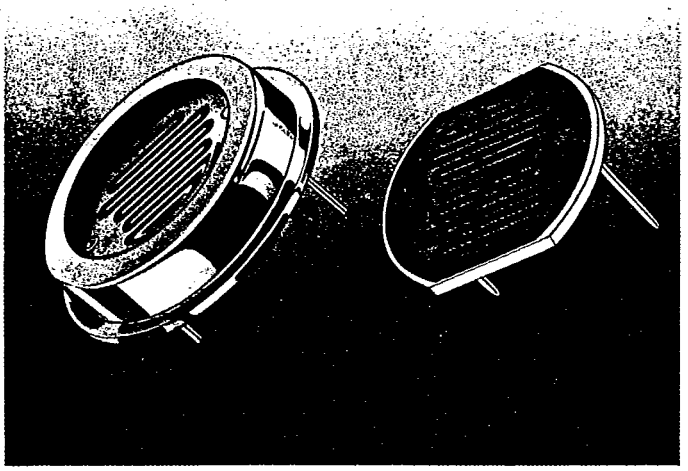
# 1 WATT PHOTOCONDUCTIVE CELLS

NSL-4400 SERIES

## FEATURES

- **High Power Dissipation Capability @ 25° C:**
  **1000 mW - Hermetically Sealed**
  **500 mW - Plastic Encapsulated**
  **750 mW on demand* - Plastic Encapsulated**
- **Maximum Operating Voltage:**
  **1000 V Peak AC or DC**
  **1700 V for 5 ms, 1 Hz maximum repetition rate**
- **Rated Insulation Breakdown Voltage:**
  **1500 V Shorted terminals to case**
- **Resistance Tolerance: ± 40 % @ 1 Ftc**
- **Temperature Range: - 60° C to +75° C**



## GENERAL DESCRIPTION

The Silonex 4400 series are highly stable and sensitive Cadmium Sulphide photoconductive cells with a spectral response similar to that of the human eye. These photocells are often used in streetlight and oil burner control applications where high power and/or high voltages are encountered and reliable, long operational life is required.

These CdS photocells are available in either a glass and metal hermetically sealed package or a plastic encapsulated, moisture resistant package.

| Silonex Part No. | Sensitive Material | Resistance @ 1 Ftc (ohms) | Typical Resistance @ 100 Ftc (ohms) | Minimum Dark Resistance (ohms) | | Maximum Current (mA) |
|---|---|---|---|---|---|---|
| | | | | Hermetic | Plastic | |
| NSL-4440 | Type 4 Peak @ 530 nm | 120K | 2500 | 50M | 10M | 100 |
| NSL-4450 | | 26K | 550 | 15M | 1.5M | 100 |
| NSL-4460 | | 11.4K | 200 | 5M | 500K | 100 |
| NSL-4470 | | 5.5K | 140 | 500K | 200K | 100 |

* ...Twice daily for two 20 minute maximum periods

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SILONEX inc

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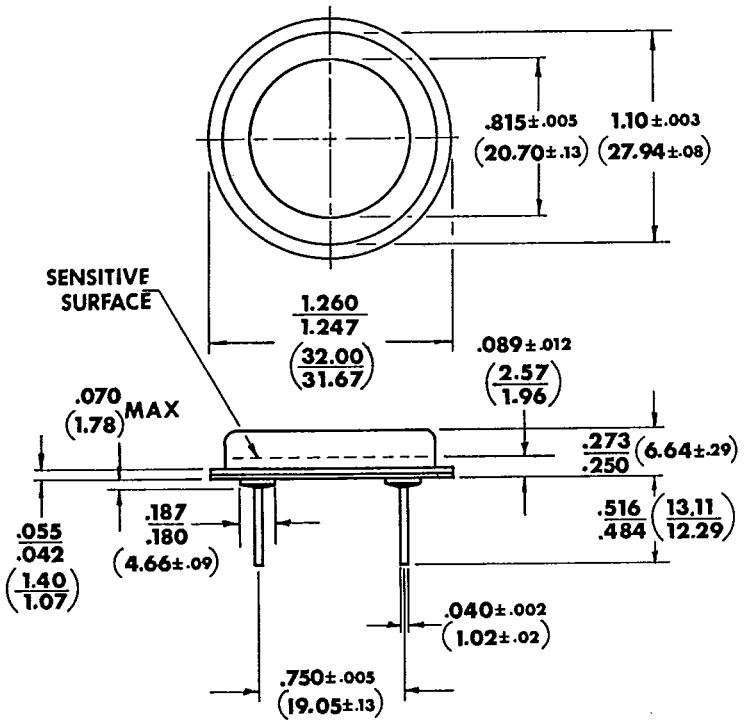
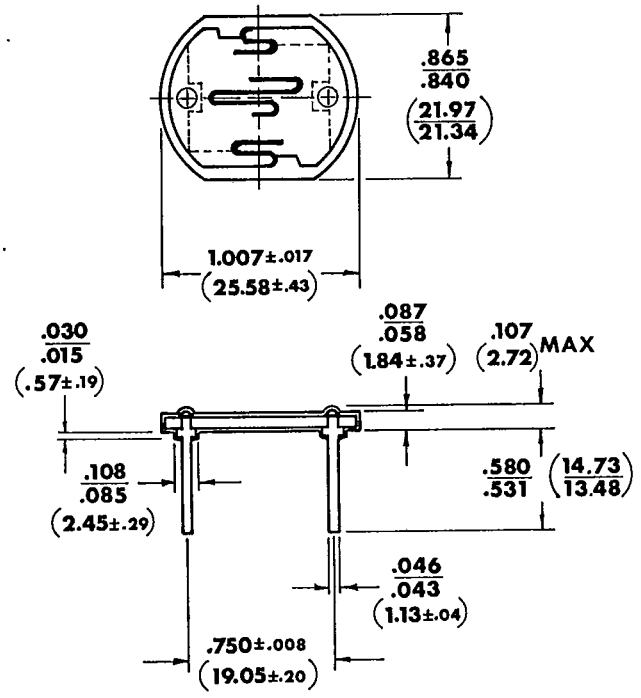
| Silonex Part No. | Sensitive Material | Rise Time (ms) Dark To 110% $R_L$ (1) | | Decay Time (ms) To 10x$R_L$ (1) | | Typical Temperature Coefficient (%/° C) | | Typical Capacitance in Dark (pF) |
|---|---|---|---|---|---|---|---|---|
| | | @ 1 Ftc (2) | @ 100 Ftc | from 1 Ftc | from 100 Ftc | @ 1 Ftc | @ 100 Ftc | |
| NSL-4440 | Type 4 CdS | 2.4 | 1.5 | 25 | 20 | .06 | .02 | 13 |
| NSL-4450 | | 10 | 0.7 | 11 | 3.2 | 0.11 | 0.04 | 13 |
| NSL-4460 | | 12 | 0.94 | 33 | 11 | 0.12 | 0.03 | 13 |
| NSL-4470 | | 15 | 1.2 | 55 | 25 | 0.13 | 0.01 | 13 |

*(1) $R_L$ = Photocell resistance under given illumination.*
*(2) Low illumination rise, decay, and temperature coefficient data recorded at 35 Ftc rather than 1 Ftc for the NSL-446.*

MEASUREMENT DATA: Cells light adapted at 30 - 50 Ftc for 16 hours minimum prior to test. All measurements conducted at 25° C ambient, 2854° K.

Dark resistances measured 15 seconds after removal of room light (30 - 50 Ftc). Power derating: Linearly to 75° C.




## Part Number Coding

**NSL - 4440**

- 4 - Type 4 CdS
- 1" size
- 0 - Hermetically sealed
- 2 - Plastic Encapsulated
- Resistance Range

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