WINGER® WEPRB3-S1
Power LED Star, royal blue typ. 450 nm, typ. 35 lm, 120°



Item number	70045003501
Type	WEPRB3-S1
Brand	WINGER®
Package	Power LED on star MCPCB, 20 × 20 mm
Emitted colour	royal blue, typ. 450 nm
Viewing angle	120°

The WINGER® WEPRB3-S1 is a 3 W power LED on a star metal-core PCB (20 × 20 mm). It emits royal blue light (typ. 450 nm) at typ. 35 lm at 700 mA with a 120° viewing angle.

Operate from a 700 mA constant-current source. Ensure adequate cooling of the LED.

1 Optical and Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward voltage	V_F	3.2 [1]	3.4	3.6 [1]	V	I_F = 700 mA
Viewing angle (50 % power angle)	2θ½		120		°	I_F = 700 mA
Luminous flux	Φ_V		35		lm	I_F = 700 mA
Dominant wavelength	λ_D	440 [1]	450	450 [1]	nm	I_F = 700 mA
Recommended forward current	$I_{F(rec)}$		700		mA	
Reverse current	I_R			20 [1]	µA	V_R = 5 V

[1] Value according to the previous typ-identical datasheet version.
Measurement conditions: T_A = 25 °C [1] unless otherwise stated. The die temperature should not exceed 55 °C [1].
Measurement tolerances: forward voltage ±0.1 V [1]; luminous flux ±15 % [1]; viewing angle ±15 % [1].

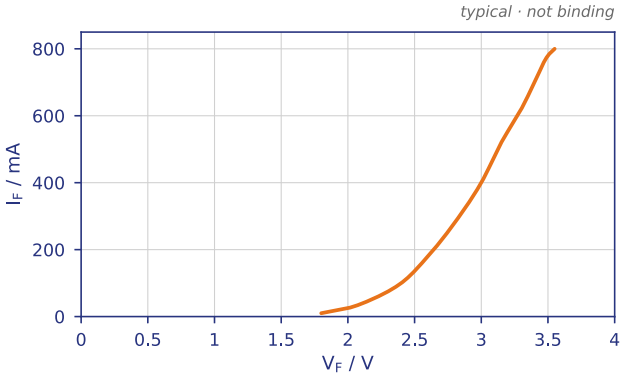
2 Absolute Maximum Ratings

Parameter	Symbol	Rating
Forward current	I_F	700 mA [1]
Peak forward current (duty cycle 1/10, pulse width 0.1 ms) [1]	I_{FP}	1200 mA
Reverse voltage	V_R	5 V [1]
Max. power dissipation	P_D	3 W
Operating temperature range	T_{OPR}	−20 … +60 °C
Storage temperature range	T_{STG}	−30 … +60 °C [1]
Soldering temperature [1]	T_{SOL}	max. 5 s at 260 °C

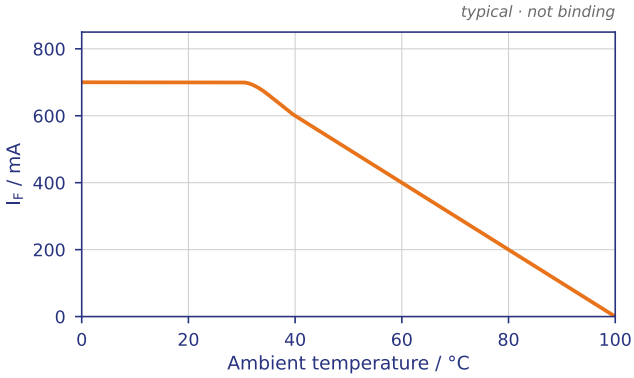
[1] Value according to the previous typ-identical datasheet version.

