

LED DOT MATRIX
BL-M46X581
■ Features:

- 121.50mm (4.6") Φ10.0 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-M46A581S-XX | | BL-M46B581S-XX | | Hi Red | GaAlAs/GaAs,SH | 660 | 155 |
| BL-M46A581D-XX | | BL-M46B581D-XX | | Super Red | GaAlAs/GaAs,DH | 660 | 180 |
| BL-M46A581UR-XX | | BL-M46B581UR-XX | | Ultra Red | GaAlAs/GaAs,DDH | 660 | 230 |
| BL-M46A581E-XX | | BL-M46B581E-XX | | Orange | GaAsP/GaP | 635 | 120 |
| BL-M46A581Y-XX | | BL-M46B581Y-XX | | Yellow | GaAsP/GaP | 585 | 120 |
| BL-M46A581G-XX | | BL-M46B581G-XX | | Green | GaP/GaP | 570 | 140 |

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-M46A581UHR-X | | BL-M46B581UHR-X | | Ultra Red | AlGaInP | 645 | 230 |
| BL-M46A581UE-XX | | BL-M46B581UE-XX | | Ultra Orange | AlGaInP | 630 | 170 |
| BL-M46A581YO-XX | | BL-M46B581YO-XX | | Ultra Amber | AlGaInP | 619 | 170 |
| BL-M46A581UY-XX | | BL-M46B581UY-XX | | Ultra Yellow | AlGaInP | 590 | 170 |
| BL-M46A581UG-XX | | BL-M46B581UG-XX | | Ultra Green | AlGaInP | 574 | 200 |
| BL-M46A581PG-XX | | BL-M46B581PG-XX | | Ultra Pure Green | InGaN | 525 | 250 |
| BL-M46A581B-XX | | BL-M46B581B-XX | | Ultra Blue | InGaN | 470 | 120 |
| BL-M46A581W-XX | | BL-M46B581W-XX | | Ultra White | InGaN | / | 200 |

--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-M46X581
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)

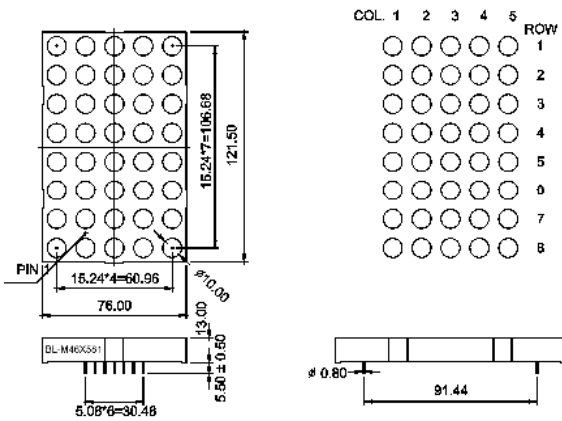
| Parameter | UHR | UE | YO | UY | UG | PG | B | W | Unit |
|--|---|-----|-----|-----|-----|-----|-----|-----|------|
| Forward Current I_F | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | mA |
| Power Dissipation P_d | 75 | 65 | 65 | 65 | 75 | 110 | 120 | 120 | mW |
| Reverse Voltage V_R | 5 | 5 | 5 | 5 | 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 |

