

Datasheet

LuxaLight Pixel LED-strip GS8208 12V Digital RGB Protected High Power Black PCB (12 Volt, 96 LEDs, 5050, IP64)

LS12RGB96BLCKGS8208VPLX

Version: 2025-02-28.3

Product description

This **LuxaLight professional 12V digital LED strip** is designed for applications where flexible, custom lighting is required, offering a high level of control over each individual LED pixel. The strip has a black **PCB** with a thickness of **3 oz/ft²** and contains 96 RGB LEDs. Each LED is individually addressable thanks to the built-in **GS8208 IC**, which enables advanced control over the RGB colors and brightness settings. The **GS8208 IC** allows the LEDs to be controlled independently, enabling highly detailed light effects and color adjustments.

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These LED strips have the **GS8208 IC** embedded in the LED, making it possible to control each LED separately in color and brightness. Digital control is done by means of **Data 1**, and **Data 2** acts as a backup signal. If a faulty LED is encountered on **Data 1**, the signal will skip that LED, and **Data 2** will replace **Data 1**, ensuring continued operation.

The LED strip has an **IP64 rating**, meaning it is dustproof and provides protection against **moist environments**. This is further enhanced with a **silicon layer** that provides additional protection, making the strip suitable for both indoor and outdoor environments.

LED Strip Configuration

- **Voltage:** 12V
- **PCB Color:** Black
- **PCB Thickness:** 3 oz/ft²
- **Number of LEDs:** 96 RGB LEDs
- **Individually Addressable:** Each LED is individually addressable, allowing you to control the color and brightness of each LED separately.
- **IC:** The strip uses the **GS8208 IC**, which facilitates easy integration and control of the individual LEDs via a serial data link.
- **IP Rating:** **IP64**, dustproof and protected against moisture.
- **Silicon Layer:** The strip is covered with a protective silicon layer, enhancing durability and resistance to moisture.

GS8208 IC

The LED strip uses the **GS8208 IC**, which provides **PWM dimming** (pulse width modulation) for the RGB LEDs. This allows each LED to be individually dimmed and color adjusted, enabling detailed and advanced light effects.

Key Features of the GS8208 IC:

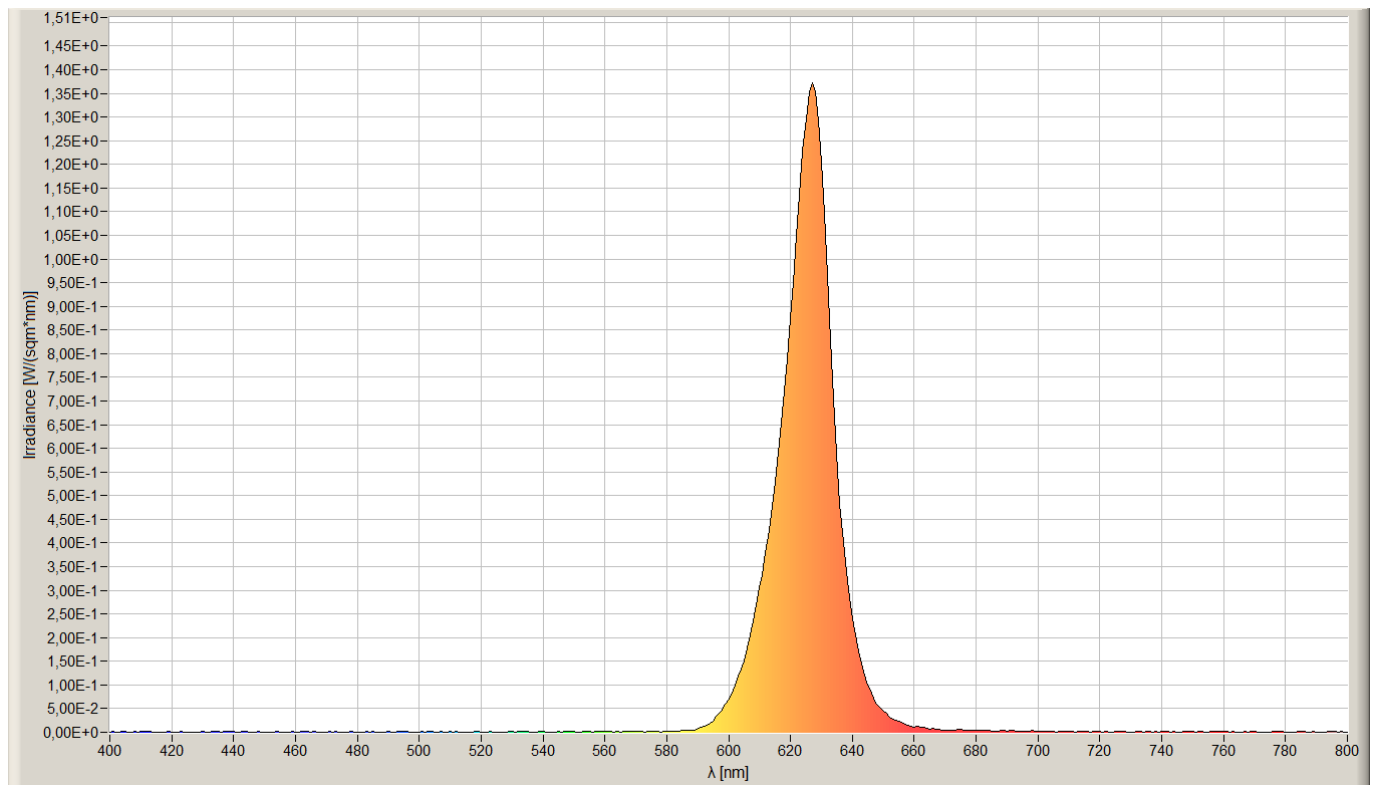
- **Individual Addressing:** Each LED can be controlled separately for precise color and brightness settings.
- **Color Management:** Supports RGB LEDs with **gamma correction** for enhanced color accuracy and smoother transitions.
- **Communication:** The IC uses a serial data interface, making it easy to integrate long chains of LED strips.
- **Backup Data Signal:** **Data 2** acts as a backup signal in case **Data 1** encounters a fault, ensuring the LED strip continues to function.
- **High PWM rate (8000Hz):** The IC's high PWM rate of 8000Hz allows for smooth pixel filming with cameras up to 267fps, providing clear and precise video recording of the LED strip.

