



IP29

IP29

GAS PHOTOTUBE

VIOLET — GREEN SENSITIVE

Phototube Spectral Response	S3
Cathode:	
Shape	Semi-cylindrical
Width	11/16"
Length	1-5/8"
Minimum Projected Area	0.9 sq.in.
Center Length (from bottom edge of base)	2-1/8" $\pm$ 3/32"
Direct Interelectrode Capacitance	3 μ f
Maximum Overall Length	4-1/8"
Maximum Seated Height	3-1/2"
Maximum Diameter	1-3/16"
Bulb	T-8
Base	Tapered Small 4-Pin
Pin 1—No Connection	Pin 3—No Connection
Pin 2—Anode (+)	Pin 4—Cathode (-)
Mounting Position	Any



BOTTOM VIEW (2K)

*Maximum Ratings Are Absolute Values***MAXIMUM RATINGS and CHARACTERISTICS**

Anode-Supply Voltage (D.C. or Peak A.C.)	100 max. volts
Cathode Current Density	100 max. μ amp./sq.in.
Average Cathode Current	20 max. μ amp.
Dark Current	0.1 max. μ amp.
Ambient Temperature	100 max. °C

Characteristics:

Wavelength of Max. Response	4200	angstroms
Sensitivity at Max. Response	0.010	μ amp./ μ watt
Luminous Sensitivity:*		
At 0 cycles	40	μ amp./lumen
At 5000 cycles	35	μ amp./lumen
At 10000 cycles	31	μ amp./lumen

Gas Amplification Factor Not over 9

Minimum D-C Resistance of Load:

With anode-supply voltage of 75 volts or less

For d-c currents	above 3.5 μ amp.	0.1	megohm
	below 3.5 μ amp.	No Minimum	

With anode-supply voltage of 100 volts

For d-c currents	above 2 μ amp.	2.5	megohms
	below 2 μ amp.	0.1	megohm

* Subject to variations as explained on sheet PHOTOTUBE SENSITIVITY MEASUREMENTS in front of this section.

OUTLINE DIMENSIONS

for the IP29 are the same as those for the 868.

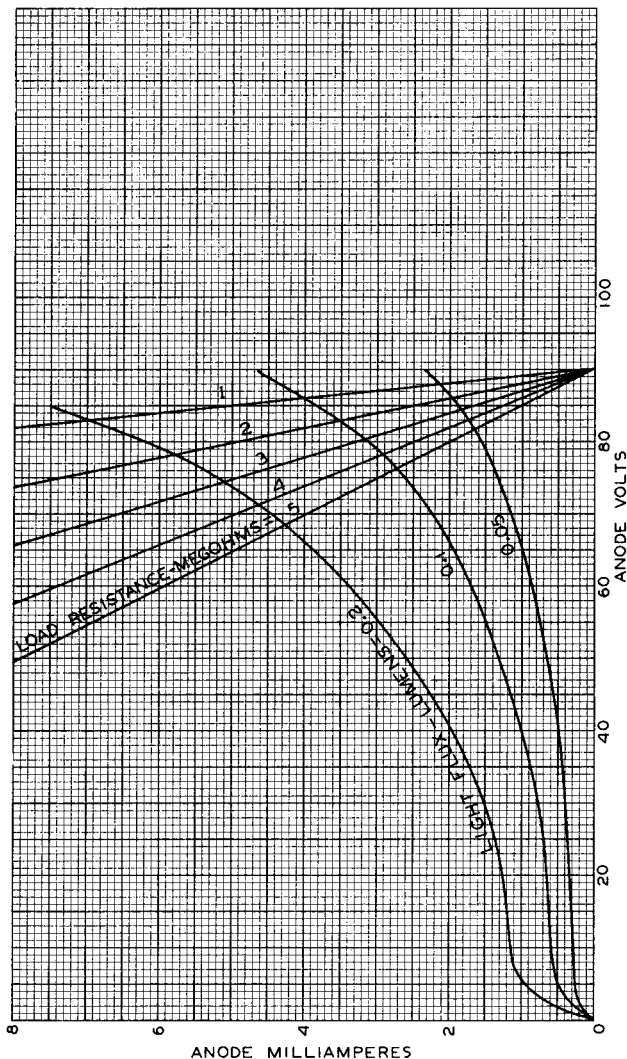
Spectral Sensitivity Characteristic of Phototube having S3 Response is shown at the beginning of this section.

