

**LED DOT MATRIX**
**BL-M23X881XX**
**■ Features:**

- 60.20mm (2.3") F 5.0 dot matrix LED display, BI-COLOR
- Low current operation.
- Excellent character appearance.
- Easy mounting on P.C. Boards or sockets.
- I.C. Compatible.
- ROHS Compliance.


**Electrical-optical characteristics: (Ta=25 ) (Test Condition: IF=20mA)**

Part No		Chip			VF Unit:V		Iv TYP.(mcd)
Row Cathode Column Anode	Row Anode Column Cathode	Emitted Color	Material	λ <sub>p</sub> (nm)	Typ	Max	
BL-M23E881SG-XX	BL-M23F881SG-XX	Super Red	AlGaInP	660	2.10	2.50	280
		Green	GaP/GaP	570	2.20	2.50	250
BL-M23E881EG-XX	BL-M23F881EG-XX	Orange	GaAsP/GaP	635	2.10	2.50	255
		Green	GaP/GaP	570	2.20	2.50	250
BL-M23E881DUG-XX	BL-M23F881DUG-XX	Ultra Red	AlGaInP	660	2.10	2.50	310
		Ultra Green	AlGaInP	574	2.20	2.50	380
BL-M23E881UEUG-XX	BL-M23F881UEUG-XX	Ultra Orange	AlGaInP	630	2.10	2.50	255
		Ultra Green	AlGaInP	574	2.20	2.50	380

**■ -XX: Surface / Lens color :**

Number	0	1	2	3	4	5
Ref Surface Color	White	Black	Gray	Red	Green	
Epoxy Color	Water clear	White diffused	Red Diffused	Green Diffused	Yellow Diffused	

**■ Absolute maximum ratings (Ta=25°C)**

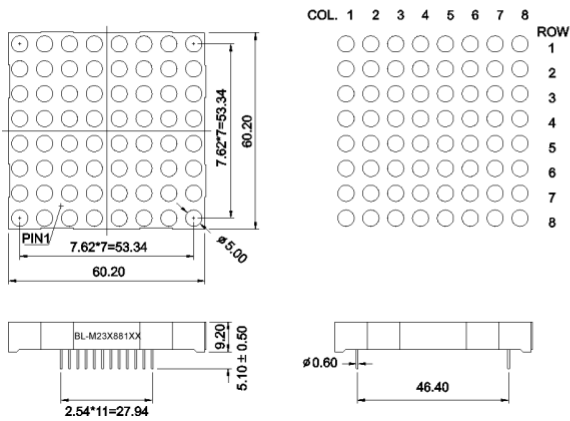
Parameter	S	G	E	D	UG	UE		Unit
Forward Current I <sub>F</sub>	30	30	30	30	30	30		mA
Power Dissipation P <sub>d</sub>	75	80	80	75	75	65		mW
Reverse Voltage V <sub>R</sub>	5	5	5	5	5	5		V
Peak Forward Current I <sub>PF</sub> (Duty 1/10 @ 1KHZ)	150	150	150	150	150	150		mA
Operation Temperature T <sub>OPR</sub>	-40 to +80							
Storage Temperature T <sub>STG</sub>	-40 to +85							
Lead Soldering Temperature T <sub>SOL</sub>	Max.260±5 for 3 sec Max. (1.6mm from the base of the epoxy bulb)							

