

Description

[ISL29101](#), [ISL29102](#), and [ISL29112](#) are low-light optimized analog output sensors. This user guide is for the evaluation boards: ISL29101IROZ-EVALZ, ISL29102IROZ-EVALZ, and ISL29112IROZ-EVALZ.

In normal operation, these sensor devices are intended to be mounted behind a smoked glass/plastic bezel, which normally significantly attenuates received light. The ISL29101 and ISL29102 typically saturate at full scale with an incident illumination of around 10,000Lux. However, the ISL29112 has a range up to 100Lux, which is a lower than normal indoor ambient light condition (2k to 10kLux).

The ISL291xxIROZ-EVALZ evaluation board are RoHS-compliant evaluation boards prepared to speed up part evaluation. The device and the evaluation boards work from a 3V supply.

Note that each device has a different scaling factor relative to incident ambient light. Please refer to the part datasheet for converting output voltage to light intensity.

Evaluation Package

- Evaluation Board ISL291xxIROZ-EVALZ, populated with all required components

Related Literature

For a full list of related documents, visit our website:

- [ISL29101](#), [ISL29102](#), [ISL29112](#) product pages

Ordering Information

PART NUMBER	DESCRIPTION
ISL29101IROZ-EVALZ	Low Power, <1000 Lux Optimized, Analog Output Ambient Light Sensor Evaluation Board
ISL29102IROZ-EVALZ	Low Power, Ambient Light-to-Voltage Nonlinear Converter Sensor Evaluation Board
ISL29112IROZ-EVALZ	Low Power, <100Lux Optimized, Analog Output Ambient Light Sensor Evaluation Board

Hardware Setup

Each evaluation board comprises the sensor device and a 100kΩ resistor that sets the output scaling for the sensor. The parts were characterized with the 100kΩ resistor. Larger or smaller values can be used; however, Renesas found that the 100kΩ value worked well under a variety of conditions. Note that with larger scale setting resistors, the sensor is likely to prematurely saturate at relatively low light levels.

The jumpers and components on the Printed Circuit Board (PCB) are as listed in [Table 1](#).

TABLE 1. JUMPERS, COMPONENTS ON PCB

JUMPER	DESCRIPTION
JP2	R _{LOAD} = 100kΩ (Optional, Do not populate)
JP3	R _{LOAD} = 1kΩ (Optional, Do not populate)
JP4	R _{LOAD} = 10MΩ (Optional, Do not populate)
JP6	R _{EXT} = 100kΩ
JP7	R _{EXT} = 1kΩ
JP8	R _{EXT} = 100kΩ (Optional, Do not populate)
C1	0.1μF
D1	Optional
L1	Optional

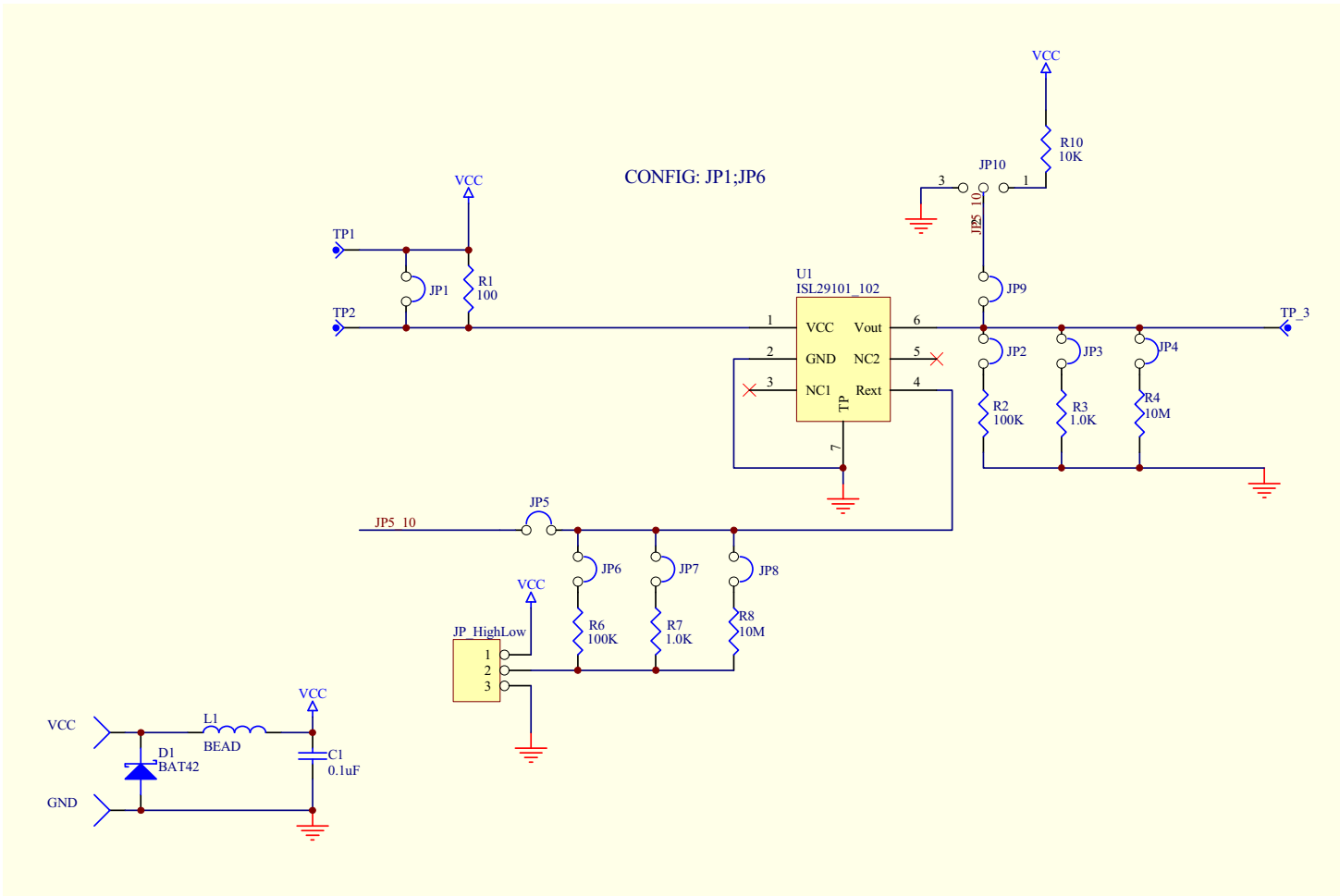


FIGURE 1. ISL291xxIROZ-EVALZ EVALUATION BOARD SCHEMATIC

Revision History The revision history provided is for informational purposes only and is believed to be accurate, but not warranted. Please visit our website to make sure you have the latest revision.

DATE	REVISION	CHANGE
Sep 13, 2018	UG056.1	Added ISL29102IROZ-EVALZ and ISL29112IROZ-EVALZ. Added Related Literature section. Added Revision History.

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