

Features

- ▶ Digital signal processing
- ▶ On chip supply shunt regulator
- ▶ Low power consumption
- ▶ Differential PIR sensor input
- ▶ Excellent power supply rejection
- ▶ Insensitive to RF interference
- ▶ Inputs for sensitivity, on time and daylight sensor
- ▶ Outputs for relay and LED
- ▶ Instantaneous settling after power up
- ▶ Adaptive Zero Crossing Switching

Applications

- ▶ Mains powered motion sensor lights that require relay switching on zero crossing, common requirement for low cost relays and capacitive loads.

General Description

The E931.98 integrated circuit combines all required functions for a single chip Passive Infra-Red (PIR) motion sensor. Motion detection is signaled through the push-pull REL output. A digital input OEN enables REL output.

The load is switched during mains voltage zero crossing. The algorithm adapts to the relay type and mains frequency. A LED output indicates whenever the PIR Signal is above the selected threshold.

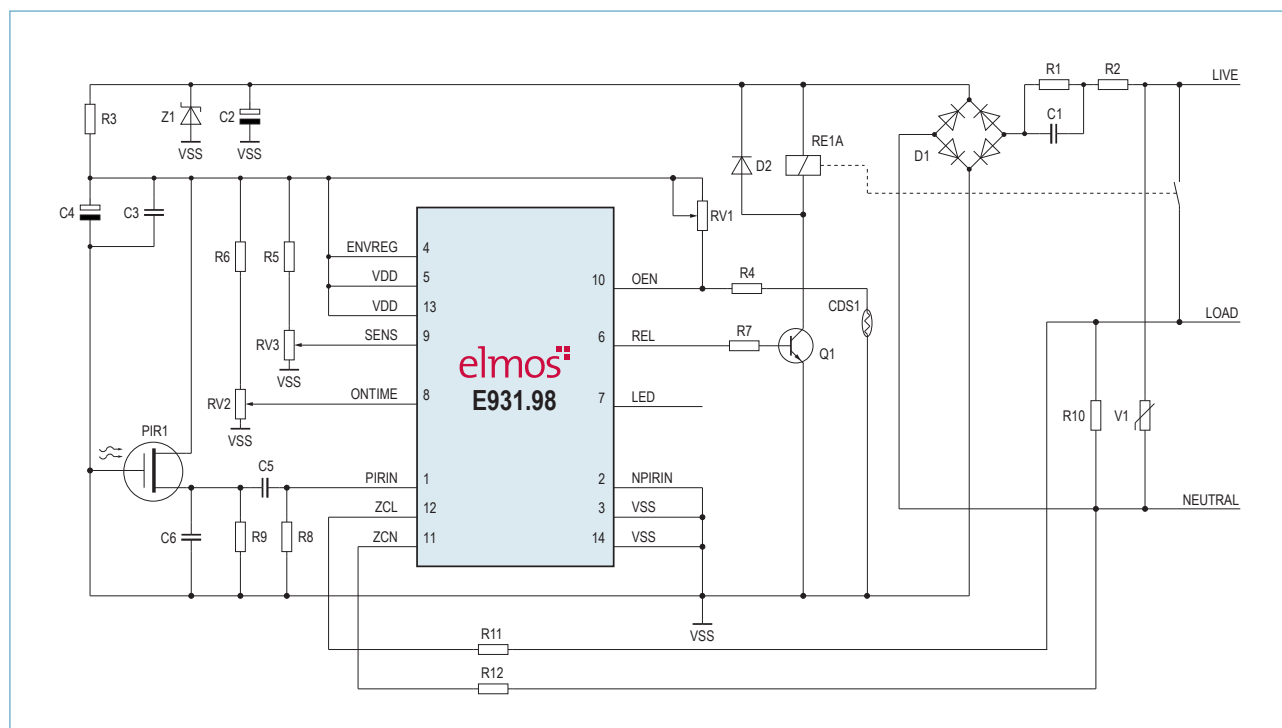
The E931.98 interfaces directly with up to two conventional PIR sensors via a high impedance differential input. The PIR signal is converted to a 15 bit digital value on chip.

The parameters for sensitivity and timing are set by connecting the corresponding inputs to DC voltages. The voltage levels on the inputs are converted to digital values with 7 bit resolution. All signal processing is performed digitally.

Ordering Information

Product ID	Op. Temp. Range	Package
E931.98	-25°C to +85°C	SOIC14N/TSSOP14

Typical Application Circuit



This document contains information on a pre-production product. Elmos Semiconductor AG reserves the right to change specifications and information herein without notice.

Elmos Support

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Headquarters

Elmos Semiconductor AG

Heinrich-Hertz-Str. 1
44227 Dortmund (Germany)
Phone: +49 (0) 231 / 75 49-100
Fax: +49 (0) 231 / 75 49-149
sales-germany@elmos.com
www.elmos.com

Sales and Application Support Office North America

Elmos NA. Inc.

32255 Northwestern Highway, Suite 220
Farmington Hills, MI 48334 (United States)
Phone: +1 (0) 248 / 8 65 32 00
sales-usa@elmosna.com

Sales and Application Support Office Korea and Japan

Elmos Korea

B-1007, U-Space 2, #670 Daewangpangyo-ro,
Sampyoung-dong, Bunddang-gu, Sungnam-si
Kyounggi-do 463-400 Korea
Phone: +82 (0)31 / 7 14 11 31
sales-korea@elmos.com

Sales and Application Support Office China

Elmos Semiconductor Technology (Shanghai) Co., Ltd.

Unit London, 1BF GC Tower,
No. 1088 YuanShen Road,
Pudong New District,
Shanghai, PR China, 200122
Phone: +86 (0) 21 / 51 78 51 88
Fax: +86 (0) 21 / 51 78 52 05
sales-china@elmos.com

中国地区销售与应用支持

艾尔默斯半导体技术（上海）有限公司
中国上海浦东新区源深路1088号
葛洲坝大厦1B楼伦敦单元, 200122
电话: +86 (0) 21 / 51 78 51 88
传真: +86 (0) 21 / 51 78 52 05
sales-china@elmos.com

Sales and Application Support Office Singapore

Elmos Semiconductor Singapore Pte Ltd.

3A International Business Park
#09-13 ICON@IBP
609935 Singapore
Phone: +65 (0) 6908 1261
Fax: +65 (0) 6570 5906
sales-singapore@elmos.com

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