

## LED NUMERIC DISPLAY, 1 DIGIT

BL-S50X-12XX

### ■ Features:

- 12.70 mm (0.5") Single digit numeric display series, BI-COLOR TYPE
- Low current operation.
- Excellent character appearance.
- Easy mounting on P.C. Boards or sockets.
- I.C. Compatible.
- ROHS Compliance.



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

| Part No           |                   | Chip          |           |         | VF Unit:V |      | IV<br>TYP.(mcd) |
|-------------------|-------------------|---------------|-----------|---------|-----------|------|-----------------|
| Common Cathode    | Common Anode      | Emitted Color | Material  | IP (nm) | Typ       | Max  |                 |
| BL-S50A-12SG-XX   | BL-S50B-12SG-XX   | Super Red     | AlGaInP   | 660     | 2.10      | 2.50 | 15              |
|                   |                   | Green         | GaP/GaP   | 570     | 2.20      | 2.50 | 22              |
| BL-S50A-12EG-XX   | BL-S50B-12EG-XX   | Orange        | GaAsP/GaP | 635     | 2.10      | 2.50 | 22              |
|                   |                   | Green         | GaP/GaP   | 570     | 2.20      | 2.50 | 22              |
| BL-S50A-12DUG-XX  | BL-S50B-12DUG-XX  | Ultra Red     | AlGaInP   | 660     | 2.10      | 2.50 | 23              |
|                   |                   | Ultra Green   | AlGaInP   | 574     | 2.20      | 2.50 | 25              |
| BL-S50A-12UEUG-XX | BL-S50B-12UEUG-XX | Ultra Orange  | AlGaInP   | 630     | 2.10      | 2.50 | 25              |
|                   |                   | Ultra Green   | AlGaInP   | 574     | 2.20      | 2.50 | 25              |

### ■ -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)

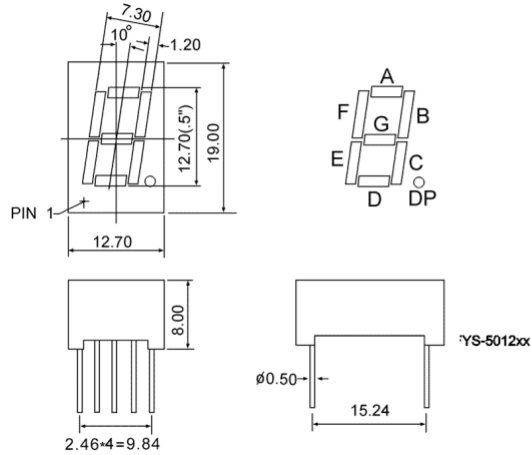
| Parameter                                                 | S                                                                     | G   | E   | D   | UG  | UE  |  | Unit |
|-----------------------------------------------------------|-----------------------------------------------------------------------|-----|-----|-----|-----|-----|--|------|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

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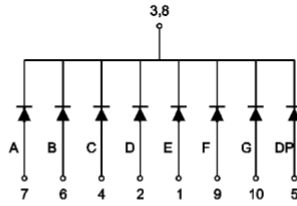
BL-S50X-12XX

