

LED DOT MATRIX
BL-M23X581
■ Features:

- 60.60mm (2.3") Φ5.0 dot matrix LED display.
- Low current operation.
- Excellent character appearance.
- Easy mounting on P.C. Boards or sockets.
- I.C. Compatible.
- ROHS Compliance.


Super Bright
Electrical-optical characteristics: (Ta=25°C) (Test Condition: IF=20mA)

Part No		Chip			VF Unit:V		Iv
Row Cathode	Column Anode	Row Anode	Column Cathode	Emitted Color	Material	λ _p (nm)	TYP.(mcd)
BL-M23C581S-XX		BL-M23D581S-XX		Hi Red	GaAlAs/GaAs,SH	660	280
BL-M23C581D-XX		BL-M23D581D-XX		Super Red	GaAlAs/GaAs,DH	660	320
BL-M23C581UR-XX		BL-M23D581UR-XX		Ultra Red	GaAlAs/GaAs,DDH	660	446
BL-M23C581E-XX		BL-M23D581E-XX		Orange	GaAsP/GaP	635	220
BL-M23C581Y-XX		BL-M23D581Y-XX		Yellow	GaAsP/GaP	585	220
BL-M23C581G-XX		BL-M23D581G-XX		Green	GaP/GaP	570	240

Ultra Bright
Electrical-optical characteristics: (Ta=25°C) (Test Condition: IF=20mA)

Part No		Chip			VF Unit:V		Iv
Row Cathode	Column Anode	Row Anode	Column Cathode	Emitted Color	Material	λ _p (nm)	TYP.(mcd)
BL-M23C581UHR-XX		BL-M23D581UHR-XX		Ultra Red	AlGaInP	645	446
BL-M23C581UE-XX		BL-M23D581UE-XX		Ultra Orange	AlGaInP	630	400
BL-M23C581YO-XX		BL-M23D581YO-XX		Ultra Amber	AlGaInP	619	400
BL-M23C581UY-XX		BL-M23D581UY-XX		Ultra Yellow	AlGaInP	590	400
BL-M23C581UG-XX		BL-M23D581UG-XX		Ultra Green	AlGaInP	574	470
BL-M23C581PG-XX		BL-M23D581PG-XX		Ultra Pure Green	InGaN	525	500
BL-M23C581B-XX		BL-M23D581B-XX		Ultra Blue	InGaN	470	250
BL-M23C581W-XX		BL-M23D581W-XX		Ultra White	InGaN	/	400

--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	

LED DOT MATRIX
BL-M23X581
Absolute maximum ratings (Ta=25°C)

Parameter	S	D	UR	E	Y	G	Unit
Forward Current I_F	25	25	25	25	25	30	mA
Power Dissipation P_d	60	60	60	60	60	65	mW
Reverse Voltage V_R	5	5	5	5	5	5	V
Peak Forward Current I_{PF} (Duty 1/10 @1KHZ)	150	150	150	150	150	150	mA
Operation Temperature T_{OPR}	-40 to +80						°C
Storage Temperature T_{STG}	-40 to +85						°C
Lead Soldering Temperature T_{SOL}	Max.260±5°C for 3 sec Max. (1.6mm from the base of the epoxy bulb)						°C

■ Absolute maximum ratings (Ta=25°C)

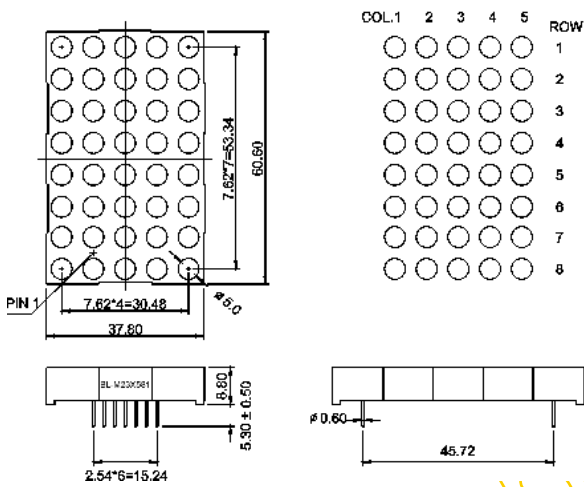
Parameter	UHR	UE	YO	UY	UG	PG	B	W	Unit
Forward Current I_F	30	30	30	30	30	30	30	30	mA
Power Dissipation P_d	75	65	65	65	75	110	120	120	mW
Reverse Voltage V_R	5	5	5	5	5	5	5	5	V
Peak Forward Current I_{PF} (Duty 1/10 @1KHZ)	150	150	150	150	150	150	100	100	mA
Operation Temperature T_{OPR}	-40 to +80								°C
Storage Temperature T_{STG}	-40 to +85								°C
Lead Soldering Temperature T_{SOL}	Max.260±5°C for 3 sec Max. (1.6mm from the base of the epoxy bulb)								°C

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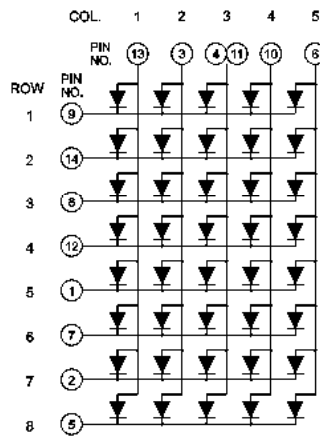
BL-M23X581

