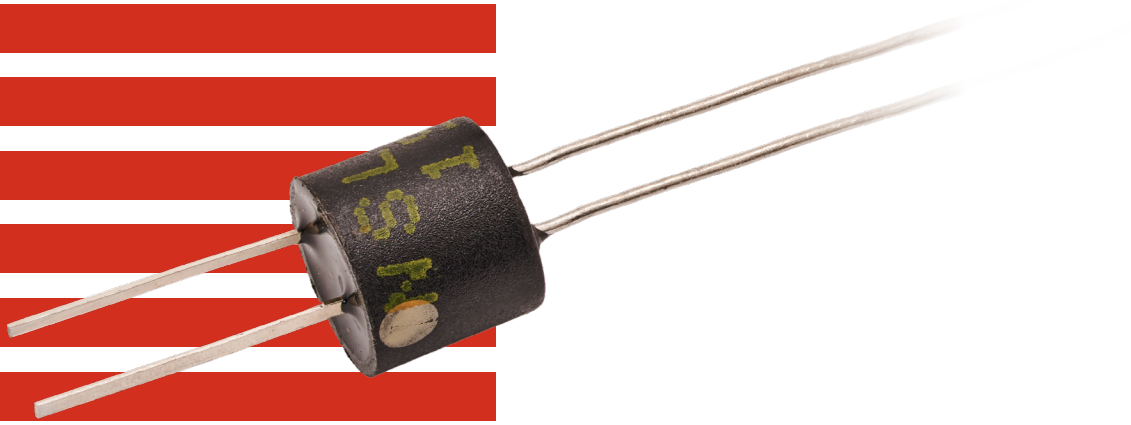
Advanced Photonix
A Division of OSI Optoelectronics

OPTOCOUPLER
Photocell (CdS) Output



NSL-32SR2

40Ω ON-Resistance Photocell (CdS) Output Optocoupler

The NSL-32SR2 is an optocoupler that has an OFF-resistance of 1MΩ.

Advanced Photonix CdS photocell output optocouplers optically couple an LED to a CdS Light Dependent Resistor (LDR). The LDR resistance increases when the LED current is OFF and decreases when LED current is ON. The device showcases a large dynamic range with a response time that efficiently mimics the human eye's sensitivity to light changes. Engineered with High, Medium, and Low dark resistances, the optocouplers are available with diverse resistance values to suit various applications. The photocells are encased in an optically-isolated structures.

Applications

- Industrial
- Audio Compressors
- Electrical Noise Filter

Features

- Compact Moisture Resistant Package
- Low LED Current
- Very Low “On” Resistance
- Passive Resistance Output
- Low Distortion

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Absolute Maximum Ratings

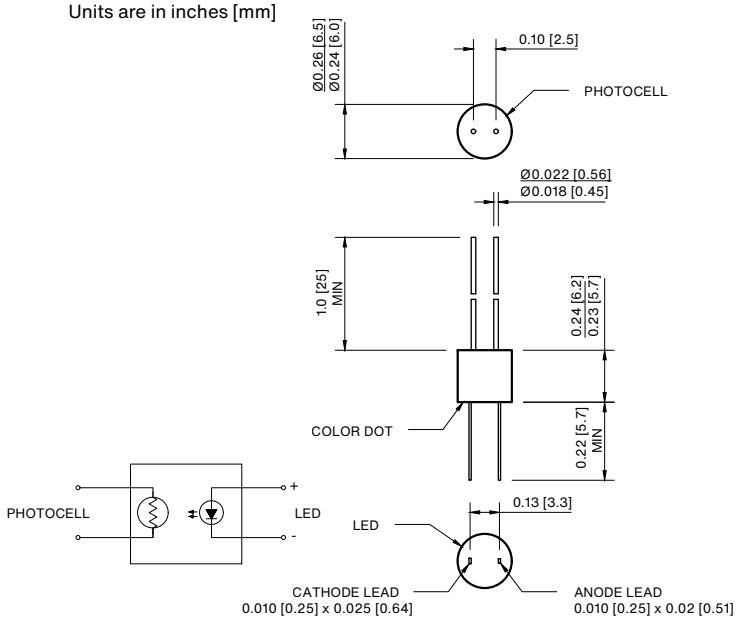
Parameter	Symbol	Min	Max	Unit
Isolation Voltage	V_R	-	2000	V
Power Dissipation	-	-	50	mW
Operating Temperature	T_{OP}	-40	+75	°C
Storage Temperature	T_{STG}	-40	+75	°C

Typical Electro-Optical Specifications at T_A=23 °C

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
LED						
Forward Current	-	I_F	-	-	25	mA
Forward Voltage	I_f=20mA	V_F	-	-	2.5	V
Reverse Current	V_R=4V	I_R	-	-	10	µA
CELL						
Max. Cell Voltage	Peak AC or DC	V_{MAX}	-	-	60	V
COUPLED						
On Resistance	I_f=20mA	R_{on}	-	-	40	Ω
	I_f=5mA	R_{on}	-	50	-	Ω
Off Resistance	10sec after If=0mA	R_{off}	1	-	-	MΩ
Rise Time	Time for the dark to light change in conductance to reach 63% of its final value	T_R	-	5	-	msec
Decay Time	Time to reach 100KΩ after removal of I_f=16mA	T_D	-	-	80	msec
Cell Temp. Coefficient	I_f=> 5mA	T_{coef}	-	0.7	-	% / °C

Mechanical Specifications

Units are in inches [mm]



Typical Transfer Characteristics

Output Resistance vs. Input Current