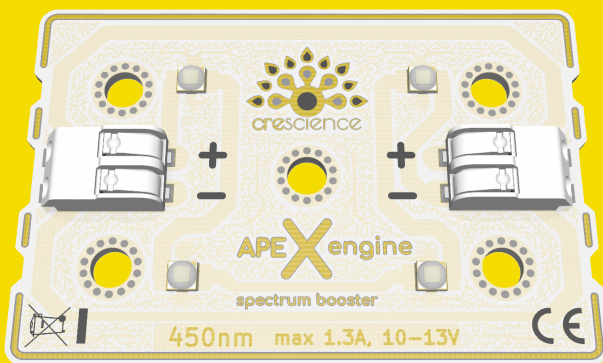


APEXengine

450 (Mk II)

Datasheet and Application Notes



- spectrum extension for vegetative growth and improved taste
- modular design for maximum flexibility
- optimized for easy and economic thermal management

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	2000 mA
Voltage ²	12.9 V
Power Consumption	25.8 W
Humidity	95 %RH ³
Board-Temperature	75 °C

1.2 Typical Performance

Property	Typ.	Max.
Current	750 mA	2000 mA
Power Consumption	9.1 W	27.1 W
PPF	23.0 μmol/s	54.3 μmol/s
PPE	2.5 μmol/J	2.0 μmol/J
Wavelength	445 nm	
FWHM	20 nm	
Beam Angle	140 °	
Operational Range CC ¹	10.0 - 14.0 V	
Operational Range CV ²	0.0 - 2.0 A	

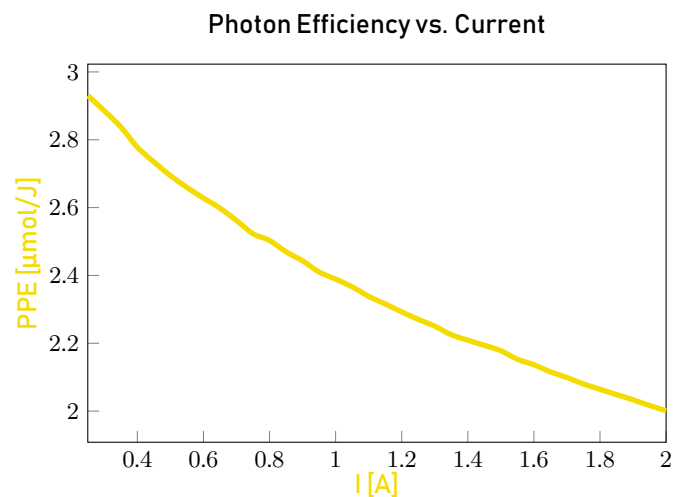
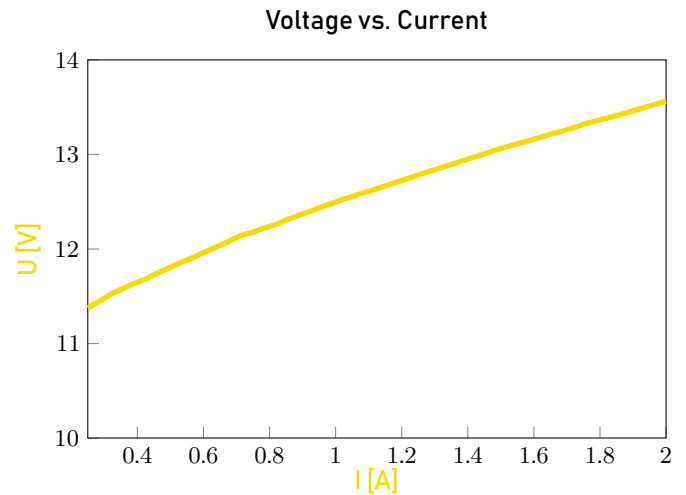
Test Conditions: $T_j = 25\text{ °C}$

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

¹ Applies for constant current operation (CC)

