

OLED Lighting Driver IC

World's First Solution to Enable Ultra-slim, Energy-efficient & Smooth Dimming Control of OLED Lighting Applications



OLEDs - The Next Generation Lighting

Organic light emitting diodes, commonly referred to as OLEDs, are believed to be the technology for next generation lighting which revolutionizes the whole lighting and space concept.

OLEDs provide an area-lighting panel featuring superior color temperature and lighting quality (i.e. not point-lighting like LEDs). They provide a light emitting surface extremely lightweight, and can be produced thinner than 1.5 mm. They can also be produced in every form and so it is possible to create transparent and flexible panels in different colours and sizes. In addition, OLED lighting has other advantages over traditional lighting, including being long-giving, natural and recyclable, with no heat, glare, UV, hazardous substances or blue light risk.

World's first OLED Lighting Driver Controller

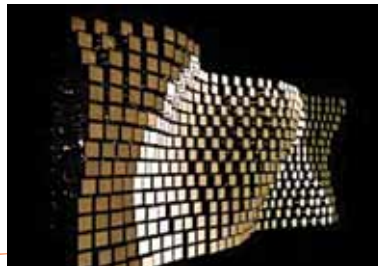
Solomon Systech offers the world's first single-chip OLED Lighting Driver Controller **SSD2355** which supports single or multiple mono OLED lighting panels simultaneously. **SSD2355** OLED lighting driver controller enables this unique lighting technology with strong potential which facilitates the creation of imaginative and efficient lighting fixtures.

SSD2355: Special Features

- Multiple-phase buck driving scheme
 - enable ultra-slim lighting fixture of $\leq 1.5\text{mm}$
 - cost-effective: 4 pcs of magnetic components only
- Dynamic output current: 5uA - 1.2A
- Wide dimming depth of 18bit: enable good dimming control quality
- Programmable Gamma setting: enable smooth brightness transition
- A large variety of digital control interfaces to support different forms of luminaire: DC, PWM, I²C and DMX512
- Independent output PWM frequency of 4kHz: flicker-free

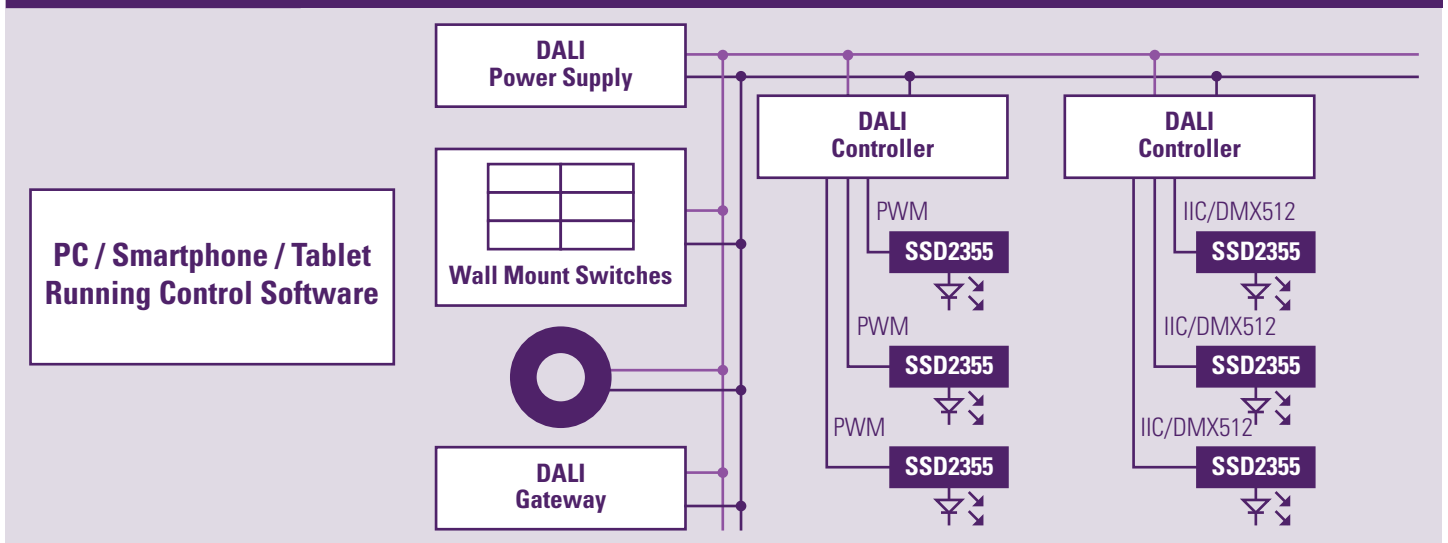
Applications: Unlimited Possibilities

- A wide variety of lightings: interior, architectural, stage, automotive, avionic, etc.
- Furniture elements (mirrors and other surfaces)
- As part of an interior space, room or building



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Application Diagram



SSD2355 Advantages VS LED Driver

	SSD2355	LED Driver	Comparison
Topology	buck	buck	-
Input voltage range	9V~45V	10V~60V	-
Maximum output current	1.2A	1A	-
Maximum switch frequency	1MHz	1MHz	-
Multiphase driving	Yes	No	Multiphase for thin form factor
Single phase driving	Yes	Yes	Single phase for low cost module and compact design
Gamma mapping on dimming (Gamma 1.0-2.0)	Yes	No	Allow adjustment in fine steps even in low brightness
Brightness transition	Yes	No	Ultra smooth dimming through all light levels
PWM and DC dimming	Yes	Yes	-
PWM input range	1KHz~10KHz	100Hz~1KHz	Independent of PWM output frequency
Digital control dimming mode	DMX512, IIC	No	Multiplex 255 panels for complex lighting effect
Max. dimming output range	240000:1	1000:1	Support 5uA to 1.2A with 18 bit current depth
PWM output frequency	4KHz	100Hz~1KHz	Flicker-free lighting for photo and video shooting
Thermal protection	Yes	Yes	-
Operating temperature range	-40°C to 125°C	-40°C to 125°C	-

Solomon Systech Limited

Solomon Systech Limited is a leading semiconductor company providing display IC products and system solutions that enable a wide range of display applications for smartphones, smart TVs and other smart devices including consumer electronics products, wearables, portable devices and industrial appliances.

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