



5583

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GAS PHOTOTUBE

WITH S-4 RESPONSE

DATA

General:

Spectral Response	S-4
Wavelength of Maximum Response	4000 ± 500 angstroms
Cathode:	
Shape	Semi-Cylindrical
Minimum Projected Length*	11/16"
Minimum Projected Width*	7/16"
Direct Interelectrode Capacitance	2.0 μf
Maximum Overall Length	2-13/32" ←
Maximum Seated Length	1-15/16" ←
Seated Length to Center of Cathode	1-1/4" ± 3/32"
Maximum Diameter	0.669" ←
Bulb	T-5-1/4" ←
Mounting Position	Any
Base	Small-Shell Peewee 3-Pin
Basing Designation for BOTTOM VIEW	2F

DIRECTION OF LIGHT

Pin 1 - No Connection



Pin 2 - Anode
Pin 3 - Cathode

Maximum Ratings, Absolute Values:

ANODE-SUPPLY VOLTAGE (DC or Peak AC)	100 max.	.. volts
PEAK CATHODE CURRENT	10 max.	.. μamp
PEAK CATHODE-CURRENT DENSITY	100 max.	μamp/sq.in.
AVERAGE CATHODE CURRENT ^o	2 max.	.. μamp
AMBIENT TEMPERATURE	75 max.	.. °C

Characteristics:

	Min.	Av.	Max.	
Dark Current at 90 Volts	-	-	0.050	.. μamp
Sensitivity:				
At 4000 angstroms	-	0.125	-	μamp/μwatt
Luminous:▲				
At 0 cps	75	135	205	μamp/lumen
At 5000 cps	-	124	-	μamp/lumen
At 10000 cps	-	108	-	μamp/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 μamp 0.1 megohm
	below 3 μamp No Minimum
With anode-supply voltage of 100 volts	
For dc currents {	above 1 μamp 2.5 megohms
	below 1 μamp 0.1 megohm

* , ° , ▲: see next page.

← Indicates a change.

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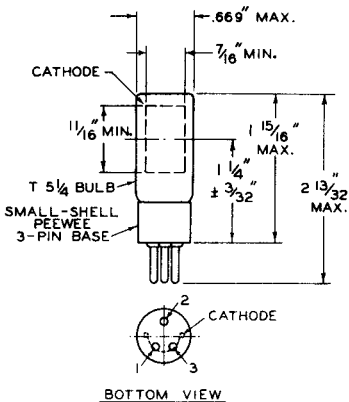
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GAS PHOTOTUBE

- * On plane perpendicular to indicated direction of incident light.
- Averaged over any interval of 30 seconds maximum. Average current may be doubled when anode-supply voltage is limited to 80 volts.
- ▲ Measured under conditions specified on sheet "PHOTOTUBE SENSITIVITY AND SENSITIVITY MEASUREMENTS" at front of this Section.

SPECTRAL-SENSITIVITY CHARACTERISTIC
and
FREQUENCY-RESPONSE CHARACTERISTIC
of Gas Phototube having S-4 Response
are shown at front of this Section

AVERAGE ANODE CHARACTERISTICS
of Type 5583 are the same
as those shown under Type 5581



92CM-6053R4

→ Indicates a change.

MAY 1, 1951

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

CE-6053R4

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	11/16"
Minimum projected width ^a	7/16"
Direct Interelectrode Capacitance (Approx.).	2 μ f
Maximum Overall Length	2-13/32"
Maximum Seated Length.	1-15/16"
Seated Length to Center of Cathode	1-1/4" \pm 3/32"
Maximum Diameter	0.669"
Operating PositionAny
Weight (Approx.)	0.3 oz \leftarrow
Bulb	T5-1/4
Socket	Amphenol No.78S3S-T, or equivalent \leftarrow
Base	Small-Shell Peewee 3-Pin (JEDEC No.A3-1) \leftarrow
Basing Designation for BOTTOM VIEW	2F

DIRECTION OF LIGHT



Pin 1 - No Connection

Pin 3 - Photocathode

Pin 2 - Anode

Maximum Ratings, Absolute-Maximum Values: \leftarrow

	Rating I	Rating II	
ANODE-SUPPLY VOLTAGE (DC or Peak AC).	80 max.	100 max.	volts
AVERAGE CATHODE-CURRENT DENSITY ^b	40 max.	20 max.	μ a/sq. in.
AVERAGE CATHODE CURRENT ^b	4 max.	2 max.	μ a
AMBIENT TEMPERATURE.	75 max.	75 max.	$^{\circ}$ C

Characteristics: \leftarrow

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.

	<i>Min.</i>	<i>Median</i>	<i>Max.</i>	
Gas Amplification Factor ^d . . .	-	-	5.5	
Anode Dark Current at 25° C. . .	-	-	0.05	μ a

Minimum Circuit Values:

<i>With an anode-supply voltage of</i>	<i>80 or less</i>	<i>100</i>	<i>volts</i>
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

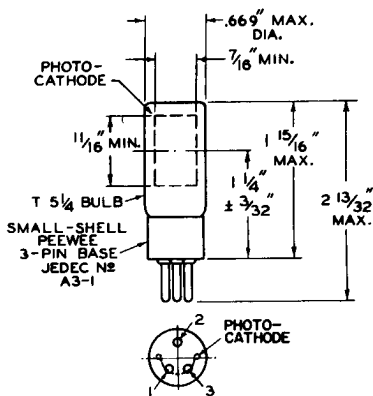
- ^a On plane perpendicular to indicated direction of incident light.
- ^b Averaged over any interval of 30 seconds maximum.
- ^c For conditions where the light source is a tungsten-filament lamp operated at a color temperature of 2870° K. A dc anode supply voltage of 90 volts and a 1-megohm load resistor 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 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 5581 also applies to the 5583**





92CM-6053R5

