## Features

- Compact, moisture resistant package
- Low "on" resistance
- Low LED current
- Fast rise and decay time
- Passive resistance output
- Best distortion characteristics


## Description

This opto-coupler consists of an LED input optically coupled to a photocell. The photocell resistance is high when the LED current is "off" and low when the LED current is "on".

## Absolute Maximum Ratings

Storage \& Operating Temperature
Soldering Temperature (1)

$$
-40 \text { to }+75^{\circ} \mathrm{C}
$$

$$
260^{\circ} \mathrm{C}
$$

Isolation Voltage (peak)
2000 V



Electrical Characteristics ( $\mathrm{T}_{\mathrm{A}}=25^{\circ} \mathrm{C}$ )

## Symbol Parameter $\quad$ Min. Typ. Max. Units Test Conditions

LED

| $\mathrm{I}_{\mathrm{F}}$ | Forward Current |  |  | 25 | mA |  |
| :--- | :--- | :--- | :--- | :---: | :---: | :--- |
| $\mathrm{~V}_{\mathrm{F}}$ | Forward Voltage |  |  | 2.5 | V | $\mathrm{I}_{\mathrm{F}}=20 \mathrm{~mA}$ |
| $\mathrm{I}_{\mathrm{R}}$ | Reverse Current |  |  | 10 | $\mu \mathrm{~A}$ | $\mathrm{~V}_{\mathrm{R}}=4 \mathrm{~V}$ |

Cell

| $\mathrm{V}_{\mathrm{C}}$ | Maximum Cell Voltage |  |  | 60 | V | (Peak AC or DC) |
| :--- | :--- | :--- | :--- | :---: | :---: | :--- |
| $\mathrm{P}_{\mathrm{D}}$ | Power Dissipation |  |  | 50 | mW | $(2)$ |

Coupled

| $\mathrm{R}_{\text {ON }}$ | On Resistance |  |  | 60 | $\Omega$ | $\mathrm{I}_{\mathrm{F}}=20 \mathrm{~mA}$ |
| :--- | :--- | :---: | :---: | :---: | :---: | :--- |
|  |  |  | 150 |  | $\Omega$ | $\mathrm{I}_{\mathrm{F}}=5 \mathrm{~mA}$ |
| $\mathrm{R}_{\text {OFF }}$ (3) | Off Resistance | 25 |  |  | $\mathrm{M} \Omega$ | 10 sec., after $\mathrm{I}_{\mathrm{F}}=0,5 \mathrm{Vdc}$ on cell. |
| $\mathrm{T}_{\mathrm{R}}$ | Rise Time |  | 5 |  | msec | Time to $63 \%$ of final conductance @ $\mathrm{I}_{\mathrm{F}}=5 \mathrm{~mA}$ |
| $\mathrm{~T}_{\mathrm{F}}$ | Decay Time |  | 10 |  | msec | Time to $100 \mathrm{~K} \Omega$ after removal of $\mathrm{I}_{\mathrm{F}}=5 \mathrm{~mA}$ |
|  | Cell Temp Coefficient |  | 0.7 |  | $\% /{ }^{\circ} \mathrm{C}$ | $\mathrm{I}_{\mathrm{F}}>5 \mathrm{~mA}$ |

Note: (1) $>2 \mathrm{~mm}$ from case for $<5 \mathrm{sec}$. (2) Derate linearly to 0 at $75^{\circ} \mathrm{C}$. (3) Measured after 1 minute ON @ IF $=20 \mathrm{~mA}$ followed by 10 sec. OFF. (4) Print "NSL-32SR3" and date code "YYWW" on module.

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