LED DOT MATRIX

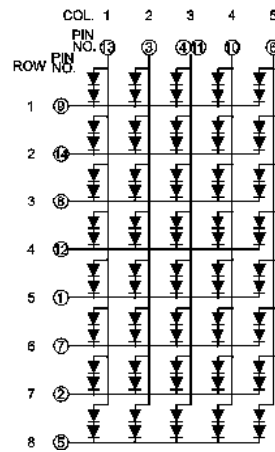
BL-M46X581

■ Package configuration & Internal circuit diagram

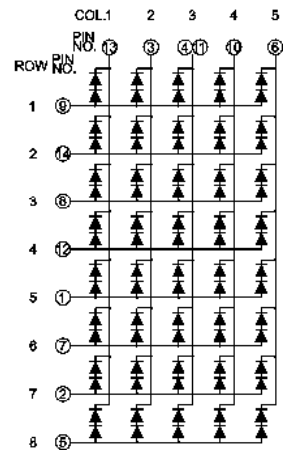
BL-M46X581 Series



BL-M46A581



BL-M46B581



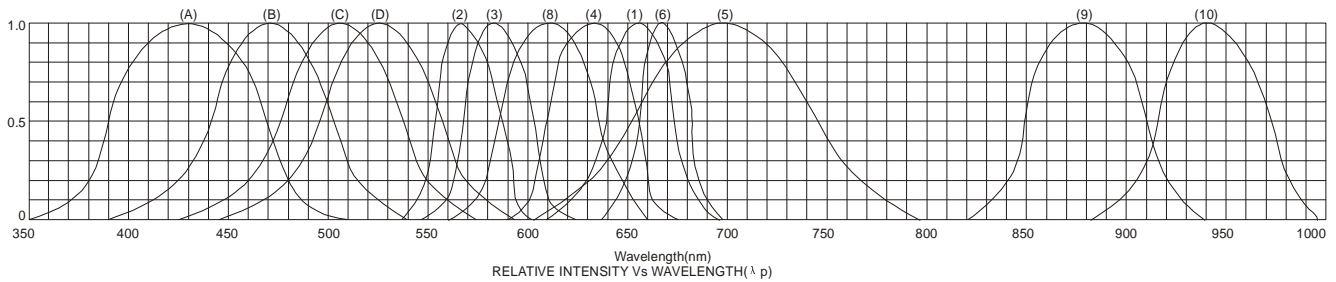
Notes:

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.

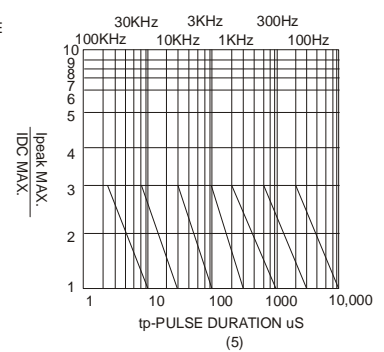
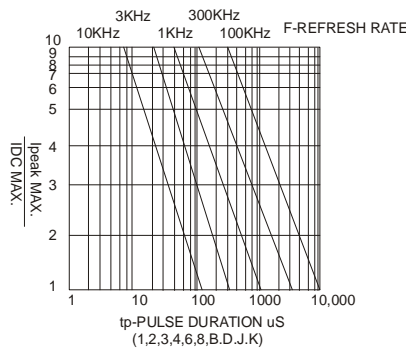
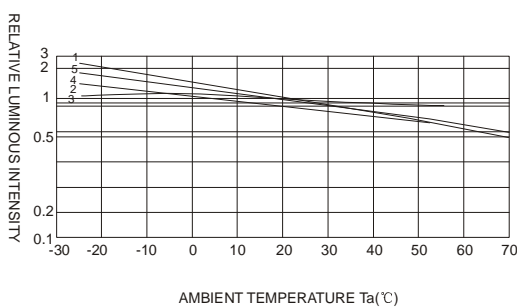
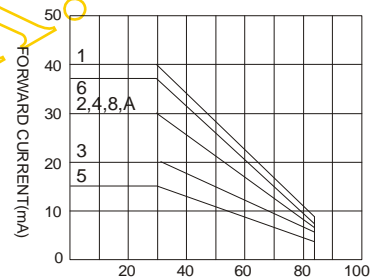
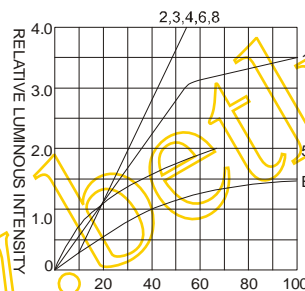
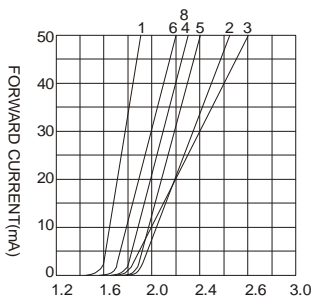
LED DOT MATRIX

BL-M46X581

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 | |



NOTE:25°C free air temperature unless otherwise specified