



5583

5583

GAS PHOTOTUBE

WITH S-4 RESPONSE

DATA

General:

Spectral Response.	S-4
Wavelength of Maximum Response	4000 $\pm$ 500 angstroms
Cathode:	
Shape.	Semi-Cylindrical
Minimum Projected Length*.	11/16"
Minimum Projected Width*.	7/16"
Direct Interelectrode Capacitance.	2.0 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" ←
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
ConnectionPin 2 - Anode
Pin 3 - 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	2 max.	.. μ amp
AMBIENT TEMPERATURE.	75 max.	.. $^{\circ}$ C

Characteristics:

	Min.	Av.	Max.	
Dark Current at 90 Volts . .	-	-	0.050	.. μ amp
Sensitivity:				
At 4000 angstroms.	-	0.125	-	μ amp/ μ watt
Luminous:▲				
At 0 cps	75	135	205	μ amp/lumen
At 5000 cps.	-	124	-	μ amp/lumen
At 10000 cps	-	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.

← Indicates a change.

MAY 1, 1951

TUBE DEPARTMENT

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

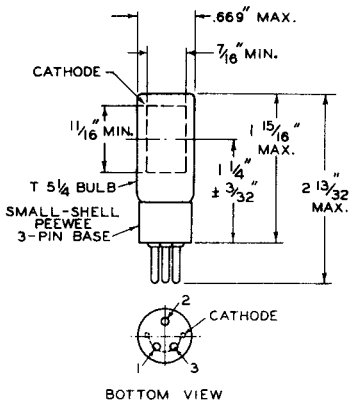
DATA

5583
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

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 Position	Any
Weight (Approx.)	0.3 oz
Bulb	T5-1/4
Socket	Amphenol No.78S3S-T, or equivalent
Base	Small-Shell Peewee 3-Pin (JEDEC No.A3-1)
Basing Designation for BOTTOM VIEW	2F

DIRECTION OF LIGHT

Pin 1 - No Connection

Pin 2 - Anode



Pin 3 - 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	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:

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

← 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:

*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 PHOTSENSITIVE DEVICE HAVING S-4 RESPONSE**

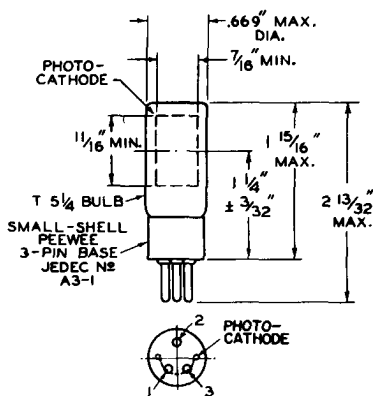
and

**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

