



**DESCRIPTION**

This optocoupler consists of an LED input optically coupled to a photocell. The photocell resistance is high when the LED current is “off” and low resistance when the LED current is “on”.

**FEATURES**

- Compact, moisture resistant package
- Low LED current
- Passive resistance output

**RELIABILITY**

CdS/CdSe photo resistors are temperature sensitive, it should be noted that operation of the photocell above +75°C does not usually lead to catastrophic failure but the photoconductive surface may be damaged leading to irreversible changes in sensitivity

**APPLICATIONS**

- Industrial sensing

Contact API for recommendations on specific test conditions and procedures.

**ABSOLUTE MAXIMUM RATINGS**

|                       |     |    |      |    |                               |
|-----------------------|-----|----|------|----|-------------------------------|
| Isolation Voltage     |     |    | 2000 | V  | T <sub>a</sub> = 23°C         |
| Operating Temperature | -40 | to | +75  | °C | non condensing                |
| Storage Temperature   | -40 | to | +75  | °C |                               |
| Soldering Temperature |     |    | +260 | °C | >0.05" from case for < 5 sec. |

- (1) Derate linearly to 0 at 75°C
- (2) Measured after 1 minute ON @ I<sub>F</sub> = 20mA and followed by 10 sec. OFF.
- (3) Print “NSL-32SR2” and date code “YYWW”

**OPTO-ELECTRICAL PARAMETERS**

T<sub>a</sub> = 23°C unless noted otherwise

| PARAMETER              | TEST CONDITIONS  | MIN | TYP | MAX | UNITS |
|------------------------|--|-----|-----|-----|-------|
| <b>LED</b>             |  |     |     |     |       |
| Forward Current        |  |     |     | 25  | mA    |
| Forward Voltage        | I <sub>F</sub> = 20mA  |     |     | 2.5 | V     |
| Reverse Current        | V <sub>R</sub> = 4V  |     |     | 10  | μA    |
| <b>Cell</b>            |  |     |     |     |       |
| Maximum Cell Voltage   | (Peak AC or DC)  |     |     | 60  | V     |
| Power Dissipation      | (1)  |     |     | 50  | mW    |
| <b>Coupled</b>         |  |     |     |     |       |
| On Resistance          | I <sub>F</sub> = 20mA  |     |     | 40  | Ω     |
|                        | I <sub>F</sub> = 1mA   |     | 140 |     | Ω     |
| Off Resistance (2)     | 10 sec after I <sub>F</sub> = 0 mA, 5 V dc on cell                               | 1   | 5   |     | MΩ    |
| Rise Time              | Time for the dark to light change in conductance to reach 63% of its final value |     | 5   |     | msec. |
| Decay Time             | Time to reach 100 KΩ after removal of I <sub>F</sub> = 16 mA                     |     | 5   |     | msec. |
| Cell Temp. Coefficient | I <sub>F</sub> > 5 mA  |     | 0.7 |     | %/°C  |

