GENERAL DATA

Spectral Response ........................................ See Curve
Wavelength of Max. Response ......................... 6100 ± 400 Angstroms
Sensitive Material ......................................... Cadmium-Sulfide
Shape of Sensitive Area ................................ Circular
Construction .............................................. Hermetically Sealed in Glass
Outline ...................................................... See Drawing
Operating Position ....................................... Any

ELECTRICAL DATA

RATINGS (Absolute Maximum Values)

Breakdown Voltage$^2$ ................................. 400 VAC
Dissipation
  T-amb = 25°C ........................................ 300 mW
  T-amb = 70°C ........................................ 25 mW
Ambient Temperature Range ...................... -40 to +70 °C
Illumination ............................................ Note 3

CHARACTERISTICS

Cell Resistance$^4$
  Illumination 2 FC .................................. 5000 Ohms
  Color Temperature 2870°K ........................ 5000 Ohms
Dark Resistance$^5$ .................................. 500,000 Ohms Min.

NOTES:

1. Minute increases in relative humidity will produce change in color.
2. Measured with cell in complete darkness at a pulse rate of 120 pps, 50 μ sec. duration.
   Voltage in excess of the rated value may damage the cell. Maximum DC voltage is limited by maximum dissipation and minimum dark resistance rating.
3. Care should be exercised to prevent localized overheating of the sensitive surface when the cell is used with a lens system.
4. Measured after 60 minutes exposure to approximately 50 FC illumination (ambient room light).
5. Measured in complete darkness, 10 seconds after removal of 2 FC illumination.

The Sylvania Type 8100 is a cadmium sulfide photo-conductive cell featuring high sensitivity and hermetically sealed-in-glass construction. The cell is back-filled with gas for a high dissipation safety factor and high voltage capability and includes a blue-dot compound which turns pink$^1$ if the cell envelope becomes damaged. It is designed for use in a variety of industrial applications as well as automatic contrast and brightness control in television receivers. The 8100 is particularly suited to direct operation of relays.
SPECTRAL RESPONSE

RELATIVE RESPONSE IN ARBITRARY UNITS

WAVELENGTH IN ANGSTROMS
SPECTRAL CHARACTERISTIC OF HUMAN EYE, TUNGSTEN AND FLUORESCENT LAMPS

TUNGSTEN LAMP COLOR TEMPERATURE 2870° K
EYE CURVE IS ON BASIS OF EQUAL VALUES OF RADIANT FLUX AT ALL WAVELENGTHS

AVERAGE CHARACTERISTICS

COLOR TEMPERATURE OF SOURCE = 2870° K
PERMISSIBLE DISSIPATION AS A FUNCTION OF AMBIENT TEMPERATURE

AVERAGE CHARACTERISTICS