

SSL Interface Controller for Analog (0-10V), PWM, and Resistor Dimming with Optocoupler Delay Elimination

1 Description

The iW339 is a PWM signal generator that works with three different types of dimming inputs, 0-10V PWM dimming, 0-10V linear dimming or simple dimming using a single resistor to ground from the DIM pin. The iW339 converts either of these three signals into a 0%-100% PWM duty cycle that can then be used to provide a dimming signal to a primary-side LED driver such as the iW3636, removing the need for transformers or other driver circuitry. The output of the iW339-01 is optimized in such a way as to remove the impact of the non-linear delay typical of optocouplers. The output of the iW339-00 provides a standard PWM output.

The output PWM frequency can be programmed from 100Hz to 50kHz through a single capacitor to ground. The input to the iW339 integrates the necessary current source to interface with both active and passive 0-10V dimmers without additional circuitry, while the output can drive an optocoupler to provide isolated dimming control from the secondary to the primary.

2 Features

- 15V to 60V operating voltage
- 3-in-1 dimmer interface
 - » 0-10V linear dimming
 - » 0-10V PWM dimming
 - » Single resistor dimming
- SOIC-8 package
- Low power shutdown mode
- 0% to 100% PWM output
 - » 1% PWM duty cycle tolerance
 - » Selectable frequency range via external capacitor
 - » Unique duty cycle drive to account for non-linear optocoupler delay
- Integrated current source for driving 0-10V dimmer
- Integrated optocoupler driver for isolated applications

3 Applications

- 0-10V LED dimming application
- 3-in-1 LED driver interface chip (0-10V linear, 0-10V PWM and R dimming) dimming LED driver application

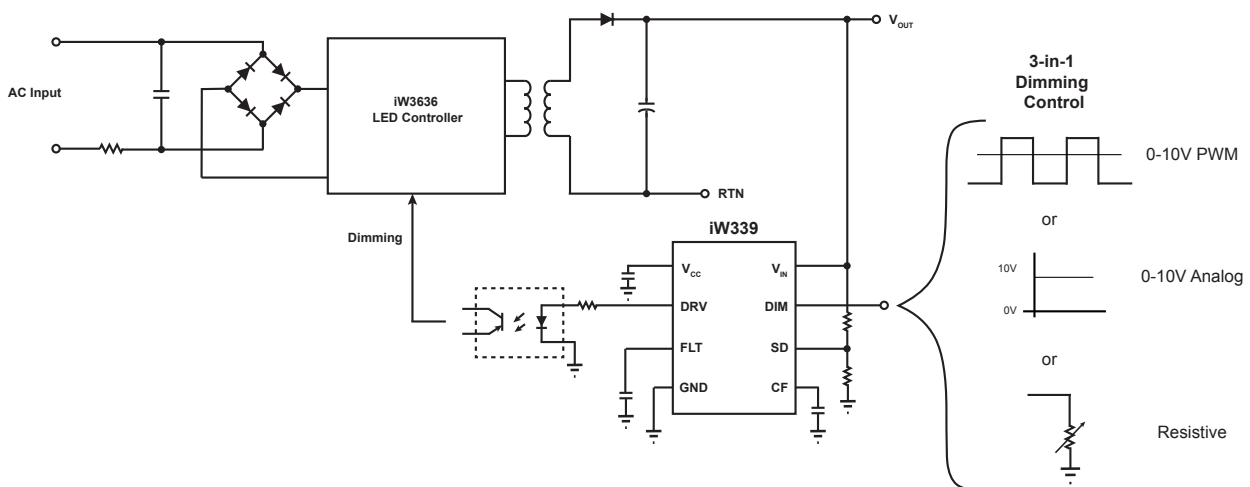


Figure 3.1 : iW339 Typical Application Circuit

SSL Interface Controller for Analog (0-10V), PWM, and Resistor Dimming with Optocoupler Delay Elimination

4 Pinout Description

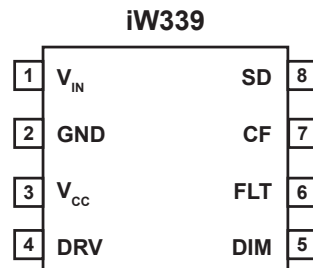


Figure 4.1 : 8-Lead SOIC Package

Pin Number	Pin Name	Type	Pin Description
1	V _{IN}	Analog Input	Power supply up to 60V.
2	GND	Ground	Ground.
3	V _{CC}	Power	Power supply for control logic.
4	DRV	Output	PWM driver.
5	DIM	Analog Input	Dimming interface connection.
6	FLT	Analog Input	Dimming signal filter capacitor connection.
7	CF	Analog Input	Sets the PWM output frequency: 100Hz to 50kHz.
8	SD	Analog Input	Shuts down the IC if voltage is over 2V.

