

## LED DOT MATRIX

BL-M34x581

### Features:

- Ø 87.63mm (3.4") 17.62 dot matrix LED display.
- Ø Low current operation.
- Ø Excellent character appearance.
- Ø Easy mounting on P.C. Boards or sockets.
- Ø I.C. Compatible.
- Ø ROHS Compliance.



### Super Bright

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

| Part No                     |                             |                  | Chip            |            |      | VF Unit:V |     | Iv<br>TYP.(mcd) |
|-----------------------------|-----------------------------|------------------|-----------------|------------|------|-----------|-----|-----------------|
| Row Cathode<br>Column Anode | Row Anode<br>Column Cathode | Emitted<br>Color | Material        | λp<br>(nm) | Typ  | Max       |     |                 |
| BL-M34A581S-XX              | BL-M34B581S-XX              | Hi Red           | GaAlAs/GaAs,SH  | 660        | 1.85 | 2.20      | 140 |                 |
| BL-M34A581D-XX              | BL-M34B581D-XX              | Super<br>Red     | GaAlAs/GaAs,DH  | 660        | 1.85 | 2.20      | 160 |                 |
| BL-M34A581UR-XX             | BL-M34B581UR-XX             | Ultra<br>Red     | GaAlAs/GaAs,DDH | 660        | 1.85 | 2.20      | 200 |                 |
| BL-M34A581E-XX              | BL-M34B581E-XX              | Orange           | GaAsP/GaP       | 635        | 2.10 | 2.50      | 110 |                 |
| BL-M34A581Y-XX              | BL-M34B581Y-XX              | Yellow           | GaAsP/GaP       | 585        | 2.10 | 2.50      | 110 |                 |
| BL-M34A581G-XX              | BL-M34B581G-XX              | Green            | GaP/GaP         | 570        | 2.20 | 2.50      | 125 |                 |

### Ultra Bright

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

| Part No                     |                             | Chip             |          |            | VF Unit:V |      | Iv<br>TYP.(mcd) |
|-----------------------------|-----------------------------|------------------|----------|------------|-----------|------|-----------------|
| Row Cathode<br>Column Anode | Row Anode<br>Column Cathode | Emitted Color    | Material | λp<br>(nm) | Typ       | Max  |                 |
| BL-M34A581UHR-XX            | BL-M34B581UHR-XX            | Ultra Red        | AlGaInP  | 645        | 2.10      | 2.50 | 200             |
| BL-M34A581UE-XX             | BL-M34B581UE-XX             | Ultra Orange     | AlGaInP  | 630        | 2.10      | 2.50 | 150             |
| BL-M34A581YO-XX             | BL-M34B581YO-XX             | Ultra Amber      | AlGaInP  | 619        | 2.10      | 2.50 | 150             |
| BL-M34A581UY-XX             | BL-M34B581UY-XX             | Ultra Yellow     | AlGaInP  | 590        | 2.10      | 2.50 | 150             |
| BL-M34A581UG-XX             | BL-M34B581UG-XX             | Ultra Green      | AlGaInP  | 574        | 2.20      | 2.50 | 190             |
| BL-M34A581PG-XX             | BL-M34B581PG-XX             | Ultra Pure Green | InGaN    | 525        | 3.80      | 4.50 | 230             |
| BL-M34A581B-XX              | BL-M34B581B-XX              | Ultra Blue       | InGaN    | 470        | 2.70      | 4.20 | 110             |
| BL-M34A581W-XX              | BL-M34B581W-XX              | Ultra White      | InGaN    | /          | 2.70      | 4.20 | 190             |

--XX: Surface / Lens color :

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

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**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 $I_{PF}$<br>(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<br>$T_{SOL}$            | Max.260±5°C for 3 sec Max.<br>(1.6mm from the base of the epoxy bulb) |     |     |     |     |     | °C   |

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

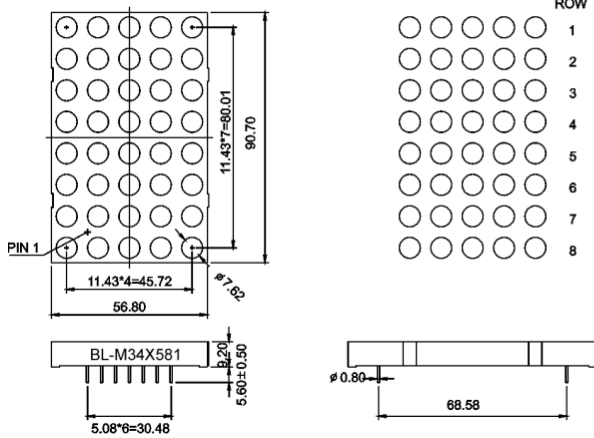
| Parameter  | UHR   | UE  | YO  | UY  | UG  | PG  | B   | W   | Unit |
|--|---|-----|-----|-----|-----|-----|-----|-----|------|
| Forward Current $I_F$                              | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 30  | mA   |
| Power Dissipation $P_d$                            | 75  | 65  | 65  | 65  | 75  | 110 | 120 | 120 | mW   |
| Reverse Voltage $V_R$                              | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5   | V    |
| Peak Forward Current $I_{PF}$<br>(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<br>$T_{SOL}$            | Max.260±5°C for 3 sec Max.<br>(1.6mm from the base of the epoxy bulb) |     |     |     |     |     |     |     | °C   |

# LED DOT MATRIX

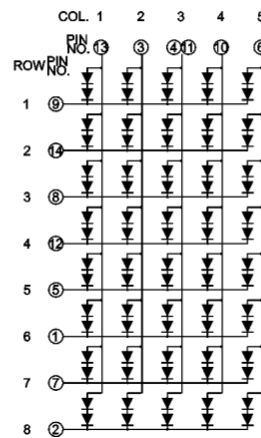
BL-M34x581

## Package configuration & Internal circuit diagram

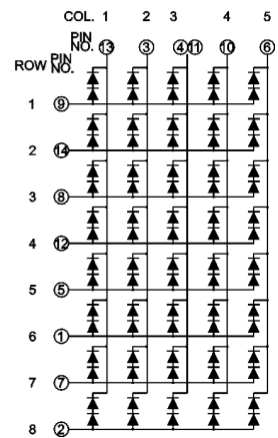
### BL-M34X581 Series



### BL-M34A581



### BL-M34B581



### 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.

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## Typical electrical-optical characteristics curves:



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



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( )



tp-PULSE DURATION µs  
(1,2,3,4,6,8,B,D,J,K)



(5)

NOTE:25 free air temperature unless otherwise specified

**LED DOT MATRIX**

**BL-M34x581**

**Packing and weighting**

