



WENRUN OPTOELECTRONIC CO., LTD.
Technical Data Sheet
LED DISPLAY

• Customer:



Technical Data Sheet

PN: [WMG-3889](#)

For: $I_F=20mA$

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Customer confirm	Approved by	Checked by	Issued by



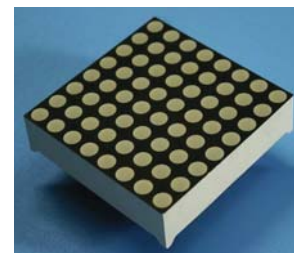
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◆ Features:

- Emitting dot 3.0mm diameter.
- High efficiency, low power consumption.
- Extremely low current.
- Low development cost.
- Big viewing angle vertically and horizontally.
- This product doesn't contain restriction Substance comply ROHS standard.



◆ Descriptions:

- The LMD12088 is a 32.0mm (1.2") matrix height 8×8 dot matrix display.
- These devices are made with white dots and black surface.

◆ Application

- Instrument panels.
- Digital read out display.

◆ Selection Guide:

Part No.	Anode	Chip		Lens Color
		Material	Emitting Color	
WMG-3889		GaP	Green	White Diffused



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◆ **Absolute Maximum Rating (Ta=25°C)**

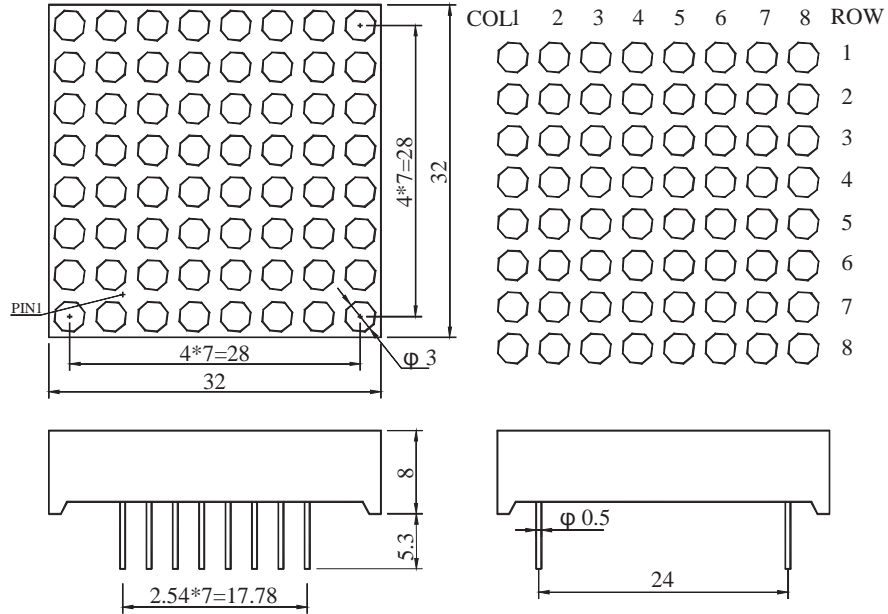
Parameter	Symbol	Green	Unit
Power Dissipation/Dot	P _d	60	mW
Peak Forward Current /Dot①	I _{FP}	70	mA
Continuous Forward Current /Dot	I _F	20	mA
Reverse Voltage /Dot	V _R	6	V
Operating Temperature Range	Topr	-40~ +85	°C
Storage Temperature Range	Tstg	-40 ~ +85	°C
Solder Temperature②	Tsol	260±5	°C

- Notes:** 1、 This is the limit current . It is not allowed to use when the product work continuously.
 2、 Soldering time ≤5 seconds.
 3、 I_{FP} condition: pulse width ≤1ms ,duty cycle ≤1/10

◆ **Electrical Optical Characteristics (Ta=25°C)**

Parameter	Symbol	Green		Unit	Test Condition
		Typ.	Max.		
Luminous Intensity/ Dot	I _V	4.5	--	mcd	I _F =10mA
Forward Voltage / Dot	V _F	2.2	2.5	V	I _F =20mA
Reverse Current/ Dot	I _R	--	50	uA	V _R =6V
Dominant Wavelength	λ _d	565	--	nm	I _F =20mA
Spectral Line Half Width	Δ λ	30	--	nm	I _F =20mA

◆ **Package Dimensions:**

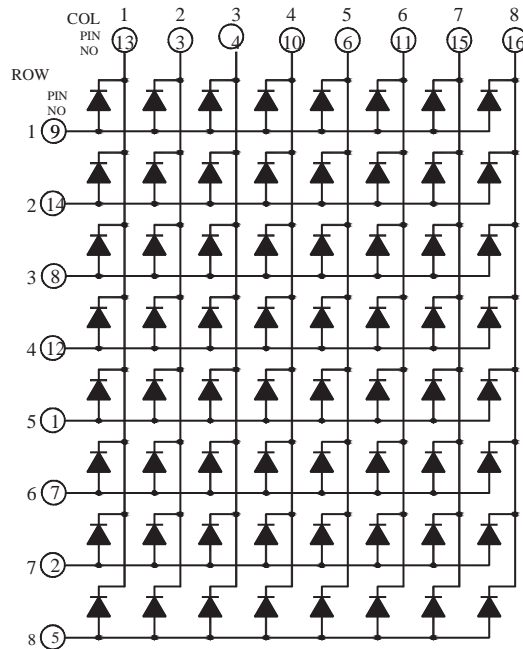


NOTES:

