SPECIFICATIONS FOR DOT MATRIX DISPLAYS

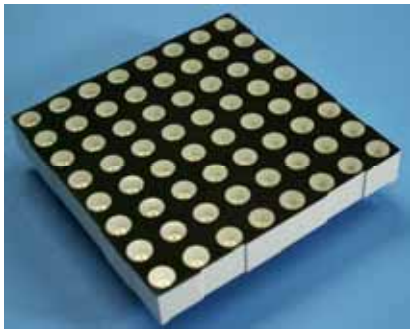
2.3" 8*8 Full-Color Dot Matrix

LMD23088□URUGUB-15 Series

WENRUN OPTOELECTRONIC

◆ Features:

- High luminous intensity output.
- Emitting dot 5.0mm diameter.
- High efficiency, low power consumption.
- Extremely low current.
- Big viewing angle vertically and horizontally.



LMD23088A/BURUGUB-15

◆ Descriptions:

- The LMD23088 is a 60.2mm (2.3") 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.		Chip		Lens Color
Anode	Cathode	Material	Emitting Color	
LMD23088BURUGUB-15	LMD23088AURUGUB-15	GaAlAs	Ultra Super Red	Water clear
		InGaN	Ultra Super Green	
		InGaN	Ultra Super Blue	

Note：Static electricity and surge damages the LED. It is recommended to use a anti-static wrist band or anti-electrostatic glove when handing the LEDs. All devices、equipment and machinery must be properly grounded.

◆ Absolute Maximum Rating （Ta=25℃）

Parameter	Symbol	Ultra Super Red	Ultra Super Green	Ultra Super Blue	Unit
Power Dissipation/Segment	P_d	60	70	70	mW
Peak Forward Current /Segment (Duty 1/10@ 1KHz)	I_{FP}	80	70	70	mA
Continuous Forward Current /Segment ①	I_F	25	20	20	mA
Recommend use current /Segment ②	I_F	5~10	5~10	5~10	mA
Reverse Voltage /Segment	V_R	5	5	5	V
Operating Temperature Range	Topr	-25~ +75			℃
Storage Temperature Range	Tstg	-30 ~ +85			℃
Solder Temperature ③	Tsol	260±5			℃

Notes：1、This is the limit current. It is not allowed to use when the product work continuously.

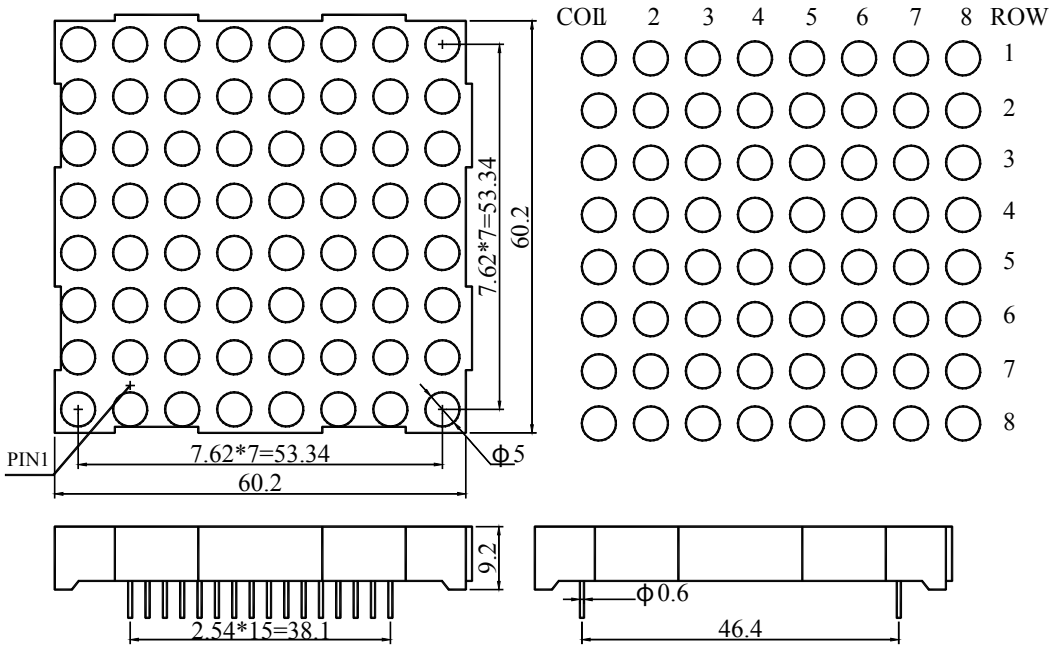
2、It is recommended that the product is driven by TTL,CMOS .

3、Soldering time≤5 seconds.

◆ Electrical Optical Characteristics（Ta=25℃）

Parameter	Symbol	Device	Typ.	Max.	Unit	Test Condition
Luminous Intensity /Segment	I_V	Ultra Super Red Ultra Super Green Ultra Super Blue	70 192 32	-- -- --	mcd	I_F=10mA
Forward Voltage /Segment	V_F	Ultra Super Red Ultra Super Green Ultra Super Blue	1.95 3.1 3.2	2.5 3.8 3.8	V	I_F=20mA
Reverse Current /Segment	I_R	Ultra Super Red Ultra Super Green Ultra Super Blue	-- -- --	50 50 50	uA	V_R=5V
Dominant Wavelength	λd	Ultra Super Red Ultra Super Green Ultra Super Blue	645 525 470	-- -- --	nm	I_F=20mA
Spectral Line Half Width	Δλ	Ultra Super Red Ultra Super Green Ultra Super Blue	30 30 30	-- -- --	nm	I_F=20mA