■ Package configuration & Internal circuit diagram

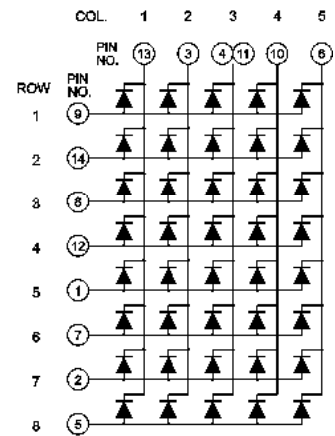
BL-M23X581 Series



BL-M23C581



BL-M23D581



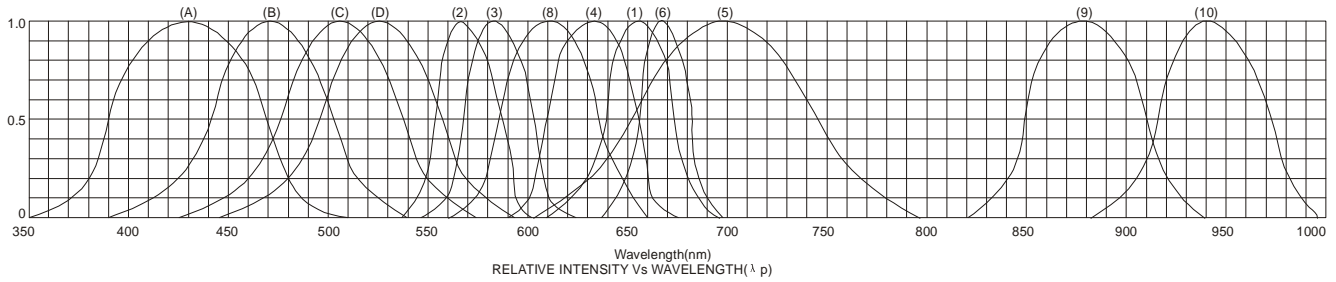
Notes:

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.

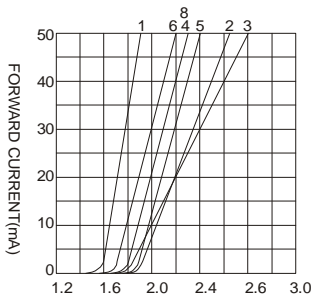
LED DOT MATRIX

BL-M23X581

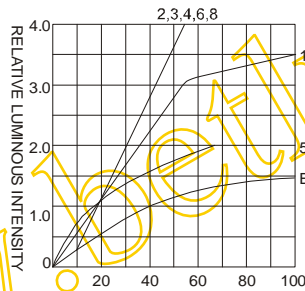
Typical electrical-optical characteristics curves:



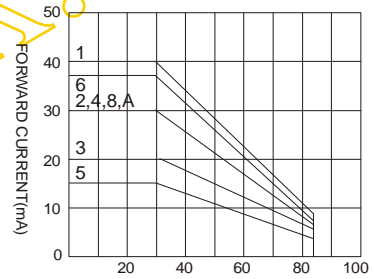
- | | |
|---|--------------------------------------|
| (1) - GaAsP/GaAs 655nm/Red | (9) - GaAlAs 880nm |
| (2) - GaP 570nm/Yellow Green | (10) - GaAs/GaAs & GaAlAs/GaAs 940nm |
| (3) - GaAsP/GaP 585nm/Yellow | (A) - GaN/SiC 430nm/Blue |
| (4) - GaAsP/GaP 635nm/Orange & Hi-Eff Red | (B) - InGaN/SiC 470nm/Blue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



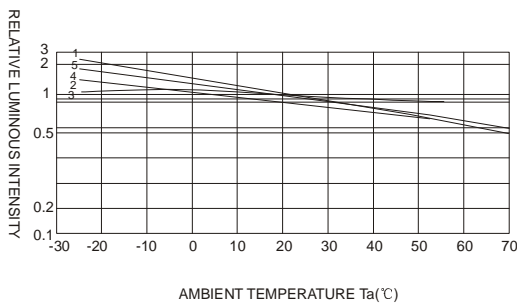
FORWARD VOLTAGE (Vf)
FORWARD CURRENT VS.
FORWARD VOLTAGE



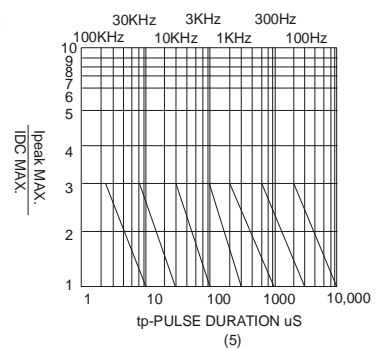
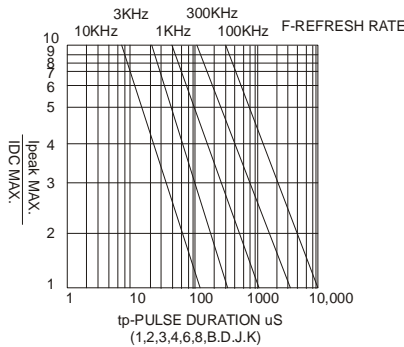
FORWARD CURRENT (mA)
RELATIVE LUMINOUS
INTENSITY VS. FORWARD
CURRENT



AMBIENT TEMPERATURE Ta(°C)
FORWARD CURRENT VS. AMBIENT
TEMPERATURE



AMBIENT TEMPERATURE Ta(°C)



NOTE:25°C free air temperature unless otherwise specified