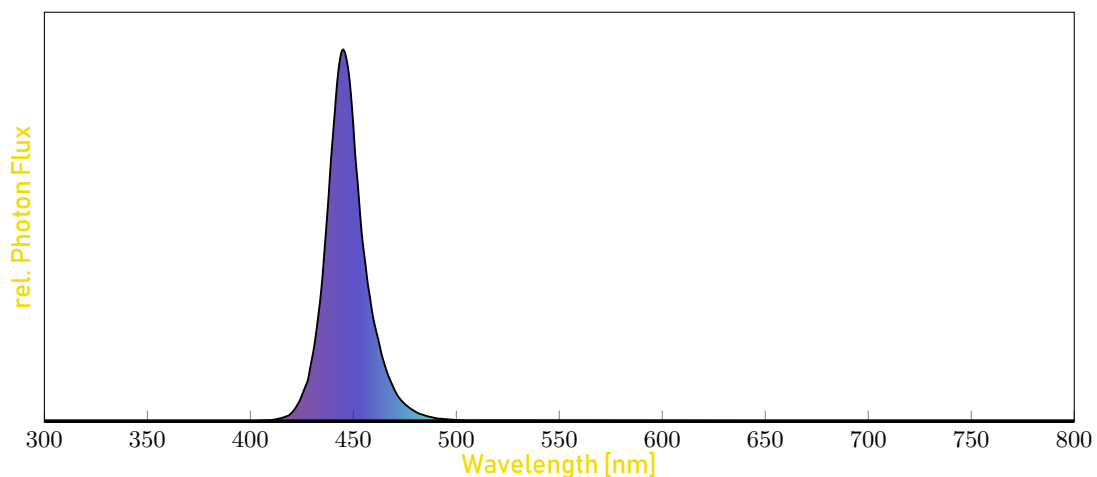
² Applies for constant voltage operation (CV)

³ Non condensing



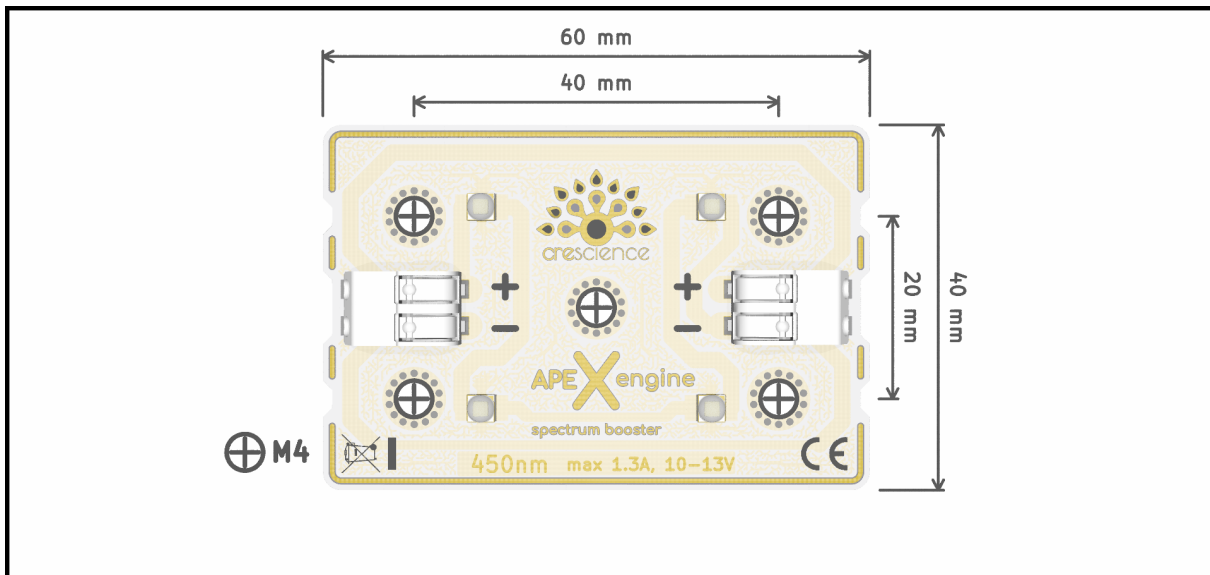
1.3 Spektrum 450nm

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.
- 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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