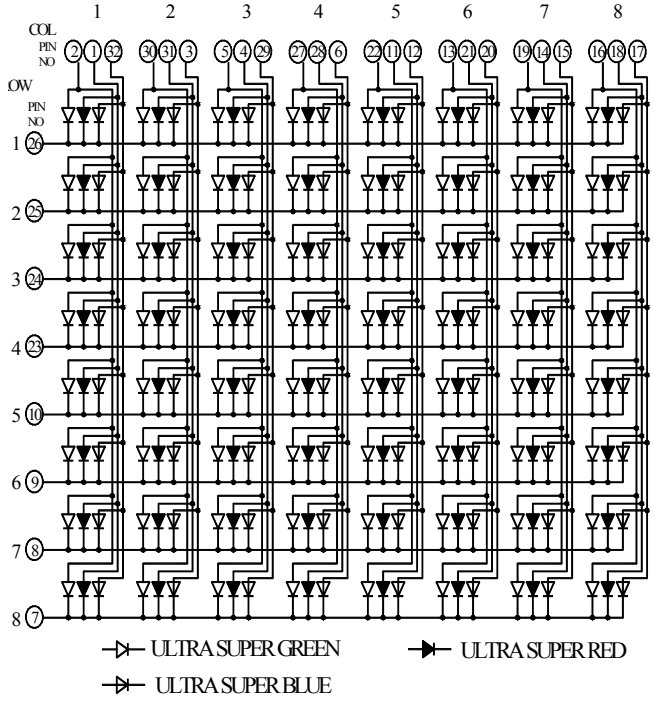
◆ Package Dimensions:



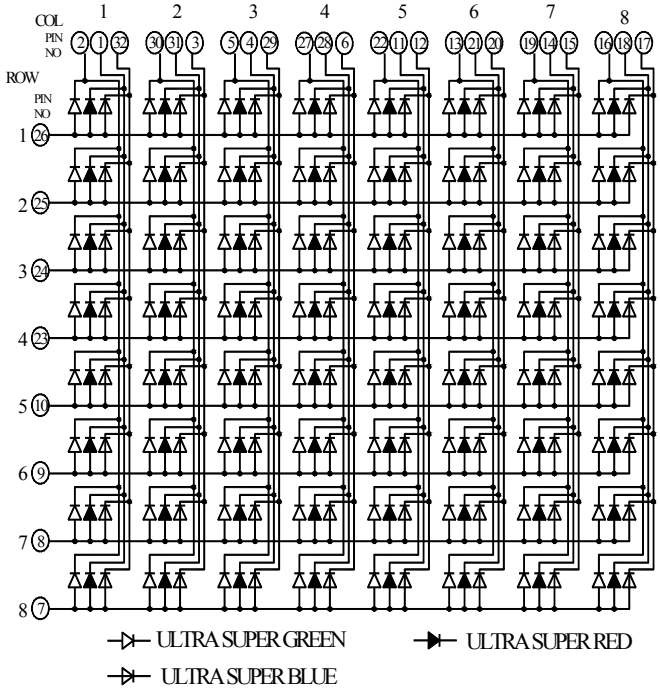
NOTES：

- All dimensions are in millimetres (mm), Tolerance is ±0.25mm unless otherwise noted.
- Specifications are subject to change without notice.

◆ Internal Circuit:



LMD23088A□□□



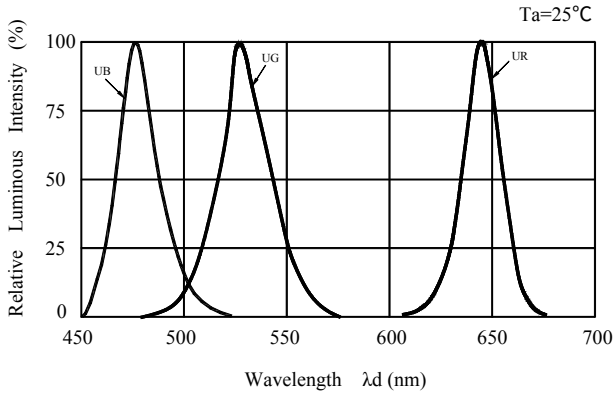
LMD23088B□□□

◆ Reliability Test Items and Conditions

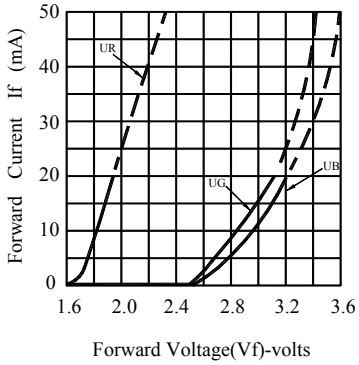
NO	Test Item	Test Conditions	Duration	Sample	Ac/Re
1	Temperature Cycle	-30℃～25℃～85℃～25℃ 30min 5min 30min 5min	50clycles	100	0/1
2	High Temp. Storage	Ta=85℃	1000hours	100	0/1
3	Temp.& Humidity Test	Ta=85℃ RH=85%	1000hours	100	0/1
4	Low Temp. Storage	Ta=-30℃	1000hours	100	0/1
5	Operating Life Test	Ta=25±5℃ DC IF=15mA	1000hours	100	0/1
6	Solder Heat	Tsol=260±5℃，5s	1times	20	0/1

◆ Typical Electro-Optical Characteristics Curves

Spectrum Distribution



Forward Current vs. Forward Voltage



Forward Current Derating Curve