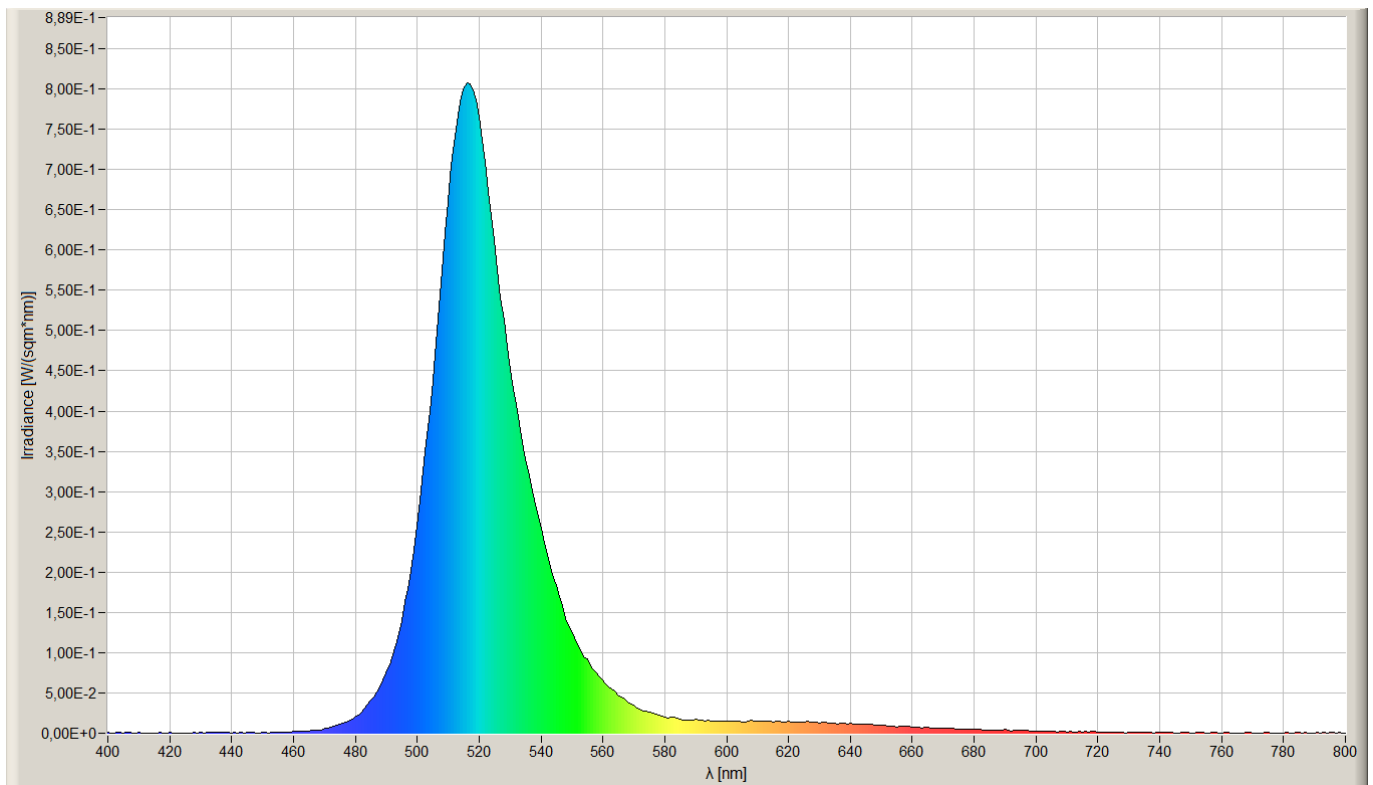
Technical specifications

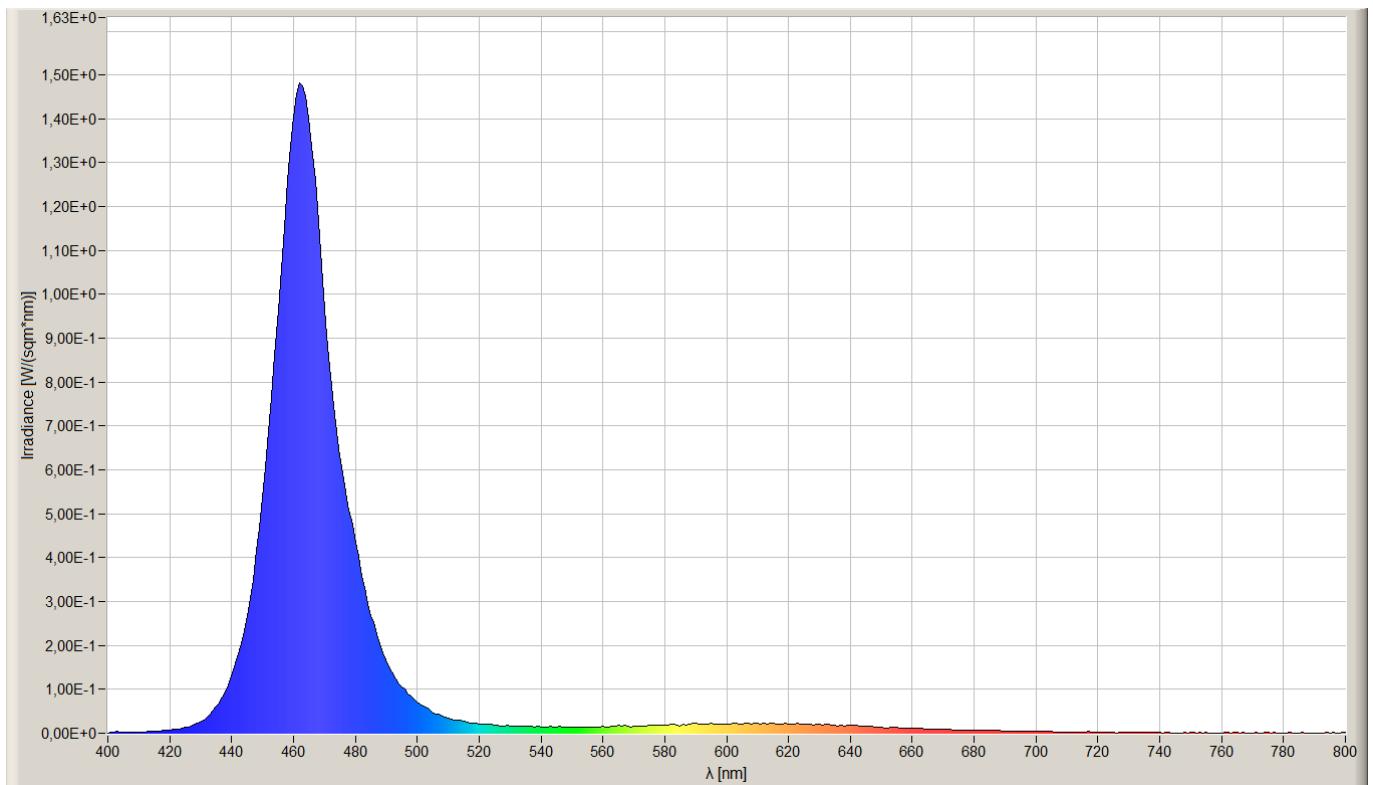
General												
Brand	LuxaLight											
LEDs / meter	96											
LED type	5050											
Length per reel	10 m											
LED strip width	12.00 mm											
LED strip thickness	4.00 mm											
PCB color	Black											
Mantle material	Silicon											
Warranty	5 years											
Lifetime	50000 hours											
Lighting												
Luminous Flux	1080 lm											
Luminous flux red	320 lm											
Luminous flux green	464 lm											
Luminous flux blue	296 lm											
Wave length Red	620~630 nm											
Wave length Green	510~525 nm											
Wave length Blue	455~470 nm											
BIN	3 SDCM											
Beam angle	120 °											
Electronics												
Working voltage	12V											
Current / meter	1.60 A / meter											
Power consumption per meter	19.20 W / meter											
PCB material	Copper											
Pinout	<table><tr><th>Symbol</th><th>Function</th></tr><tr><td>V+</td><td>V+</td></tr><tr><td>GND</td><td>Ground</td></tr><tr><td>D1</td><td>Data in</td></tr><tr><td>D2</td><td>Data backup</td></tr></table>		Symbol	Function	V+	V+	GND	Ground	D1	Data in	D2	Data backup
Symbol	Function											
V+	V+											
GND	Ground											
D1	Data in											
D2	Data backup											
Control												
Number of channels	3											
IC type	GS8208											
Environmental												
Operating temperature	-20 ~ +60 °C											

Storage temperature	-40 ~ +80 °C
IP class	IP 64
Directives - standards - certificates	
Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results







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