# RENESAS

### ISL29101IROZ-EVALZ, ISL29102IROZ-EVALZ, ISL29112IROZ-EVALZ

**Evaluation Boards** 

UG056 Rev.1.00 Sep 13, 2018

## Description

ISL29101, ISL29102, and ISL29112 are low-ight 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**

## **Hardware Setup**

Each evaluation board comprises the sensor device and a 100k $\Omega$  resistor that sets the output scaling for the sensor. The parts were characterized with the 100k $\Omega$  resistor. Larger or smaller values can be used; however, Renesas found that the 100k $\Omega$  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.

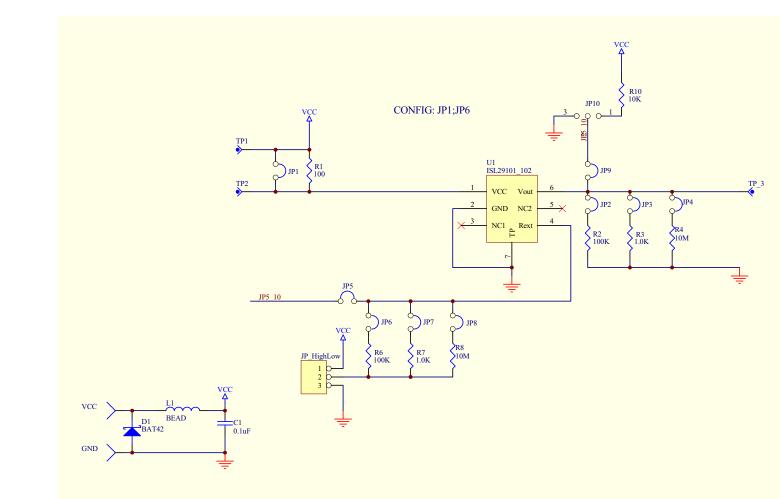
The jumpers and components on the Printed Circuit Board (PCB) are as listed in <u>Table 1</u>.

TARIE 1		COMPONENTS	ON PCB
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JUMPER	DESCRIPTION
JP2	R <sub>LOAD</sub> = 100kΩ (Optional, Do not populate)
JP3	R <sub>LOAD</sub> = 1kΩ (Optional, Do not populate)
JP4	R <sub>LOAD</sub> = 10MΩ (Optional, Do not populate)
JP6	R <sub>EXT</sub> = 100kΩ
JP7	$R_{EXT} = 1 k\Omega$
JP8	R <sub>EXT</sub> = 100kΩ (Optional, Do not populate)
C1	0.1µF
D1	Optional
L1	Optional

PART NUMBER	DESCRIPTION
ISL29101IR0Z-EVALZ	Low Power, <1000 Lux Optimized, Analog Output Ambient Light Sensor Evaluation Board
ISL29102IR0Z-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







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# **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 ISL29102IR0Z-EVALZ and ISL29112IR0Z-EVALZ. Added Related Literature section. Added Revision History.



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#### California Eastern Laboratories, Inc.

4590 Patrick Henry Drive, Santa Clara, California 95054-1817, U.S.A. Tel: +1-408-919-2500, Fax: +1-408-988-0279 Renesas Electronics Canada Limited 9251 Yonge Street, Suite 8309 Richmond Hill, Ontario Canada L4C 9T3 Tel: +1-905-237-2004

Renesas Electronics Europe Limited Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K Tel: +44-1628-651-700

### **Renesas Electronics Europe GmbH**

Arcadiastrasse 10, 40472 Düsseldorf, German Tel: +49-211-6503-0, Fax: +49-211-6503-1327

Renesas Electronics (China) Co., Ltd. Room 1709 Quantum Plaza, No.27 ZhichunLu, Haidian District, Beijing, 100191 P. R. China Tel: +86-10-8235-1155, Fax: +86-10-8235-7679

Renesas Electronics (Shanghai) Co., Ltd. Unit 301, Tower A, Central Towers, 555 Langao Road, Putuo District, Shanghai, 200333 P. R. China Tel: +86-21-2226-0888, Fax: +86-21-2226-0999

Renesas Electronics Hong Kong Limited Unit 1601-1611, 16/F., Tower 2, Grand Century Place, 193 Prince Edward Road West, Mongkok, Kowloon, Hong Kong Tel: +852-2265-6688, Fax: +852 2886-9022

Renesas Electronics Taiwan Co., Ltd. 13F, No. 363, Fu Shing North Road, Taipei 10543, Taiwan Tel: +886-2-8175-9600, Fax: +886 2-8175-9670

Renesas Electronics Singapore Pte. Ltd. 80 Bendemeer Road, Unit #06-02 Hyflux Innovation Centre, Singapore 339949 Tel: +65-6213-0200, Fax: +65-6213-0300

Renesas Electronics Malaysia Sdn.Bhd. Unit 1207, Block B, Menara Amcorp, Amcorp Trade Centre, No. 18, Jln Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia Tel: +60.3-7955-9309, Fax: +60-3-7955-9510

Renesas Electronics India Pvt. Ltd. No.777C, 100 Feet Road, HAL 2nd Stage, Indiranagar, Bangalore 560 038, India Tel: +91-80-67208700, Fax: +91-80-67208777

Renesas Electronics Korea Co., Ltd. 17F, KAMCO Yangjae Tower, 262, Gangnam-daero, Gangnam-gu, Seoul, 06265 Korea Tel: +82-2-558-3737, Fax: +82-2-558-5338