

NSL-32

Photocell (CdS) Output Optocoupler

The NSL-32 is an optocoupler (optoisolator) with an LED input optically coupled to a CdS Light Dependent Resistor (LDR) photocell. It is an optoelectronic component that interconnects two separate electrical circuits by means of a light sensitive optical interface. The photoresistor resistance increases when the LED current is “off” and decreases when the LED current is “on”.

Applications

Industrial
Audio Compressors
Electrical Noise Filter

Features

Compact Moisture Resistant Package
Low LED Current
Passive Resistance Output
Low Distortion
Suitable for AC or DC

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Isolation Voltage	V_R	-	2000	V
Power Dissipation ¹	-	-	50	mW
Operating Temperature	T_{OP}	-40	+75	°C
Storage Temperature	T_{STG}	-40	+75	°C

¹Derate linearly to 0 at 75°C

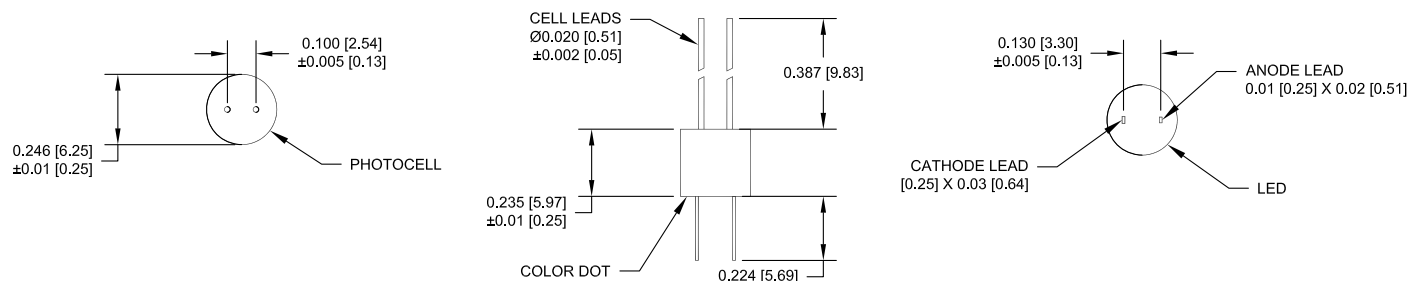
Typical Electro-Optical Specifications at $T_A=23\text{ }^\circ\text{C}$

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
LED						
Forward Current	-	I_F	-	-	40	mA
Forward Voltage	$I_F=16\text{mA}$	V_F	-	-	2.5	V
Reverse Current	$V_R=4\text{V}$	I_R	-	-	3	μA
CELL						
Max. Cell Voltage	Peak AC or DC	V_{MAX}	-	-	60	V
COUPLED						
On Resistance	$I_F=16\text{mA}$	R_{on}	-	160	200	Ω
Off Resistance	10 sec after $I_F=0\text{ mA}$, 5VDC on cell	R_{off}	500	-	-	K Ω
Rise Time ²	Time for the dark to light change in conductance to reach 63% of its final value	T_R	-	55	-	msec
Decay Time	Time to reach 100K Ω after removal of $I_F=16\text{mA}$	T_D	-	80	-	msec
Cell Temp. Coefficient	$I_F \geq 5\text{mA}$	α	-	0.7	-	% / °C

²The Rise Time, T_R , is the time required for the dark to light change in conductance to reach 63% of its final value.

Mechanical Specifications

Units are in inches [mm]



Soldering Conditions: 260°C 1/16 inch away from case for 3 seconds max.