LED DOT MATRIX

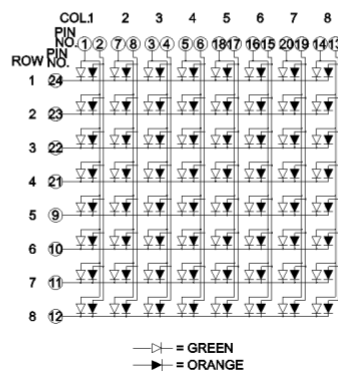
BL-M23X881XX

Package configuration & Internal circuit diagram

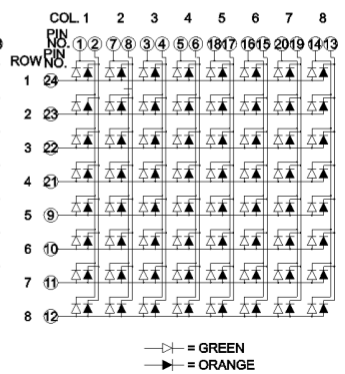
BL-M23X881 Series



BL-M23E881xx



BL-M23F881xx



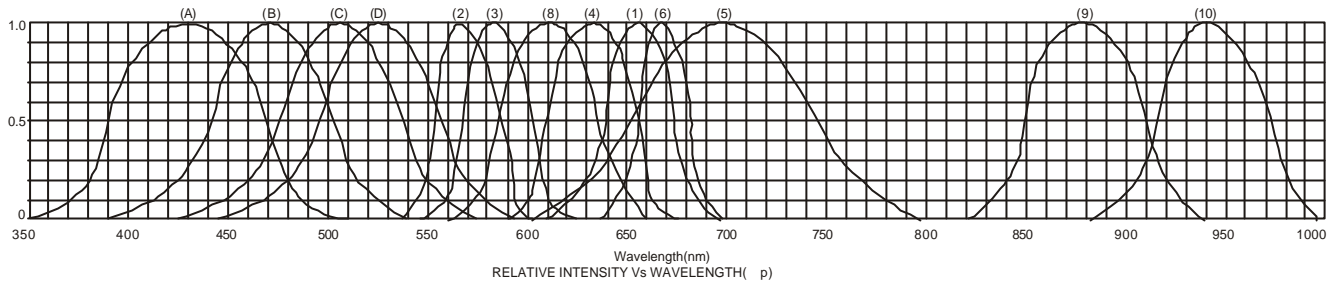
Notes:

1. All dimensions are in millimeters (inches)
2. Tolerance is  $\pm 0.25(0.01)$  unless otherwise noted.
3. Specifications are subject to change without notice.

## LED DOT MATRIX

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### Typical electrical-optical characteristics curves:



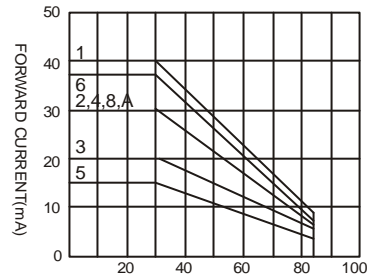
- |   |                                      |
|---|--------------------------------------|
| (1) - GaAsP/GaAs 655nm/Red                | (9) - GaAlAs 880nm                   |
| (2) - GaP 570nm/Yellow Green              | (10) - GaAs/GaAs & GaAlAs/GaAs 940nm |
| (3) - GaAsP/GaP 585nm/Yellow              | (A) - GaN/SiC 430nm/Blue             |
| (4) - GaAsP/GaP 635nm/Orange & Hi-Eff Red | (B) - InGaN/SiC 470nm/Blue           |
| (5) - GaP 700nm/Bright Red                | (C) - InGaN/SiC 505nm/Ultra Green    |
| (6) - GaAlAs/GaAs 660nm/Super Red         | (D) - InGaAl/SiC 525nm/Ultra Green   |
| (8) - GaAsP/GaP 610nm/Super Red           |                                      |



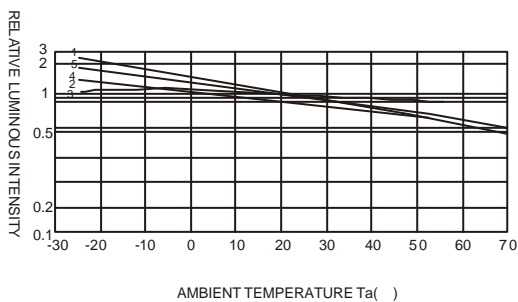
FORWARD VOLTAGE (Vf)  
FORWARD CURRENT VS.  
FORWARD VOLTAGE



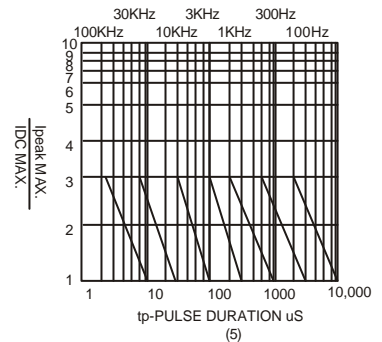
FORWARD CURRENT (mA)  
RELATIVE LUMINOUS  
INTENSITY VS. FORWARD  
CURRENT



AMBIENT TEMPERATURE Ta( )  
FORWARD CURRENT VS. AMBIENT  
TEMPERATURE



AMBIENT TEMPERATURE Ta( )



NOTE:25 free air temperature unless otherwise specified