

PE50

PHOTO-CELL

GENERAL

The PE50 is a miniature gas-filled photo-cell with a Caesium-Oxygen-Silver cathode surface, having maximum sensitivity in the red and infra-red region of the spectrum. The bulb is blackened except for a window 21×11.6 mm opposite the cathode.

RATING—Absolute Values

Approximate Overall Sensitivity (av)	120*	$\mu\text{A/L}$
Approximate Primary Sensitivity (av)	20**	$\mu\text{A/L}$
Maximum Gas Amplification Factor	10†	
Maximum Working Voltage	90	V
Maximum Average Cathode Current	2.5	μA
Maximum Averaging Time	30	S
Maximum Peak Cathode Current	8.0	μA
Maximum Peak Cathode Current Density	15	$\mu\text{A/cm}^2$
Maximum Dark Current	0.1‡	μA
Minimum Insulation resistance between electrodes	1,000	M Ω

NOTES

* Measured at 0.02 lumens with lamp colour temperature 2700°K and a cell series resistance of 1.0 M Ω .
Anode Voltage = 90 volts.

† Gas Amplification Factor is the ratio of current at 90 volts to current at 25 volts under the conditions mentioned above.

‡ Measured at 90 volts with 1.0 M Ω series resistance, zero illumination.

** The Primary sensitivity is measured at an anode voltage of 25 volts at which ionisation has not taken place.

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INTER-ELECTRODE CAPACITANCE (pF)

Anode/Cathode

ca-k

3.0

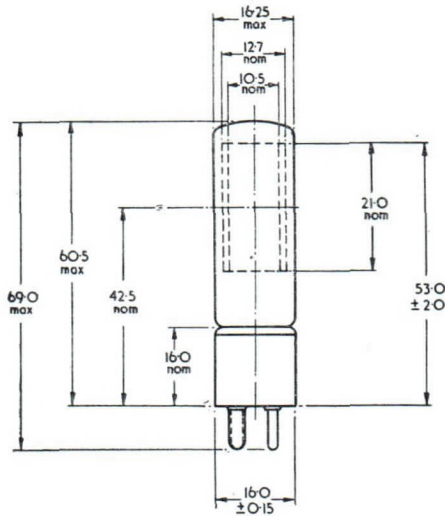
DIMENSIONS

Maximum Overall Length	69.0 mm
Maximum Seated Height	60.5 mm
Light Centre from Seat (nominal)	42.5 mm
Maximum Bulb Diameter	16.25 mm
Maximum Base Diameter	16.15 mm
Cathode Length (nominal)	21.0 mm
Effective Cathode Width	11.6 mm
Window Area	2.4 cm ²
Projected Cathode Area	2.4 cm ²
Approximate Nett Weight	1 oz
Approximate Packed Weight	4½ oz

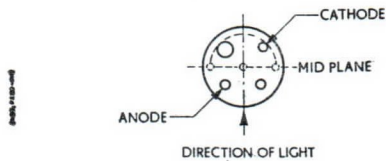
MOUNTING POSITION—Unrestricted.

BASE—Miniature 4 Pin (B4B)

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BLANK PINS NOT CONNECTED



Viewed from free end of pins.

All Dimensions in mm.



PROGACEL



1. The first step in the process is the preparation of the raw materials. This involves the weighing and mixing of the various components in the correct proportions. The mixture is then placed in a container and allowed to react for a period of time. The reaction is monitored by the use of a thermometer and a pH meter. The reaction is complete when the mixture has reached a certain temperature and the pH has changed. The mixture is then filtered and the solid material is washed with water. The liquid is then evaporated and the solid material is dried. The final product is a white powder which is used in the manufacture of various types of plastic.