WINGER® LED 5 mm yellow (amber) blinking, typ. 588 nm, diffused, up to 2,000 mcd

Item number	503590101
Brand	WINGER®
Package	5 mm, yellow diffused, blinking
Emitted colour	yellow (amber) blinking, typ. 588 nm
Luminous intensity	up to 2,000 mcd
Viewing angle	20°



This WINGER® LED (Art. 503590101, no type code) is a through-hole 5 mm blinking LED with a yellow diffused lens. The typical dominant wavelength is 588 nm, the maximum luminous intensity 2,000 mcd, the viewing angle typ. 20°, and the flash frequency typ. 1.5 Hz.

Operating voltage 3.5 V to 14 V DC without a series resistor. Typical supply current is 20 mA.

1 Optical and Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Operating voltage	V_{DD}	3.5		14	V	DC, no series resistor
Supply current	I		20		mA	
Viewing angle (50 % power angle)	2θ½		20		°	
Luminous intensity	I_V			2,000	mcd	
Dominant wavelength	λ_D		588		nm	
Flash frequency	f		1.5		Hz	

Values not stated are marked “on request”.

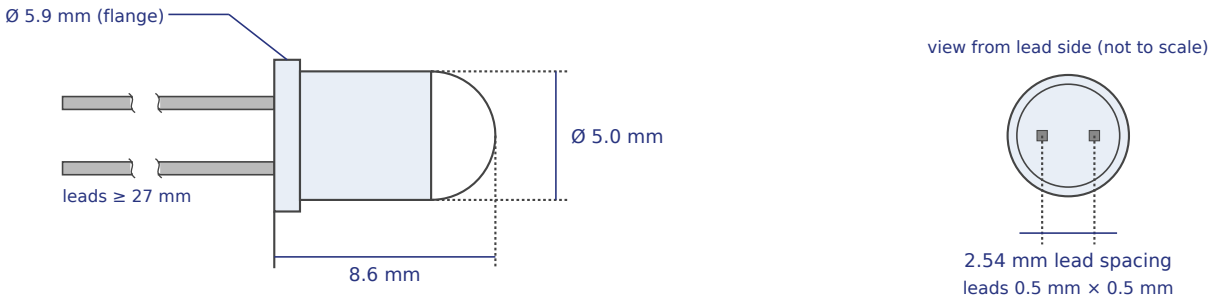
2 Absolute Maximum Ratings

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	on request
Operating temperature range	T_{OPR}	on request
Storage temperature range	T_{STG}	on request
Lead soldering temperature	T_{SOL}	on request

Absolute maximum ratings on request.

3 Mechanical Data

Parameter	Value
Package	5 mm round, through-hole, yellow diffused lens, 2 leads
Body diameter	Ø 5.0 mm
Flange diameter	Ø 5.9 mm
Flange thickness	1.0 mm (max. 1.0 mm)
Overall body height (flange back to tip)	8.6 mm
Lead spacing	2.54 mm typ.
Lead cross-section	□ 0.5 mm ±0.05 mm
Additional lead-exit dimensions	0.7 MAX and 1.0 MAX
Lead length	≥ 27 mm; cathode typ. 1.5 mm shorter
Polarity	the shorter lead is the cathode (−); no flange flat is shown in the end view



Side view (schematic, not to scale). The shorter lead is the cathode (−), typ. 1.5 mm shorter. The end view does not show a flange flat. Leads shown shortened. Additional dimensions at the lead exit: 0.7 MAX and 1.0 MAX (see table).

Dimensions in mm.

4 Ordering Information and Packaging

Parameter	Value
Item number	503590101
Packaging	loose in bag
Packaging unit	500 pcs per bag

5 Handling and Application Notes

- Operate this blinking LED at 3.5–14 V DC without a series resistor. Typical supply current 20 mA. Do not exceed the stated current, voltage and power ratings (where given).
- When connecting several of these LEDs, observe the ratings of each device.
- 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 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.

6 ESD Protection

Parameter	Value
ESD withstand voltage (HBM)	AlInGaP (yellow): typ. 2,000 V

- 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.

7 Soldering Instructions

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

- 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.

8 Storage

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

- 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.
- Store cool and dry; protect from direct sunlight and heat; keep away from ignition sources. Storage temperature on request.

9 Environmental Compliance

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

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

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.

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