WINGER® WEPRGB3-S1
Power LED Star, RGB
typ. R 50 / G 70 / B 25 lm, 120°

Item number	70099903000
Type	WEPRGB3-S1
Brand	WINGER®
Package	Power LED on star MCPCB, 20 × 20 mm
Emitted colour	RGB
Viewing angle	120°



The WINGER® WEPRGB3-S1 is a 3 W RGB power LED on a star metal-core PCB (20 × 20 mm). The three channels red, green and blue are each operated at typ. 350 mA; typical viewing angle 120°.

Operate each channel from a 350 mA constant-current source. Ensure adequate cooling of the LED.

1 Optical and Electrical Characteristics

Red

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward voltage	V_F		2.3		V	I_F = 350 mA
Luminous flux	Φ_V		50		lm	I_F = 350 mA
Dominant wavelength	λ_D		625		nm	I_F = 350 mA

Green

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward voltage	V_F		3.2		V	I_F = 350 mA
Luminous flux	Φ_V		70		lm	I_F = 350 mA
Dominant wavelength	λ_D		525		nm	I_F = 350 mA

Blue

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward voltage	V_F		3.2		V	I_F = 350 mA
Luminous flux	Φ_V		25		lm	I_F = 350 mA
Dominant wavelength	λ_D		465		nm	I_F = 350 mA

Common

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Viewing angle (50 % power angle)	2θ½		120		°	I_F = 350 mA
Recommended forward current (per channel)	$I_{F(rec)}$		350		mA	

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].

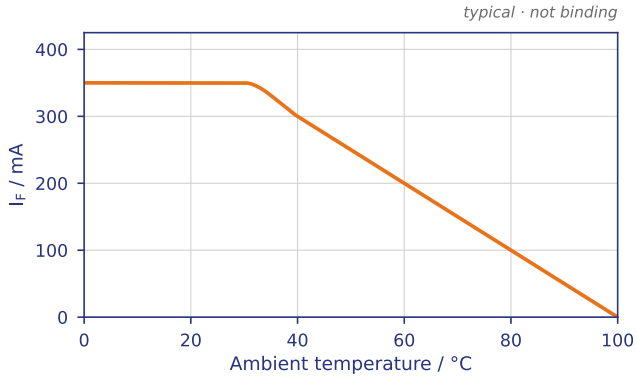
2 Absolute Maximum Ratings

Parameter	Symbol	Rating
Forward current (per channel)	I_F	3 × 350 mA [1]
Peak forward current (duty cycle 1/10, pulse width 0.1 ms) [1]	I_{FP}	3 × 600 mA
Reverse voltage	V_R	5 V [1]
Max. power dissipation	P_D	3 W
Operating temperature range	T_{OPR}	−25 … +85 °C [1]
Storage temperature range	T_{STG}	−35 … +105 °C [1]
Soldering temperature [1]	T_{SOL}	max. 5 s at 260 °C

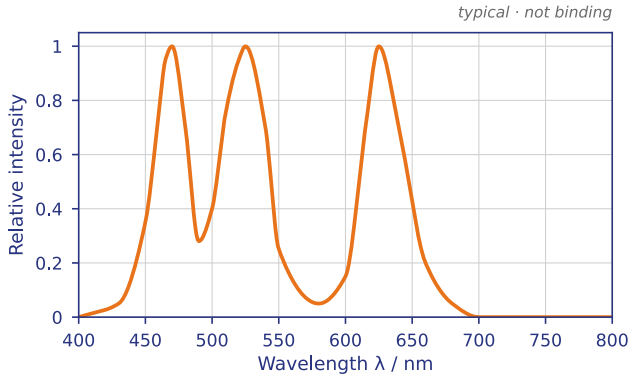
[1] Value according to the previous typ-identical datasheet version.

3 Characteristic Curves

Current derating



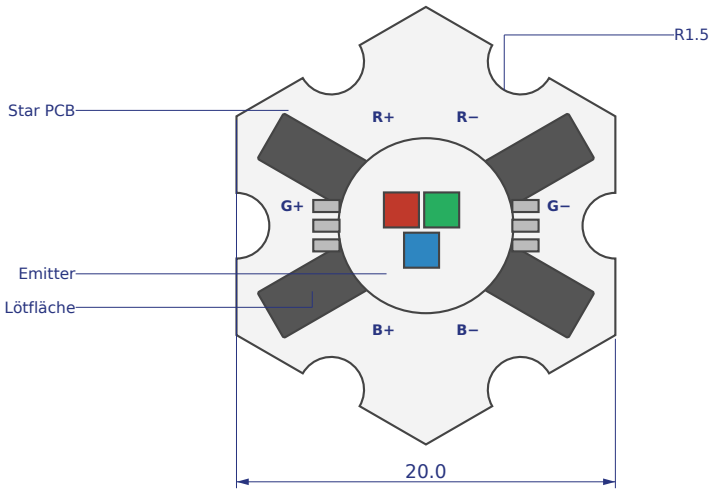
Spectrum



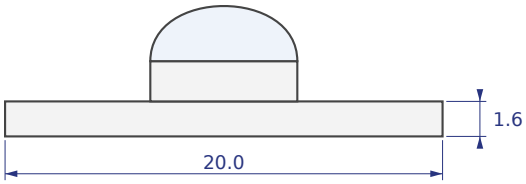
Curves show typical values at T_A = 25 °C unless stated otherwise.

4 Mechanical Data

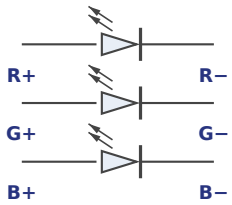
Parameter	Value
Package	RGB power LED on star MCPCB
Tip-to-tip	20.0 mm
PCB thickness	1.6 mm [1]
Emitter diameter	8.0 mm [1]
Notch radius	R 1.5 mm [1]



Top view



Side view



Dimensions in mm. General tolerance ±0.25 mm [1]. R/G/B terminals each + and −.

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

5 Ordering Information and Packaging

Parameter	Value
Item number	70099903000
Type	WEPRGB3-S1
Packaging	loose in bag
Packaging unit	20 pcs

6 Handling and Application Notes

- Always operate each channel from a 350 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.

Winger Electronics GmbH & Co. KG · LED1.de® · Sold only to businesses, public authorities, schools and freelancers. “LED1.de” and “WINGER” are registered trademarks. Status: November 2026 – Subject to technical changes and errors.