	5/16" $\pm$ 3/32" ←
Maximum Diameter	13/16"
Mounting Position	Any
Weight (Approx.)	0.3 oz ←
Bulb	T6
Base	Small-Shell Peewee 3-Pin (JETEC No. A3-1) ←
Basing Designation for BOTTOM VIEW	2AR ←

Pin 1—No Connection

Pin 2—Anode
Pin 3—Cathode**Maximum Ratings, Absolute Values:**

	Rating I	Rating II	
ANODE-SUPPLY VOLTAGE			
(DC or Peak AC)	70 max.	90 max.	volts
AVERAGE CATHODE-			
CURRENT DENSITY ^o	40 max.	20 max.	μ amp/sq.in. ←
AVERAGE CATHODE			
CURRENT ^o	3 max.	1.5 max.	μ amp
AMBIENT TEMPERATURE	100 max.	100 max.	$^{\circ}$ C

Characteristics, With 90 Volts on Anode:

	Min.	Median	Max.	
Sensitivity:				
Radiant, at				
8000 angstroms	-	0.008	-	μ amp/ μ watt ←
Luminous:				
At 0 cps	50	90	145	μ amp/lumen
At 5000 cps	-	77	-	μ amp/lumen
At 10000 cps	-	67	-	μ amp/lumen
Gas Amplification Factor	-	-	8.5	
Anode Dark Current				
at 25 $^{\circ}$ C	-	-	0.1	μ amp ←

^o, ₁: See next page.

← Indicates a change.



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GAS PHOTOTUBE

Minimum Circuit Values:

With anode-supply voltage of 70 or less 90 volts

DC Load Resistance:

For dc currents above

1.5 μ amp. 0.1 min. - megohm

For dc currents below

1.5 μ amp. 0 min. - megohm

For dc currents above

1 μ amp. - 2.5 min. megohms

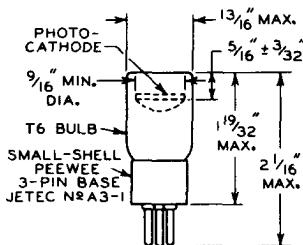
For dc currents below

1 μ amp. - 0.1 min. megohm

○ 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-megohm load resistor are used. For the 0-cycle measurements, a light input of 0.06 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.

SPECTRAL-SENSITIVITY CHARACTERISTIC
of Phototube having S-1 Response
and
FREQUENCY-RESPONSE CHARACTERISTICS
of Gas Phototubes
are shown at the front of this Section



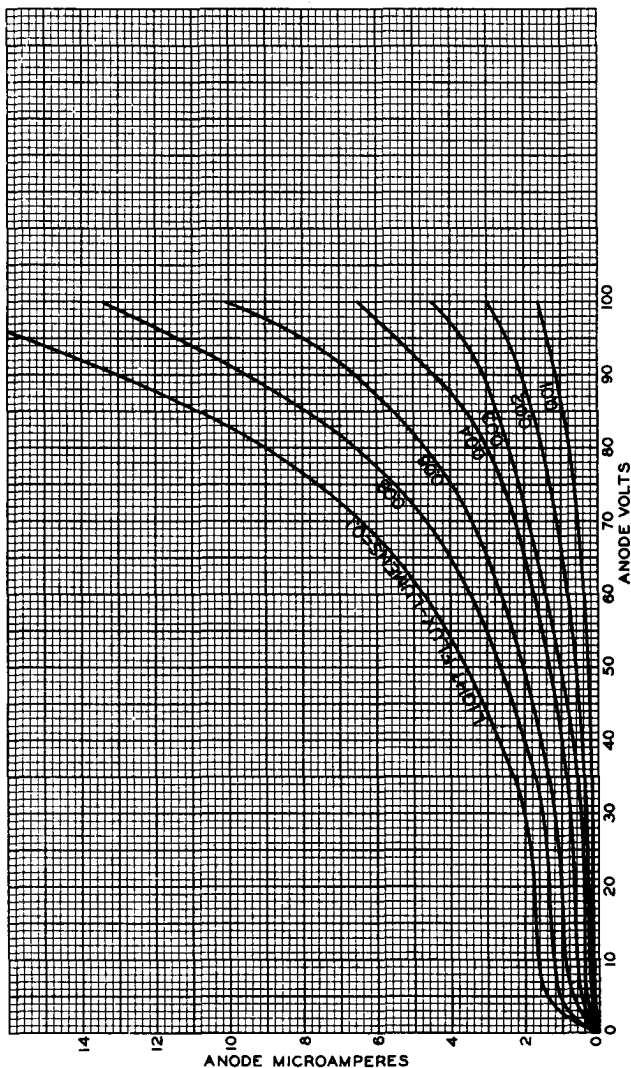
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AVERAGE ANODE CHARACTERISTICS



DEC. 13, 1946

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-521R3