GAS PHOTOTUBE
CARTRIDGE TYPE WITH S-1 RESPONSE

DATA

General:
Spectral Response .................. S-1
Wavelength of Maximum Response.... 8000 ± 1000 Angstroms
Cathode:
Shape .................. Semi-Cylindrical
Minimum Projected Length* .... 7/8"
Minimum Projected Width* .... 1/2"
Direct Interelectrode Capacitance .. 1.0 μf
Overall Length .................. 1-21/32" ± 1/16"
Seated Length ................. 1-13/32" ± 1/32"
Length, Cathode Center to plane A-A' (See outline) 11/16" ± 1/16"
Maximum Diameter ................ 0.890"
Mounting Position ................. Any
Terminal Caps ............... See Outline

Maximum Ratings, Absolute Values:
ANODE-SUPPLY VOLTAGE (DC or Peak AC) .... 90 max. .... volts
PEAK CATHODE CURRENT .......... 10 max. .... μamp
PEAK CATHODE-CURRENT DENSITY ... 100 max. μamp/sq.in.
AVERAGE CATHODE CURRENTO ...... 3 max. .... μamp
AMBIENT TEMPERATURE .......... 100 max. .... °C

Characteristics:

Min. Av. Max.

Dark Current at 90 Volts .. -- -- 0.1 .... μamp
Sensitivity:
At 8000 Angstroms .... -- 0.0135 -- μamp/μwatt
Luminous:△
At 0 Cycles .... 75 135 205 μamp/lumen
At 5000 Cycles .... -- 119 -- μamp/lumen
At 10000 Cycles .... -- 108 -- μamp/lumen
Gas Amplification Factor .. -- -- 10

* On plane perpendicular to indicated direction of incident light.
O Averaged over any interval of 30 seconds maximum. Average current may be doubled when anode-supply voltage is limited to 70 volts.
△ Measured under conditions specified on sheet "PHOTOTUBE SENSITIVITY and SENSITIVITY MEASUREMENTS", at the front of this Section.

JUNE 15, 1948 TUBE DEPARTMENT DATA
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY
Minimum Circuit Values:

DC Load Resistance:

*With anode-supply voltage of 70 volts or less:*

For dc currents

- above 3 μamp 0.1 megarhs
- below 3 μamp No Minimum

*With anode-supply voltage of 90 volts:*

For dc currents

- above 2 μamp 2.5 megarhs
- below 2 μamp 0.1 megarhs

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

AVERAGE ANODE CHARACTERISTICS of Type 921 are the same as those shown under Type 930

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DIRECTIONS OF LIGHT

CATHODE-END VIEW

92CM-4789R4

JUNE 15, 1948

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY
GAS PHOTOTUBE
CARTRIDGE TYPE WITH S-1 RESPONSE
For relay applications

DATA

General:
Spectral Response: 8000 ± 1000 angstroms
Wavelength of Maximum Response: S-1

Shape: Semicylindrical
Minimum projected length*: 7/8"
Minimum projected width: 1/2"
Direct Interelectrode Capacitance: 1 µuf
Overall Length: 1-21/32" ± 1/16"
Seated Length: 1-13/32" ± 1/32"

Length from Center of Useful Cathode Area to Plane A-A' (See Dimensional Outline): 11/16" ± 1/16"

Maximum Diameter: 0.890"
Weight (Approx.): 0.4 oz
Mounting Position: Any

Terminals:
Recessed cap: JETEC No. J1-23
Protruding cap: JETEC No. J1-24
Basing Designation: 2AQ

Maximum Ratings, Absolute Values:

ANODE-SUPPLY VOLTAGE (DC or Peak AC)........ 90 max. volts
AVERAGE CATHODE-CURRENT DENSITY........... 30 max. µamp/sq.in.
AVERAGE CATHODE CURRENT.............. 3 max. µamp
AMBIENT TEMPERATURE........... 100 max. °C

Characteristics, At 90 Volts on Anode:

Min. Median Max.

Sensitivity:
Radiant, at
8000 angstroms... 0.012 µamp/µwatt
Luminous:
At 0 cps...... 75 135 205 µamp/lumen
At 5000 cps...... - 119 - µamp/lumen
At 10000 cps...... - 108 - µamp/lumen
Gas Amplification Factor...
node Dark Current at 25°C...... - - 0.01 µamp

* On plane perpendicular to indicated direction of incident light.

O: See next page. Indicates a change.
Minimum Circuit Values:

With anode-supply voltage of 70 or less 90 volts

DC Load Resistance:

For dc currents above

3 µamp ............... 0.1 min. – megohm

For dc currents below

3 µamp ............... 0 min. – megohm

For dc currents above

2 µamp ............... – 2.5 min. megohms

For dc currents below

2 µamp ............... – 0.1 min. megohm

* Averaged over any interval of 30 seconds maximum. This value may be doubled when anode-supply voltage is limited to 70 volts.

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 0.1 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-I Response

and

FREQUENCY-RESPONSE CHARACTERISTICS
of Gas Phototubes
are shown at the front of this Section

AVERAGE ANODE CHARACTERISTICS
for Type 921 are the same as those shown for Type 930

TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY