NSL-45S5150

Panel Mount CdS Light Dependent Resistor Assembly

The NSL-45S5150 is a TO-18 CdS photocell in a panel mount assembly. The device is mounted in a hermetic flat lens package for moisture resistance.

Advanced Photonix's CdS Photocells are photoresistors measuring visible light from 400 to 700nm. Their resistance decreases as the light level increases with efficiency characteristics similar to the human eye. These Light Dependent Resistors (LDR) are available in a wide range of resistance values. They are available in a two-leaded plastic-coated ceramic header or hermetically sealed TO metal cans.

Applications

Industrial

Agricultural

Solar Street Lights

Photography Light Meters

Features

High Light Resistance

Low Dark Resistance

Spectral Peak in the Visible Range

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Voltage (peak AC or DC)	V_R	-	60	V
Power Dissipation ٤ &) "7 *	-	-	50	mW
Operating Temperature	T_{OP}	-60	+75	°C
Storage Temperature	T_{STG}	-60	+75	°C
Package	TO-18			

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Typical Electro-Optical Specifications at T_A=2) °C

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Light Resistance[1]	2ftc., 2854 °K	R_L	!	%)	-	KΩ
Dark Resistance	5 sec after removal of test light	R_D	%$	-	-	MΩ
Spectral Peak	-	λ_P	-	550	-	nm

[1] Cells light adapted at 30 to 50 ftc for 16 hrs minimum prior to electrical tests.

Mechanical Specifications

Units are in mm
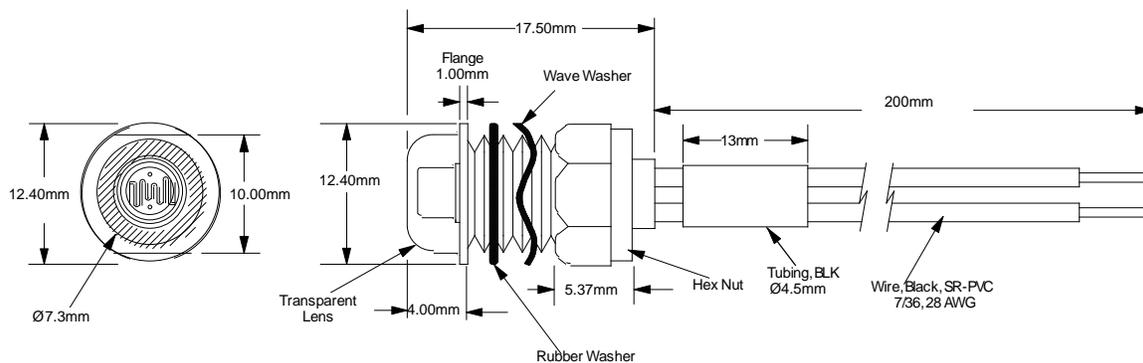
Care and Handling Instructions

Handle and store devices with care to minimize exposure to excessive ambient light levels, especially from intense sources like direct sunlight or tungsten lamps. Protecting the devices from excessive light exposure during installation, maintenance, or storage helps ensure optimal performance.

- These components can be rendered inoperable if dropped or sharply jarred. The wire bonds are delicate and can become separated from the bonding pads when the component is dropped or otherwise receives a sharp physical blow.

- Most windows on photodiodes are either borosilicate or quartz. They should be cleaned with isopropyl alcohol and a soft (optical grade) pad.

- Photodiode exposure to extreme high or low storage temperatures can affect the subsequent performance. Maintain a non-condensing environment for optimum performance and lifetime.

- All devices are considered ESD sensitive. The photodiodes are shipped in ESD protective packaging. When unpacking and using these products, anti-ESD precautions should be observed.

- Photodiode packages and/or operation may be impaired if exposed to CHLOROETHENE, THINNER, ACETONE, TRICHLOROETHYLENE or any harsh chemicals.

- Optoelectronic components in plastic packages should be given special care. Clear plastic packages are more sensitive to environmental stress than those of black plastic. Storing devices in high humidity can present problems when soldering. Since the rapid heating during soldering stresses the wire bonds and can cause wire to bonding pad separation, it is recommended that devices in plastic packages to be baked for 24 hours at 85°C.

- The leads on the photodiode SHOULD NOT BE FORMED. If your application requires lead spacing modification, please contact Advanced Photonix Applications group at Techsupport@advancedphotonix.com before forming a product's leads. Product warranties could be voided.

- Most devices are provided with wire or pin leads for installation in circuit boards or sockets. Observe the soldering temperatures and conditions specified below:

  - Soldering Iron: Soldering 30 W or less
  - Temperature at tip of iron 300°C or lower.
  - Dip Soldering: Bath Temperature: 260±5°C.
  - Immersion Time: within 5 Sec.
  - Soldering Time: within 3 Sec.
  - Vapor Phase Soldering, Reflow Soldering: DO NOT USE

Legal Disclaimer

Information in this data sheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice.