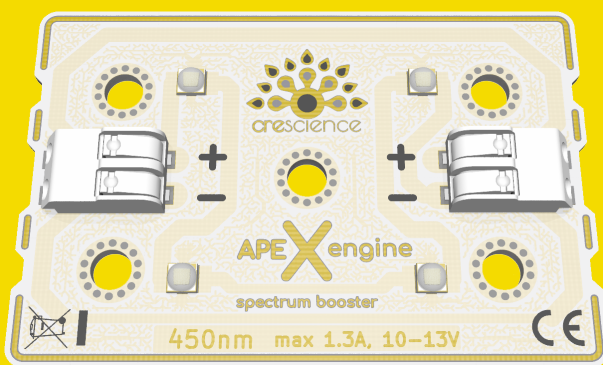


APEXengine 450

450nm

Datasheet and Application Notes



- Spektrumserweiterung für Wachstum und Geschmacksstoffe
- maximale Flexibilität für alle Anwendungen durch modulares Design
- Montage auf Standard-Nutprofilen

Note: Only qualified personnel may carry out work such as the installation and maintenance of live components. Qualified personnel are persons who are familiar with the installation, commissioning and operation of the product and have the required qualifications. Relevant standards as well as the user instructions must be observed.

1 Specification

1.1 Absolute Maximum Ratings

Property	Max.
Current ¹	1300 mA
Voltage ²	12.2 V
Power Consumption	16.0 W
Humidity	95 %RH ³
Board-Temperature	75 °C

1.2 Typical Performance

Property	Typ.	Max.
Current	650 mA	1300 mA
Power Consumption	7.7 W	16.2 W
Radiant Power	5.5 W	9.7 W
PPF	20.6 μmol/s	36.6 μmol/s
PPE	2.7 μmol/J	2.3 μmol/J
Wavelength	450 nm	
FWHM	20 nm	
Beam Angle	120 °	
Operational Range CC ¹	10.0 - 13.0 V	
Operational Range CV ²	0 - 1.3 A	

Test Conditions: $T_j=25\text{ °C}$

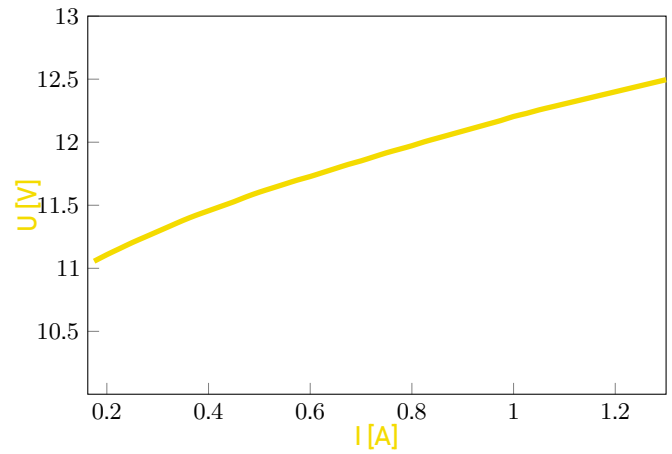
Tolerances: Voltage $\pm 0.5\%$, Photon Flux $\pm 7\%$, CRI ± 3

¹ Applies for constant current operation (CC)

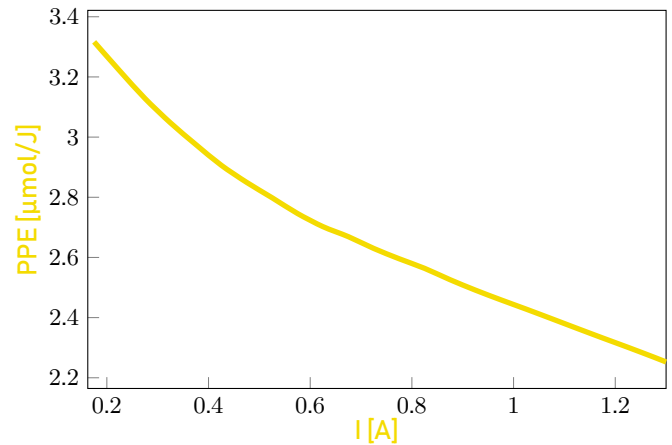
² Applies for constant voltage operation (CV)

³ Non condensing

Voltage vs. Current

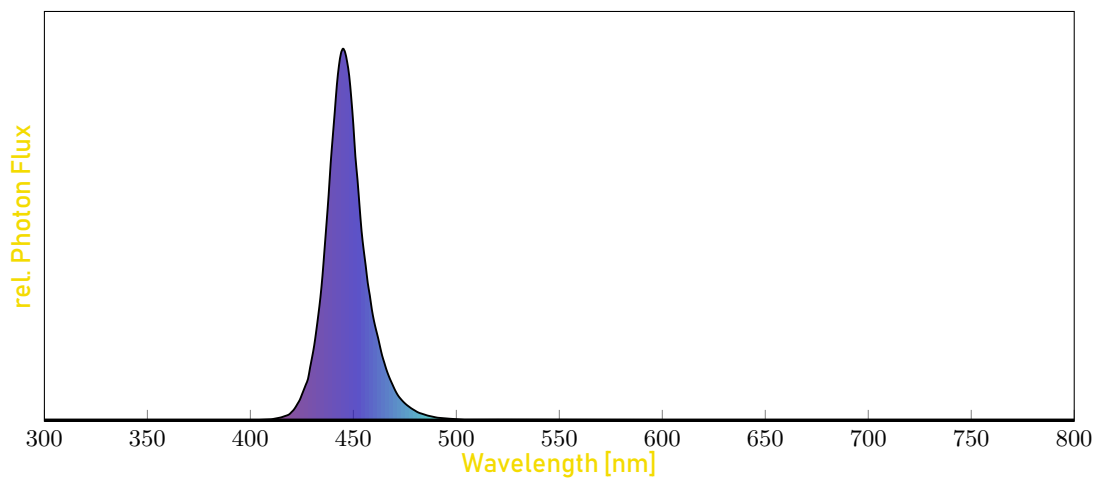


Photon Efficiency vs. Current



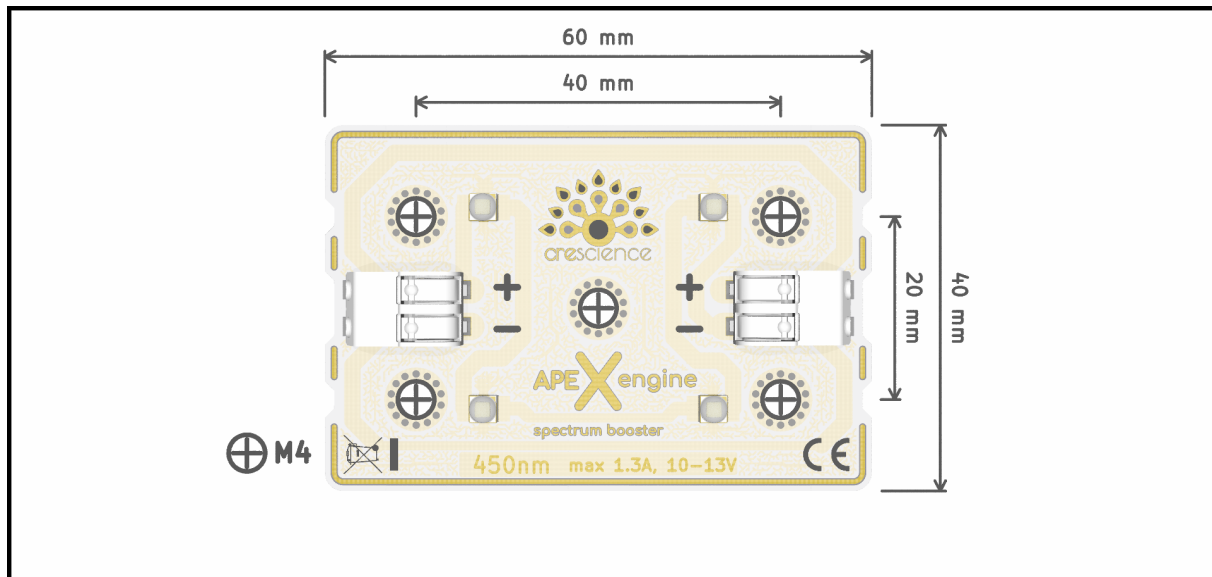
1.3 Spektrum 450nm

Photon Spectrum



1.4 Dimensions

Outline Dimensions: 60.0 mm x 40.0 mm x 7.5 mm
PCB Thickness: 3 mm



1.5 Connection

Connector: Terminal for solid and fine-stranded wires.
Conductor cross-section: 0.2 mm² - 0.75 mm² (AWG 24-18)
 - *with ferrule:* 0.25 mm² - 0.34 mm²
Terminal strip length: 7 - 9 mm
Wiring: Direct plugging of *solid conductors*.
 Opening of actuator for fine-stranded conductors.
 Releasing of any connection by pressing the actuator.

2 Application Notes

2.1 General Notes

- Do not exceed the absolute maximum ratings.
- Operating the module well below the maximum specification ensures efficient operation and improves longevity.
- When mounting with screws, please use plastic washers to protect the module from damage.
- Prefer series connection.
- Prefer constant current operation.
- Ensure sufficient heat dissipation.

2.2 Safety

Work on live components must only be carried out when the device is de-energized and by qualified personnel. Observe the risk of burns when touching heat-conducting components. Life-threatening voltage may be present during operation. Contact protection must be ensured.

Disclaimer

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