



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

• Customer:



Technical Data Sheet

PN: [WDM-4889A](#)

For: $I_F=20\text{mA}$

Contents

- 1.Features
- 2.Descriptions
- 3.Applications
- 4.Selection guide
- 5.Absolute maximum rating
- 6.Electrical optical characteristics
- 7.Package dimensions
- 8.Internal circuit
9. Reliability
- 10.Typical electro-optical characteristics curves
- 11.Notes

Customer confirm	Approved by	Checked by	Issued by



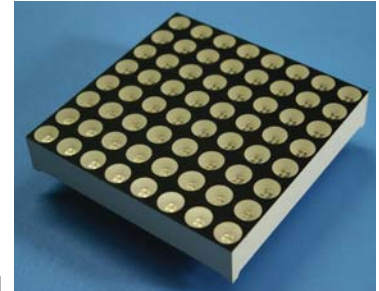
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◆ Features:

- Emitting dot 4.8mm 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 LMD19088 is a 48.0mm (1.5") matrix height 8×8 dot matrix display.
- These devices are made with white dots and black surface.

◆ Applications:

- Instrument panels.
- Digital read out display.

◆ Selection Guide:

Part No.	Anode	Chip		Lens Color
		Material	Emitting Color	
WDM-4889A		GaAlAs	Super Red	White Diffused
		GaP	Green	



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

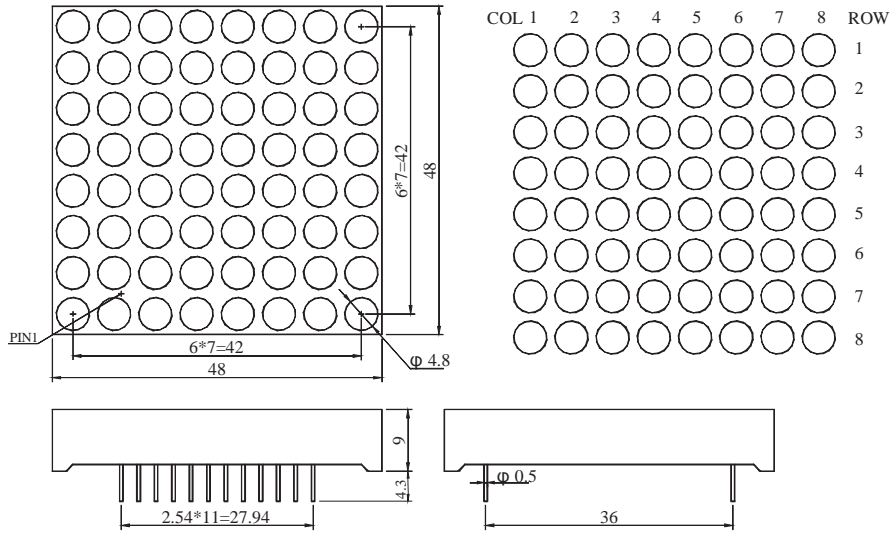
Parameter	Symbol	Super Red	Green	Unit
Power Dissipation/Dot	P _d	60	60	mW
Peak Forward Current /Dot①	I _{FP}	70	70	mA
Continuous Forward Current /Dot	I _F	20	20	mA
Reverse Voltage /Dot	V _R	6	6	V
Operating Temperature Range	Topr	-40~ +85		°C
Storage Temperature Range	Tstg	-40 ~ +85		°C
Solder Temperature②	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	Device	Typ.	Max.	Unit	Test Condition
Luminous Intensity / Dot	I _v	Super Red	13.6	--	mcd	I _F =10mA
		Green	6.8	--		
Forward Voltage / Dot	V _F	Super Red	1.85	2.3	V	I _F =20mA
		Green	2.2	2.5		
Reverse Current / Dot	I _R	Super Red	--	50	uA	V _R =6V
		Green	--	50		
Dominant Wavelength	λ _d	Super Red	645	--	nm	I _F =20mA
		Green	565	--		
Spectral Line Half Width	Δ λ	Super Red	30	--	nm	I _F =20mA
		Green	30	--		

◆ **Package Dimensions:**

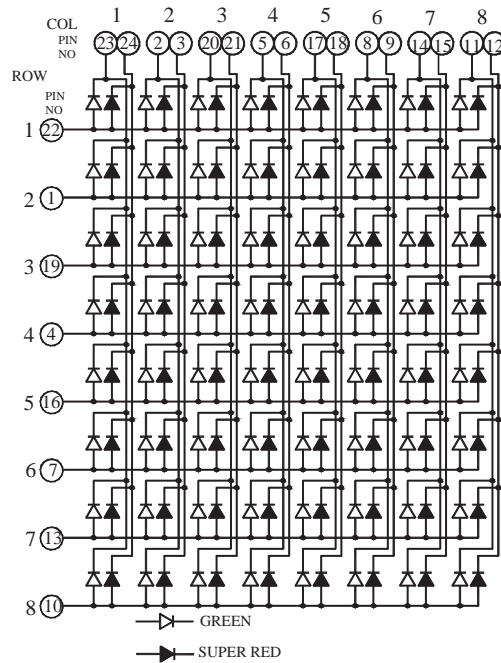


NOTES:

- 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

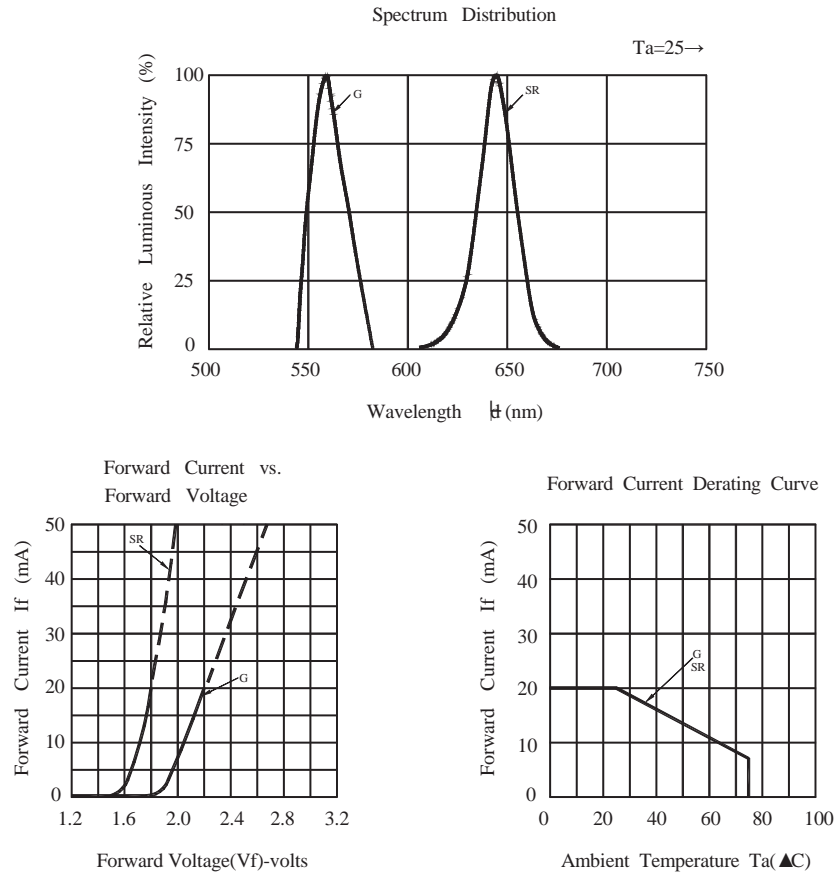
(2)Criteria of judging the damage

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

◆ **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.