3 Characteristic Curves

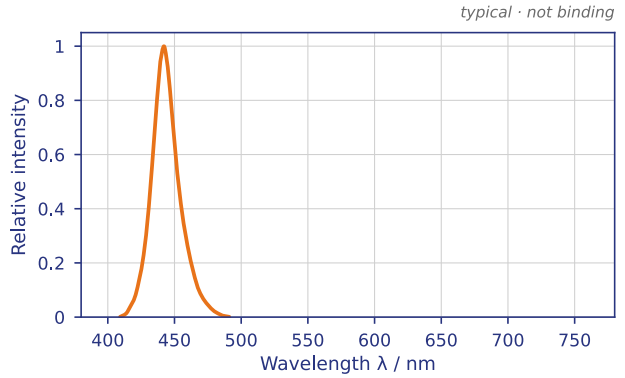
Forward current / forward voltage



Current derating



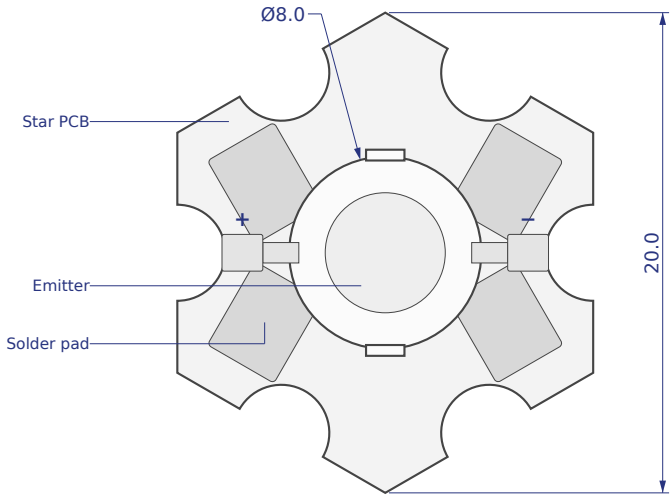
Spectrum



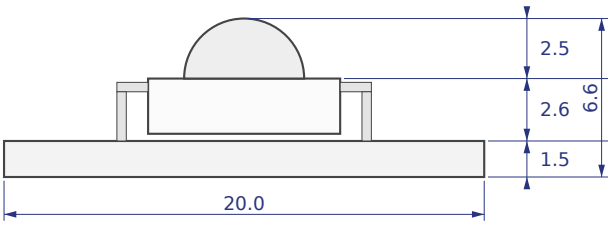
Curves show typical values at T_A = 25 °C unless stated otherwise.

4 Mechanical Data

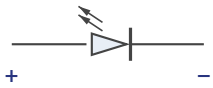
Parameter	Value
Package	Power LED on star MCPCB
Tip-to-tip	20.0 mm
Overall height	6.6 mm [1]
Emitter diameter	8.0 mm [1]
PCB thickness	1.5 mm [1]
Polarity	anode left (+), cathode right (−)



Top view



Side view



Dimensions in mm. General tolerance ±0.25 mm [1]. Anode (+), cathode (−).

[1] Value according to the previous typ-identical datasheet version.

5 Ordering Information and Packaging

Parameter	Value
Item number	70045003501
Type	WEPRB3-S1
Packaging	loose in bag
Packaging unit	20 pcs

6 Handling and Application Notes

- Always operate the LED from a 700 mA constant-current source – never connect it directly to a voltage source.
- When connecting LEDs in parallel, provide separate current limiting for each LED or string.
- Do not exceed the absolute maximum ratings, not even briefly; avoid reverse voltage. Ensure adequate cooling of the LED.
- Observe ESD precautions. Do not apply mechanical stress to the emitter or the lens while the LED is hot (during and directly after soldering). Let it cool down to room temperature first.
- Clean with isopropyl alcohol only if necessary; do not use aggressive solvents.
- Do not look directly into the LED at short distance for a longer period (glare).

7 Environmental Compliance

Parameter	Value
RoHS (EU) 2011/65/EU incl. (EU) 2015/863	compliant [4]
REACH (EC) 1907/2006	no SVHC of the candidate list above 0.1 % (w/w) known

Declarations of conformity are available on request.

[4] Typical value for this LED type; not individually measured / subject to confirmation.

8 Warranty and Application Limits

- Perform an acceptance inspection on arrival of the goods; return defective items stating the defect and quantity.
- Integration of the LEDs into the application and verification of service life and other qualities in practical use shall be carried out by the user.
- Do not use the LEDs in applications requiring higher reliability and safety where failure or malfunction could endanger life or health. The seller assumes no liability for claims or damages resulting from use contrary to the intended purpose or without written consent.
- The seller assumes no responsibility for damage or defects caused by operation at currents exceeding the absolute maximum ratings; these are not covered by warranty.

Values marked [4] are typical values for this LED type and have not been individually measured for this item; they are subject to confirmation. Please contact us for binding values: info@led1.de · +49 340 8508260.

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