

# MAZDA

## PE51

### PHOTO-ELECTRIC CELL

PE51

#### GENERAL

The Mazda PE.51 is a Gas Filled Photo Electric Cell with a Caesium-Oxygen-Silver Cathode surface, having maximum sensitivity in the red and infra-red region of the spectrum.

#### RATING

Average Overall Sensitivity ( $\mu\text{A}/\text{lumen}$ )	100+
Average Primary Sensitivity ( $\mu\text{A}/\text{lumen}$ )	20*
Maximum Gas Amplification Factor	8.0\$
Maximum Working Voltage (volts)	90
Maximum Average Cathode Current ( $\mu\text{A}$ )	5.0‡
Maximum Peak Cathode Current ( $\mu\text{A}$ )	15
Maximum Peak Cathode Current Density ( $\mu\text{A}/\text{sq cm}$ )	15
Maximum Dark Current ( $\mu\text{A}$ )	0.1=
Minimum Insulation resistance between electrodes ( $\text{M}\Omega$ )	1,000

#### NOTES

+ Measured at 0.05 lumens with lamp colour temperature  $2700^{\circ}\text{K}$  and a cell series resistance of  $0.5\text{M}\Omega$ . Anode Voltage = 90 volts

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

= Measured at 90 volts with  $0.5\text{M}\Omega$  series resistance: zero illumination.

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

‡ Average over a period not greater than 30 secs.

All Maximum Ratings are Absolute values not Design Centres.

#### INTER-ELECTRODE CAPACITANCE

Anode to Cathode ( $\mu\text{F}$ )	1.9
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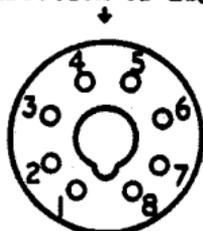
#### DIMENSIONS

Max. Overall Length (mm)	78.0
Max. Seated Height (mm)	63.5
Light Centre from Seat (mm) (nominal)	41.0 ± 2.5
Max. Bulb Diameter (mm)	28.5
Max. Base Diameter (mm)	32.0
Cathode Length (mm)	22.0
Effective Cathode Width (mm)	21.5
Projected Cathode Area (sq.cm)	4.7
Approximate Nett Weight (oz)	1
Approximate packed weight (oz)	4 $\frac{1}{2}$

#### MOUNTING POSITION - Unrestricted

BASE Mazda Octal (B08)

Direction of Light



Viewed from free end of pins

#### CONNECTIONS

Pin 1	Cathode	k
Pin 2	+ Internal Connection	i.c.
Pin 3	-	-
Pin 4	-	-
Pin 5	Anode	a
Pin 6	-	-
Pin 7	-	-
Pin 8	-	-

+ In use Pin 2 should be left free.