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AVERAGE ANODE CHARACTERISTICS



AUG. 2, 1944

RCA VICTOR DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-6472

Gas Phototube

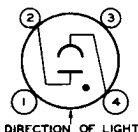
SIDE-ON TYPE HAVING S-3 RESPONSE

DATA

General:

Spectral Response	S-3
Wavelength of Maximum Response.	4200 $\pm$ 1000 angstroms
Cathode:	
Shape	Semicylindrical
Minimum projected length ^a	1-1/4"
Minimum projected width ^a	5/8"
Direct Interelectrode Capacitance (Approx.)	3 μ f
Maximum Overall Length.	4-1/8"
Maximum Seated Length	3-1/2"
Seated Length to Center of Cathode.	2-1/8" $\pm$ 3/32"
Maximum Diameter.	1-1/8"
Operating Position.	Any
Weight (Approx.)	1.1 oz
Bulb.	T8
Socket.	Amphenol No. 77-MIP-4-T, or equivalent
Base.	Dwarf-Shell Small 4-Pin (JEDEC No. A4-26)
Basing Designation for BOTTOM VIEW.	2K

Pin 1 - No Connection
Pin 2 - Anode



Pin 3 - No Connection
Pin 4 - Photocathode

Maximum Ratings, Absolute-Maximum Values:

	Rating I	Rating II	
ANODE-SUPPLY VOLTAGE (DC or Peak AC)	80 max.	100 max.	volts
AVERAGE CATHODE-CURRENT DENSITY ^b	50 max.	25 max.	μ a/sq. in.
AVERAGE CATHODE CURRENT ^b	10 max.	5 max.	μ a
AMBIENT TEMPERATURE	100 max.	100 max.	$^{\circ}$ C

Characteristics:

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

	Min.	Median	Max.	
Sensitivity:				
Radiant, at 4200 angstroms.	-	0.011	-	amp/watt
Luminous: ^c				
At 0 cps.	20	40	70	μ a/lumen
At 5000 cps	-	35	-	μ a/lumen
At 10000 cps.	-	31	-	μ a/lumen
Gas Amplification Factor ^d	-	-	9	
Anode Dark Current at 25 $^{\circ}$ C	-	-	0.10	μ a

— Indicates a change.



1P29

Minimum Circuit Values:

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

DC Load Resistance:

For dc currents above 5 μ a. . .	0.1 min.	—	megohm
For dc currents below 5 μ a. . .	0 min.	—	megohms
For dc currents above 3 μ a. . .	—	2.5 min.	megohms
For dc currents below 3 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-3 RESPONSE

and

FREQUENCY-RESPONSE CHARACTERISTICS OF GAS PHOTOTUBES

are shown at the front of this section

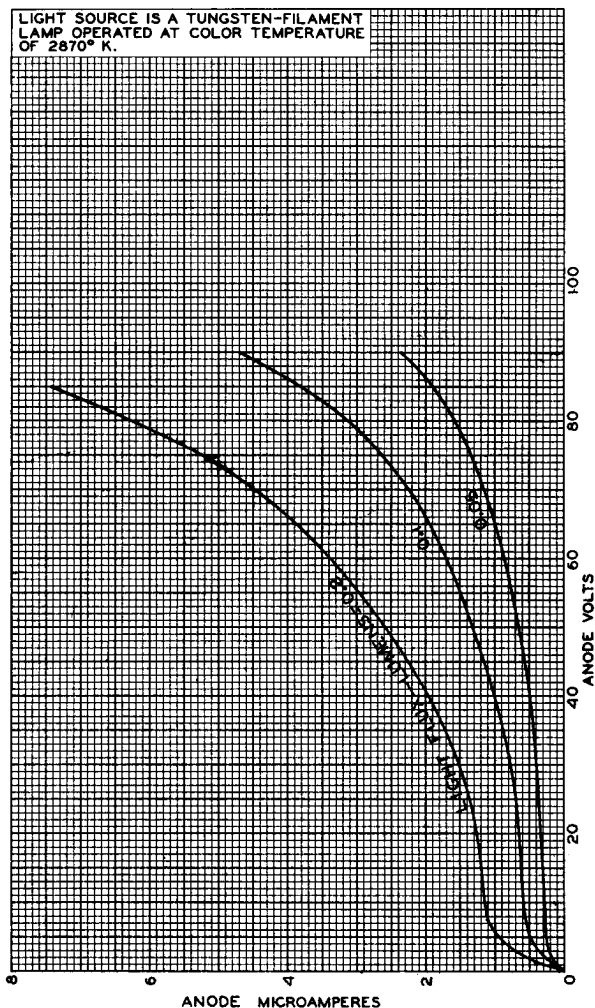
DIMENSIONAL OUTLINE

shown under Type 1P37 also applies to the 1P29



AVERAGE ANODE CHARACTERISTICS

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



92CM-6472R2



RADIO CORPORATION OF AMERICA
Electron Tube Division
Harrison, N. J.

DATA 2
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