- All dimensions are in millimetres (mm), Tolerance is $\pm 0.25\text{mm}$ unless otherwise noted.
- Specifications are subject to change without notice.

◆ **Internal Circuit:**

Common Anode



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◆ **Reliability**

(1) Test Items and Conditions

NO	Test Item	Test Conditions	Sample	Ac/Re
1	Temperature Cycle	-40±5℃→25±5℃→100±5℃→25±5℃ (30min, 5min, 30min, 5min) 20 Cycles	20	0/1
2	High Temperature Storage	Ta: 100±5℃ Test time=1000HRS(-24HRS,+72HRS)	20	0/1
3	High Temperature And High Humidity Working	Ta: 85±5℃, RH:85±5%, I _F =10mA/seg Test time=500HRS(-24HRS,+72HRS)	20	0/1
4	Low Temperature Storage	Ta: -40±5℃ Test time=1000HRS(-24HRS,+72HRS)	20	0/1
5	Operating Life Test	Connect with a power I _F =10mA/seg Ta=Under room temperature Test time=1000HRS(-24HRS,+72HRS)	20	0/1
6	Solder Resistance	T.Sol=260±5℃ one time Dwell Time=5±1Secs, distance 3mm	20	0/1
7	Thermal Shock	-40±5℃→100±5℃ (15min, 15min) 20Cycles	20	0/1

(2)Criteria of judging the damage

Item	Symbol	Test condition	Criteria for judgement	
			Min.	Max.
Forward voltage	V _F	I _F =10mA/Seg	/	U.S.L*1.1
Reverse current	I _R	V _R =5V	/	15uA
Luminous intensity	I _V	I _F =10mA/Seg	L.S.L*0.7	/
Wave length	λ D/ λ P	I _F =10mA/Seg	/	U.S.L±2nm
Appearance	/	View check	No mechanical damage	

* U.S.L: Upper standard level

L.S.L: Lower standard level

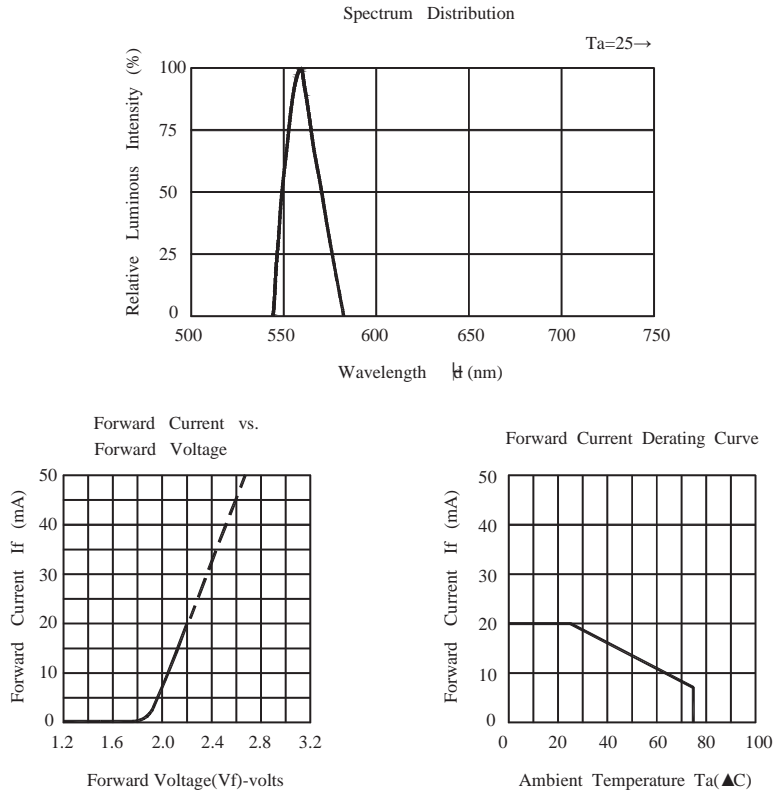


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◆ Typical Electro-Optical Characteristics Curves



◆ Notes:

- 1、Above specification may be changed without notice. We will reserve authority on material change for above specification.
- 2、When use this product, please observe the absolute maximum ratings and the instructions for the specification sheets. We assume no responsibility for any damage resulting from using of the product which does not comply with the instructions included in the specification sheets.