### ■ Package configuration & Internal circuit diagram

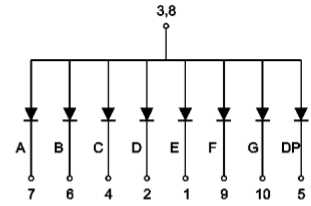
#### BL-S50X-12 Series



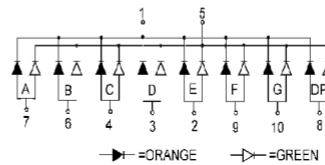
#### BL-S50A-12



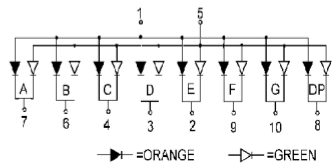
#### BL-S50B-12



#### BL-S50A-12XX



#### BL-S50B-12XX



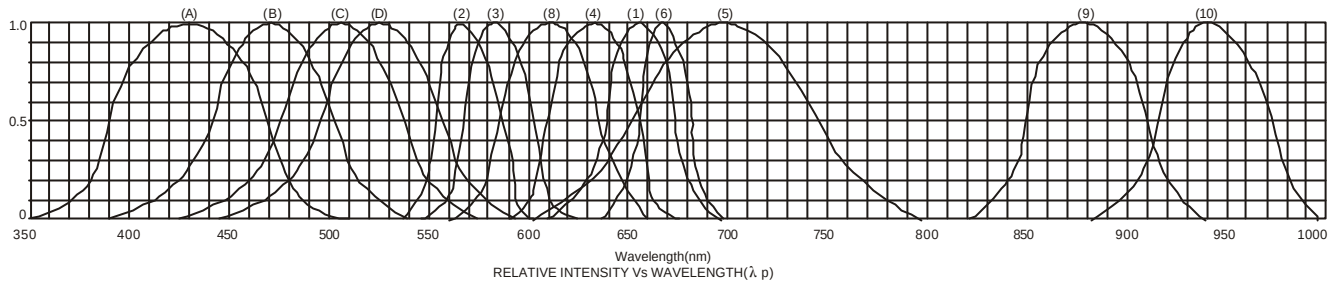
#### Notes:

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.

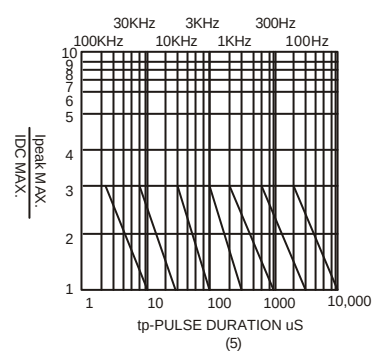
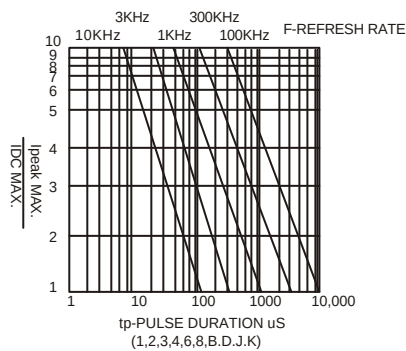
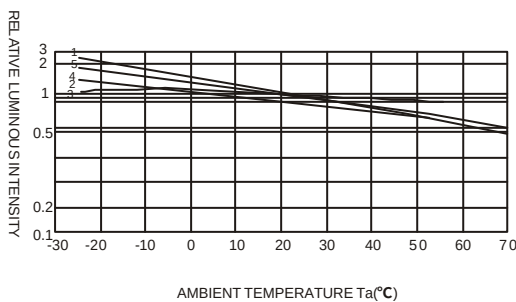
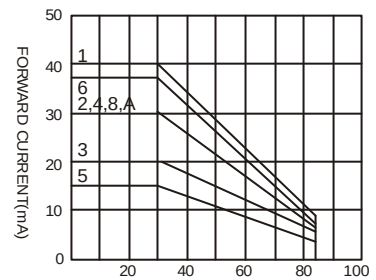
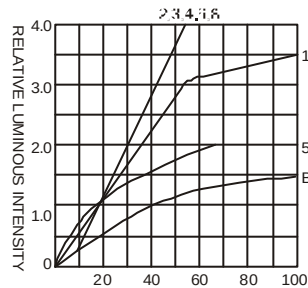
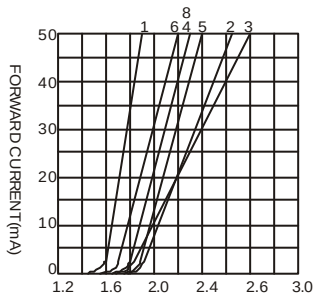
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### Typical electrical-optical characteristics curves:



- |                                           |                                      |
|-------------------------------------------|--------------------------------------|
| (1) - GaAsP/GaAs 655nm/Red                | (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           |                                      |



NOTE: 25°C free air temperature unless otherwise specified