SSL Interface Controller for Analog (0-10V), PWM, and Resistor Dimming with Optocoupler Delay Elimination

5 Absolute Maximum Ratings

Absolute maximum ratings are the parameter values or ranges which can cause permanent damage if exceeded.

Parameter	Symbol	Value	Units
V _{IN} to GND	V _{CC}	-0.3 to 65	V
DIM to GND		-0.3 to 65	V
DRV, FLT, CF, SD to GND		-0.3 to 5	V
ESD rating (HBM)		±2	kV
Storage temperature range		-65 to +150	°C
Maximum junction temperature		150	°C

SSL Interface Controller for Analog (0-10V), PWM, and Resistor Dimming with Optocoupler Delay Elimination

6 Physical Dimensions

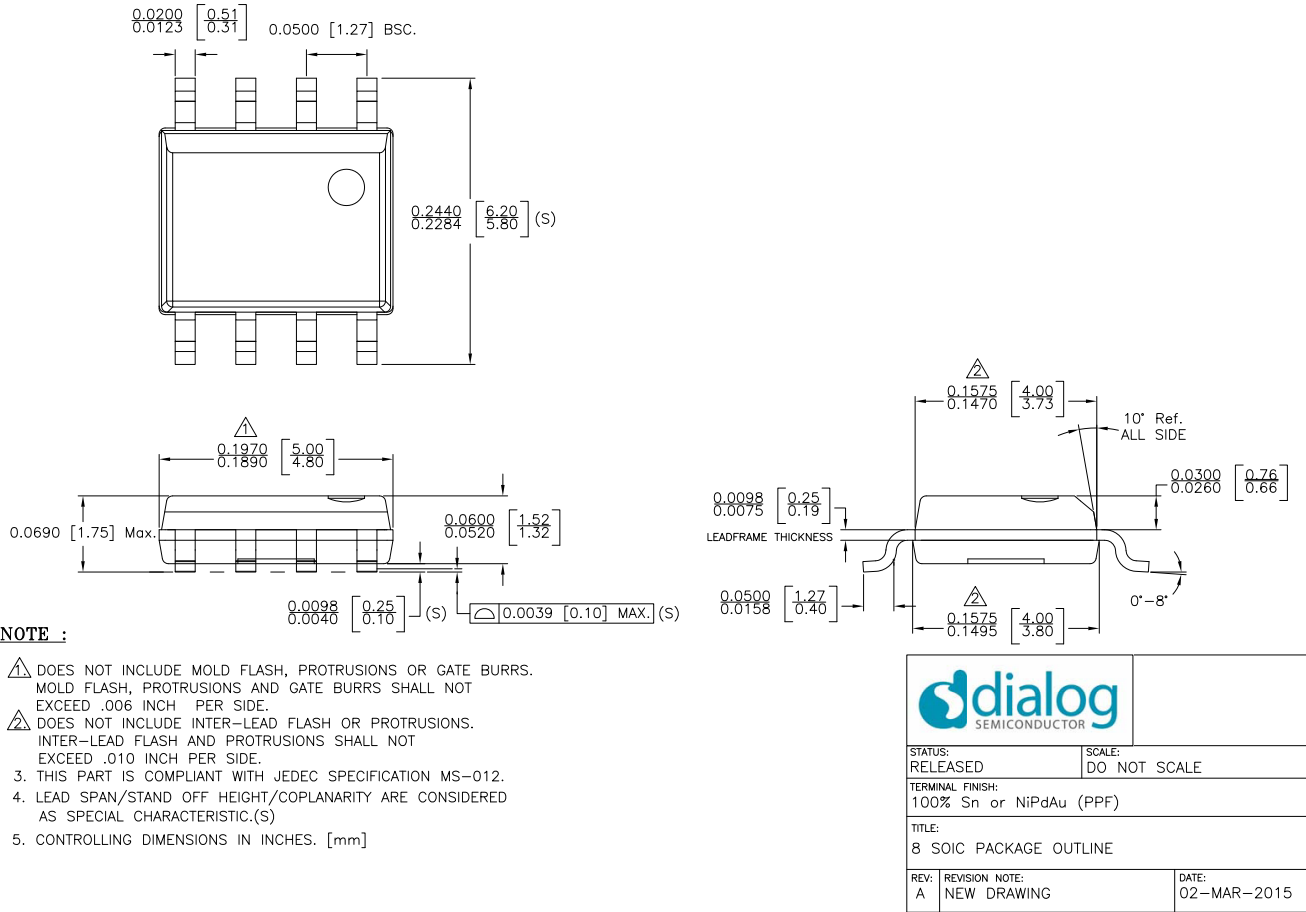


Figure 6.1 : Physical Dimensions of 8-Pin SOIC Package

7 Ordering Information

Part Number	Options	Package	Description
iW339-00	Standard PWM Output	SOIC-8	Tape & Reel ¹
iW339-01	Calibration Capable PWM Output	SOIC-8	Tape & Reel ¹

Note 1. Tape and reel packing quantity is 2,500/reel. Minimum packing quantity is 2,500.

SSL Interface Controller for Analog (0-10V), PWM, and Resistor Dimming with Optocoupler Delay Elimination

Disclaimer

Information in this document is believed to be accurate and reliable. However, Dialog Semiconductor does not give any representations or warranties, expressed or implied, as to the accuracy or completeness of such information. Dialog Semiconductor furthermore takes no responsibility whatsoever for the content in this document if provided by any information source outside of Dialog Semiconductor.

Dialog Semiconductor reserves the right to change without notice the information published in this document, including without limitation the specification and the design of the related semiconductor products, software and applications.

Applications, software, and semiconductor products described in this document are for illustrative purposes only. Dialog Semiconductor makes no representation or warranty that such applications, software and semiconductor products will be suitable for the specified use without further testing or modification. Unless otherwise agreed in writing, such testing or modification is the sole responsibility of the customer and Dialog Semiconductor excludes all liability in this respect.

