WINGER® WEMRW01-C2M SMD LED 0603 duo, red/white red typ. 625 nm, white typ. 10,000 K, 130°

Item number	60362599000
Type	WEMRW01-C2M
Brand	WINGER®
Package	SMD 0603 duo (1.6 × 1.5 mm, 4 pins)
Emitted colour	red/white, red typ. 625 nm, white typ. 10,000 K
Luminous intensity	up to 120 mcd (red), up to 470 mcd (white)
Viewing angle	130°



The WINGER® WEMRW01-C2M is a bicolour SMD LED in a 0603 package (1.6 × 1.5 mm, 4 pins). It contains two independently driven chips (red/white; red typ. 625 nm, white typ. 10,000 K) with a viewing angle of 130°.

1 Optical and Electrical Characteristics

Red

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward voltage	V_F	1.8 [1]	2.0	2.2 [1]	V	I_F = 20 mA
Luminous intensity	I_V	80 [1]	100 [1]	120 [1]	mcd	I_F = 20 mA
Dominant wavelength	λ_D	618 [1]	625	630 [1]	nm	I_F = 20 mA

White

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward voltage	V_F	3.0 [1]	3.2	3.4 [1]	V	I_F = 20 mA
Luminous intensity	I_V	380 [1]	420 [1]	470 [1]	mcd	I_F = 20 mA
Colour temperature	T_C		10,000		K	I_F = 20 mA

Common

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Viewing angle (50 % power angle)	2θ½		130		°	I_F = 20 mA
Recommended forward current (per chip)	$I_{F(rec)}$		20		mA	
Reverse current	I_R			5 [1]	µA	V_R = 5 V

[1] Value according to the previous typ-identical datasheet version.
Measurement tolerances: forward voltage ±0.1 V [1]; luminous intensity ±15 % [1]; viewing angle ±15 % [1]; peak wavelength ±2.0 nm [1].

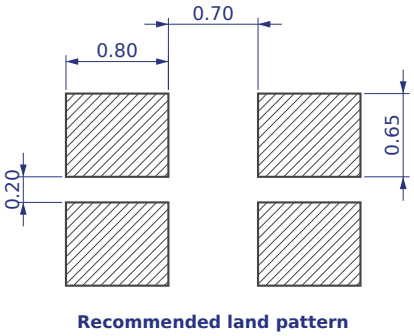
2 Absolute Maximum Ratings

Parameter	Symbol	Rating
Forward current (per chip)	I_F	2 × 30 mA [1]
Peak forward current (duty cycle 1/10, pulse width 0.1 ms)	I_{FP}	2 × 70 mA [1]
Reverse voltage	V_R	5 V [1]
Max. power dissipation	P_D	0.18 W
Operating temperature range	T_{OPR}	−30 … +60 °C [1]
Storage temperature range	T_{stg}	−40 … +85 °C [1]

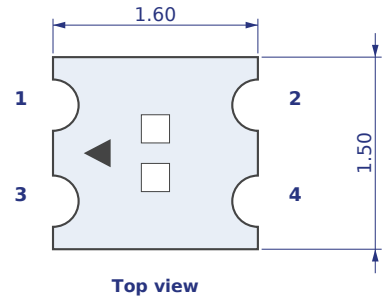
[1] Value according to the previous typ-identical datasheet version.
Absolute maximum ratings at T_A = 25 °C [1].

3 Mechanical Data

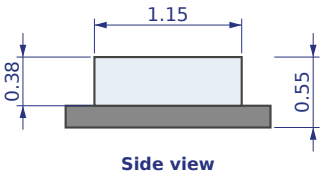
Parameter	Value
Package	SMD 0603 duo, 4-pad chip LED
Length	1.60 mm
Width	1.50 mm
Height	0.55 mm
Polarity	pin 1 = red cathode, 2 = red anode; 3 = white cathode, 4 = white anode
Recommended land pattern (land × gap × land, land height, vertical gap)	0.80 mm × 0.70 mm × 0.80 mm, 0.65 mm, 0.20 mm
General tolerance	±0,25 mm [1]



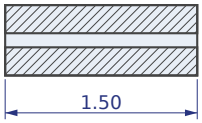
Recommended land pattern



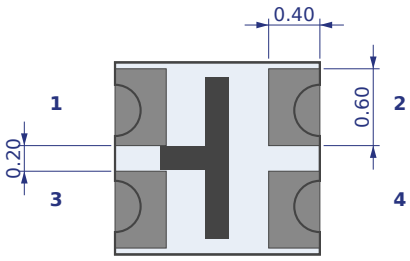
Top view



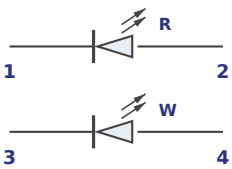
Side view



End view



Bottom view



Dimensions in mm. General tolerance ±0.25 mm [1]. Pin 1 = red cathode, pin 2 = red anode; pin 3 = white cathode, pin 4 = white anode. Polarity marking shown schematically.

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

4 Ordering Information and Packaging

Parameter	Value
Item number	60362599000
Type	WEMRW01-C2M
Packaging	on reel (tape & reel)
Packaging unit	4000 pcs per reel
Reel size	on request

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.
- Do not apply pressure to the lens / top surface; use a suitable pick-up nozzle for automatic placement.
- Do not apply mechanical stress to the LED or bend the PCB while the LED is hot (during and directly after soldering).
- 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).
- It is strongly recommended to limit the die temperature to 60 °C [1].

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

6 ESD Protection

Parameter	Value
ESD withstand voltage (HBM)	on request

- 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
Reflow soldering	peak max. 260 °C, max. 10 s, max. 2 cycles (profile acc. to J-STD-020) [4]
Hand soldering	max. 260 °C, max. 5 s [1]

- Recommended method: reflow soldering according to the specified profile. Hand soldering only for repair purposes.
- Do not exceed the number of permitted reflow cycles; let the board cool down before handling.
- Hand soldering: use a temperature-controlled, grounded soldering iron; do not touch the lens with the tip.

[1] Value according to the previous typ-identical datasheet version.
[4] Typical value for this LED type; not individually measured / subject to confirmation.

8 Storage

Parameter	Value
Storage temperature	−40 … +85 °C [1]
Recommended storage conditions	≤ 30 °C, ≤ 60 % RH, in original packaging [4]
Shelf life	12 months from delivery in unopened original packaging [4]
Moisture sensitivity level (MSL)	MSL 3 (J-STD-020) [4]

- Store in the original packaging in a dry, clean environment free of corrosive gases. Avoid condensation and rapid temperature changes.
- Observe the moisture sensitivity level (MSL). Re-seal opened moisture barrier bags with desiccant; bake out if the permitted floor life has been exceeded.

[1] Value according to the previous typ-identical datasheet version.
[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 (Directive 2011/65/EU) [1]
REACH (EC) 1907/2006	no SVHC of the candidate list above 0.1 % (w/w) known

Declarations of conformity are available on request.

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

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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