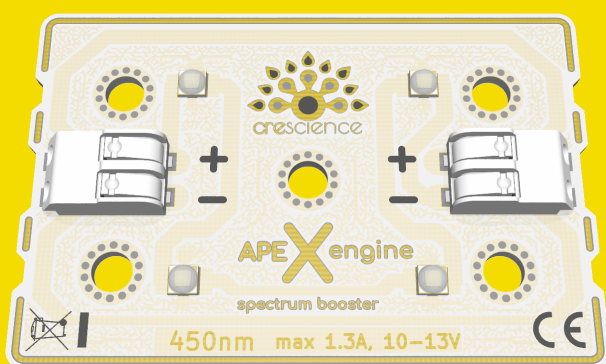


APEXengine

450

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	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: $T_j=25\text{ °C}$

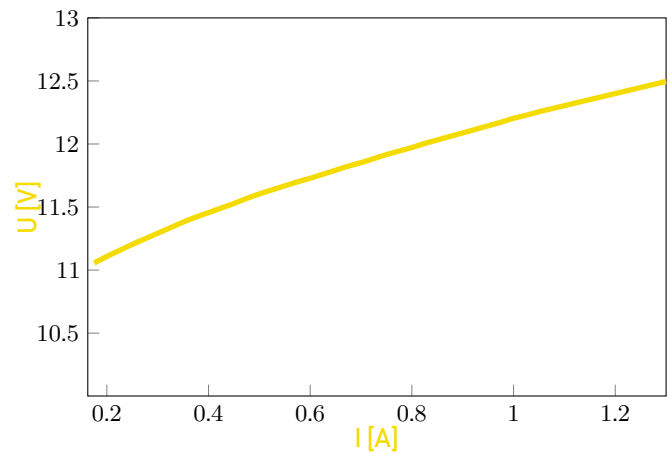
Tolerances: Voltage ±0,5%, Photon Flux ±7%, CRI ±3

¹ Applies for constant current operation (CC)

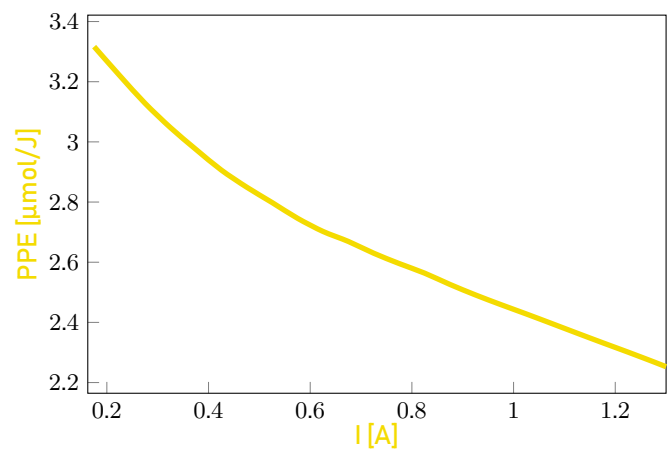
² Applies for constant voltage operation (CV)

