WINGER® WEEBL02-DW LED 5 mm blue, diffused, typ. 470 nm, up to 2,000 mcd

Item number	501470100
Type	WEEBL02-DW
Brand	WINGER®
Package	5 mm, diffused
Emitted colour	blue, typ. 470 nm
Luminous intensity	up to 2,000 mcd
Viewing angle	40°



The WINGER® WEEBL02-DW is a through-hole LED in the widely used 5 mm package with a diffused lens. It emits blue light at a typical wavelength of 470 nm, with a luminous intensity of up to 2,000 mcd and a viewing angle of 40°. No previous datasheet version of this type is available (the shop links the datasheet of the sister type WEEBL04-DW); values not stated in the shop are given as “on request”.

Typical uses are signalling and status indication, model making and markings. Diffused lenses give a less concentrated, lower-glare beam than water-clear types.

1 Optical and Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward voltage	V_F		3.2		V	
Viewing angle (50 % power angle)	2θ½		40		°	
Luminous intensity	I_V			2,000	mcd	
Dominant wavelength	λ_D		470		nm	
Forward current (operating) [6]	I_F		on request		mA	shop: 20 mA / 30 mA

[6] The shop lists forward current as “20 mA/30 mA” without distinguishing typ. and max.; the values are not assigned and are not invented. The shop-linked datasheet of the sister type WEEBL04-DW is not used as a source for this type.
Unless otherwise stated, values at T_A = 25 °C. Built from shop data only; the shop-linked previous datasheet is that of the sister type WEEBL04-DW and is not used here.

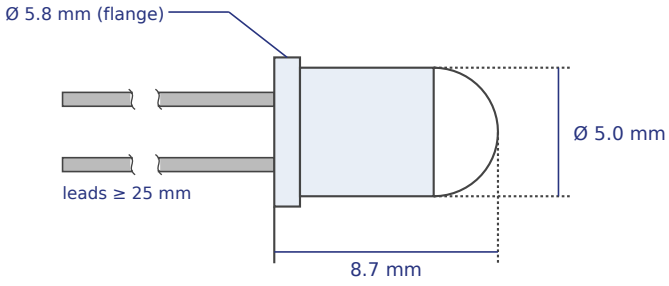
2 Absolute Maximum Ratings

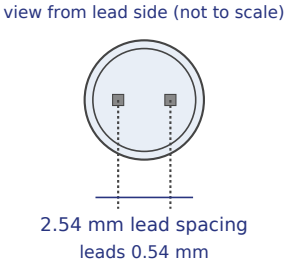
Parameter	Symbol	Rating
Forward current	I_F	on request
Peak forward current	I_{FP}	on request
Reverse voltage	V_R	on request
Max. power dissipation	P_D	100 mW
Operating temperature range	T_{OPR}	on request
Storage temperature range	T_{STG}	on request
Lead soldering temperature	T_{SOL}	on request

Absolute maximum ratings at T_A = 25 °C. Power dissipation 100 mW according to the shop. Other absolute maximum values are not stated in the shop and are given as “on request”.

3 Mechanical Data

Parameter	Value
Package	5 mm round, through-hole, diffused lens
Body diameter	Ø 5.0 mm
Flange diameter	Ø 5.8 mm
Body height (flange to lens tip)	8.7 mm
Height from flange front face to lens tip	7.7 mm
Lead spacing / lead cross-section	2.54 mm / 0.54 mm
Lead length	≥ 25 mm (anode; cathode shorter)
Polarity	long lead = anode (+); short lead and flat on flange = cathode (−)





Side view (schematic, not to scale). Long lead = anode, flat on flange = cathode side.

Dimensions in mm, taken from the product-page drawing (shop). Lead thickness is the single dimension shown on that drawing (not stated as a square cross-section). The 1.5 mm dimension on the shop drawing marks the stepped lead end, not a shortening of the cathode; the cathode is drawn shorter but is not dimensioned. No general tolerance is given on the shop drawing. Typgleiche 5 mm diffused datasheets of this outline family stated body Ø 4.9 mm (front view Ø 5 mm), lead thickness 0.5 mm, lead length MIN 25.0 mm, a cathode difference written “2.0~1.0 mm” (typographically unclear) and general tolerance ±0.25 mm. Shop dimensions take precedence.

4 Ordering Information and Packaging

Parameter	Value
Item number	501470100
Type	WEEBL02-DW
Packaging	loose in bag
Packaging unit	500 pcs per bag

5 Handling and Application Notes

- Always operate the LED with a current-limiting series resistor or a constant-current source – never connect it directly to a voltage source. Series resistor: $R = (U_{supply} - V_F) / I_F$.
- When connecting LEDs in parallel, use a separate series resistor for each LED or string.
- Do not exceed the absolute maximum ratings, not even briefly; avoid reverse voltage.
- Bend the leads only before soldering and at room temperature, never directly at the body (typ. at least 3 mm [4] from the body). Hold the lead firmly between body and bending point; never use the body as a fulcrum.
- Do not apply mechanical stress to the leads 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. Ultrasonic cleaning only after prior qualification.
- Do not look directly into the LED at short distance for a longer period (glare).

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

6 ESD Protection

Parameter	Value
ESD withstand voltage (HBM)	1,000 V [4] (HBM, ANSI/ESDA/JEDEC JS-001)

- LEDs are electrostatic-sensitive devices (ESD). Electrostatic discharge or voltage surges can damage the LED immediately or reduce its service life without visible signs.
- Handle and process only in an ESD protected area (EPA) in accordance with IEC 61340-5-1: grounded work surfaces, equipment and soldering irons, wrist straps or ESD gloves, ESD-safe packaging and transport containers.
- Keep the LEDs in their ESD-safe packaging until processing.

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

7 Soldering Instructions

Parameter	Value
Wave soldering	max. 260 °C, max. 5 s, at least 3 mm from the body [4]
Preheating (wave soldering)	max. 100 °C, max. 60 s [4]
Hand soldering	max. 350 °C, max. 3 s, at least 3 mm from the body, once only [4]

- Recommended methods: wave soldering or hand soldering. Through-hole LEDs are not intended for reflow soldering unless explicitly stated.
- Solder only once if possible and keep the specified minimum distance between soldering point and body. Never dip the body into the solder.
- Hand soldering: use a temperature-controlled, grounded soldering iron; do not touch the body with the tip.
- Shorten the leads preferably after soldering and without transferring stress to the body.

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

8 Storage

Parameter	Value
Storage temperature	on request
Recommended storage conditions	≤ 30 °C, ≤ 60 % RH, in original packaging [4]
Shelf life	12 months from delivery in unopened original packaging [4]

- Store in the original packaging in a dry, clean environment free of corrosive gases. Avoid condensation and rapid temperature changes.
- High humidity or sulphur-containing atmospheres can discolour the lead surface and impair solderability; process the LEDs promptly.

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

9 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 [4]

Declarations of conformity are available on request.
Dispose of as electronic waste in accordance with local regulations.

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

10 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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