Customer notes that nothing in this document may be construed as a license for customer to use the Dialog Semiconductor products, software and applications referred to in this document. Such license must be separately sought by customer with Dialog Semiconductor.

All use of Dialog Semiconductor products, software and applications referred to in this document are subject to [Dialog Semiconductor's Standard Terms and Conditions of Sale](#), available on the company website (www.dialog-semiconductor.com) unless otherwise stated.

Dialog and the Dialog logo are trademarks of Dialog Semiconductor plc or its subsidiaries. All other product or service names are the property of their respective owners.

© 2018 Dialog Semiconductor. All rights reserved.

RoHS Compliance

Dialog Semiconductor's suppliers certify that its products are in compliance with the requirements of Directive 2011/65/EU of the European Parliament on the restriction of the use of certain hazardous substances in electrical and electronic equipment. RoHS certificates from our suppliers are available on request.

Contacting Dialog Semiconductor

United Kingdom (Headquarters)
Dialog Semiconductor (UK) LTD
Phone: +44 1793 757700

Germany
Dialog Semiconductor GmbH
Phone: +49 7021 805-0

The Netherlands
Dialog Semiconductor B.V.
Phone: +31 73 640 8822

Email
info_pcbg@diasemi.com

North America
Dialog Semiconductor Inc.
Phone: +1 408 845 8500

Japan
Dialog Semiconductor K. K.
Phone: +81 3 5769 5100

Taiwan
Dialog Semiconductor Taiwan
Phone: +886 281 786 222

Web site:
www.dialog-semiconductor.com

Hong Kong
Dialog Semiconductor Hong Kong
Phone: +852 2607 4271

Korea
Dialog Semiconductor Korea
Phone: +82 2 3469 8200

China (Shenzhen)
Dialog Semiconductor China
Phone: +86 755 2981 3669

China (Shanghai)
Dialog Semiconductor China
Phone: +86 21 5424 9058

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Dialog Semiconductor:](#)

[iW339-00](#)



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.