³ Non condensing

Voltage vs. Current

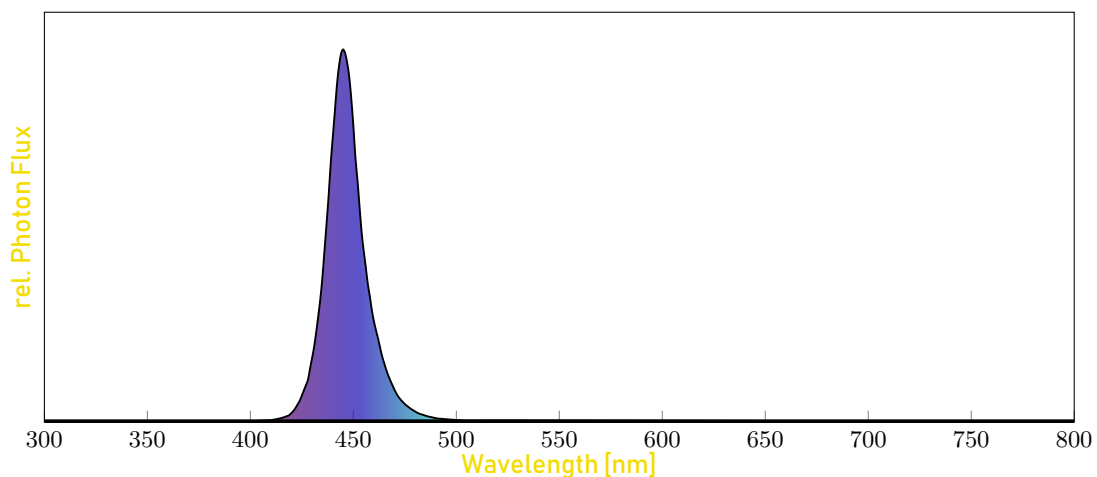


Photon Efficiency vs. Current



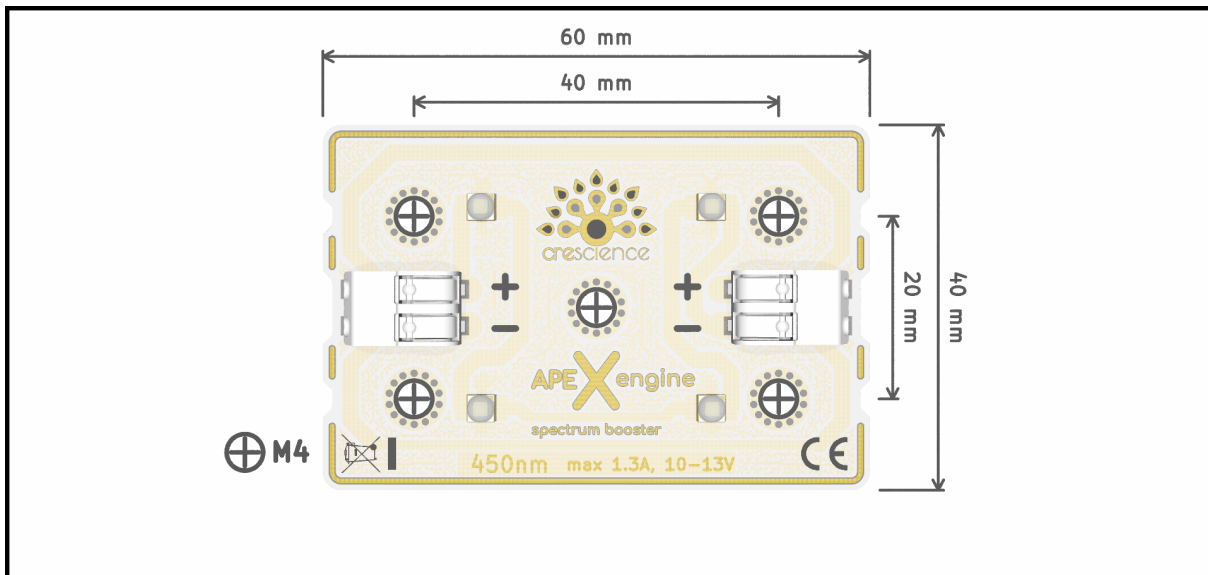
1.3 Spektrum 450nm

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.
- 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

The contents of this document and the user notes have been compiled with the greatest care and serve as general information; however, they do not replace individual advice and do not constitute any express or implied warranty, guarantee or assurance of the properties of the products described herein or their applicability or suitability for a particular purpose. Crescience UG (haftungsbeschränkt) is liable for damages resulting directly or indirectly from the use of the documents mentioned herein only in case of intent or gross negligence. This also applies to any damages due to lack of topicality, correctness, completeness or quality of the information provided. Changes in technology or product design are possible at any time and without prior notice.

Kontakt

CRESCIENCE UG (haftungsbeschränkt)
Niederhofener Straße 8
86972 Altenstadt
www.cre.science

E-Mail: info@crescience.de
WEEE-Register Nr.: DE 41415334