

## LED BARGRAPH DISPLAY

BL-AR12Z3010

### Features:

- Ø 12 bars, 30.4\*10.1\*8.0mm, LED light bar
- Ø Ultra brightness available
- Ø Low current operation.
- Ø Excellent character appearance.
- Ø Easy mounting on P.C. Boards or sockets.
- Ø I.C. Compatible.



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

| Part No            | Chip             |                 |                       | VF     |      | Iv TYP.(mcd) |
|--------------------|------------------|-----------------|-----------------------|--------|------|--------------|
|                    | Emitted Color    | Material        | λ <sub>P</sub> O (nm) | Unit:V |      |              |
|                    |                  |                 |                       | Typ    | Max  |              |
| BL-AR12Z3010S--XX  | Hi Red           | GaAlAs/GaAs,SH  | 660                   | 1.85   | 2.20 | 18           |
| BL-AR12Z3010D-XX   | Super Red        | GaAlAs/GaAs,DH  | 660                   | 1.85   | 2.20 | 30           |
| BL-AR12Z3010UR-XX  | Ultra Red        | GaAlAs/GaAs,DDH | 660                   | 1.85   | 2.20 | 45           |
| BL-AR12Z3010E-XX   | Orange           | GaAsP/GaP       | 635                   | 2.10   | 2.50 | 10           |
| BL-AR12Z3010Y-XX   | Yellow           | GaAsP/GaP       | 585                   | 2.10   | 2.50 | 10           |
| BL-AR12Z3010G-XX   | Green            | GaP/GaP         | 570                   | 2.20   | 2.50 | 10           |
| BL-AR12Z3010UHR-XX | Ultra Red        | AlGaInP         | 645                   | 2.10   | 2.50 | 45           |
| BL-AR12Z3010UE-XX  | Ultra Orange     | AlGaInP         | 630                   | 2.10   | 2.50 | 18           |
| BL-AR12Z3010YO-XX  | Ultra Amber      | AlGaInP         | 619                   | 2.10   | 2.50 | 18           |
| BL-AR12Z3010UY-XX  | Ultra Yellow     | AlGaInP         | 590                   | 2.10   | 2.50 | 18           |
| BL-AR12Z3010UG-XX  | Ultra Green      | AlGaInP         | 574                   | 2.20   | 2.50 | 18           |
| BL-AR12Z3010PG-XX  | Ultra Pure Green | InGaN           | 525                   | 3.80   | 4.50 | 22           |
| BL-AR12Z3010UB-XX  | Ultra Blue       | InGaN           | 470                   | 2.70   | 4.20 | 31           |
| BL-AR12Z3010UW-XX  | Ultra White      | InGaN           | /                     | 2.70   | 4.20 | 50           |

--XX: Ref Surface / Epoxy 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 BARGRAPH DISPLAY**
BL-AR12Z3010
**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)**

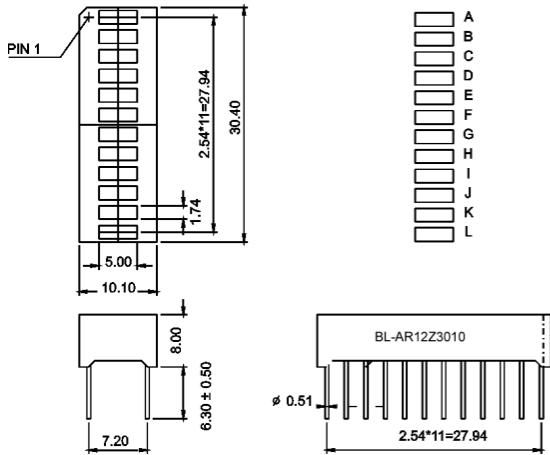
| Parameter  | UHR   | UE  | YO  | UY  | UG  | PG  | UB  | UW  | Unit |
|--|---|-----|-----|-----|-----|-----|-----|-----|------|
| Forward Current $I_F$                              | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 30  | mA   |
| Power Dissipation $P_d$                            | 75  | 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 BARGRAPH DISPLAY

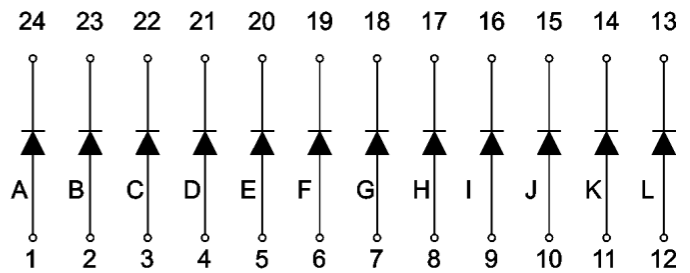
BL-AR12Z3010

## Package & Circuit

### BL-AR12Z3010 Series



### BL-AR12Z3010



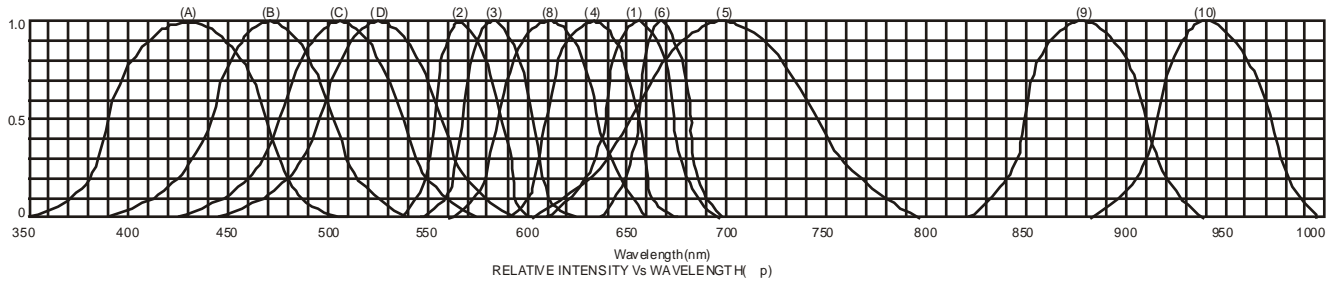
#### Notes:

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

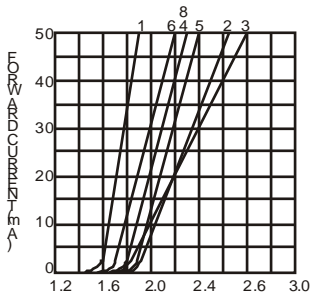
# LED BARGRAPH DISPLAY

BL-AR12Z3010

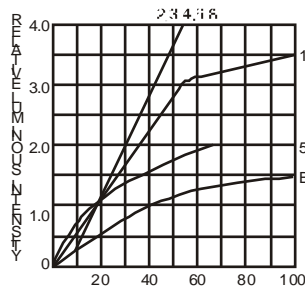
## Typical electrical-optical characteristics curves:



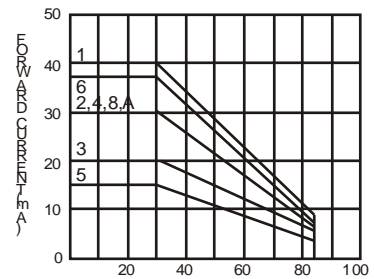
- (1) - GaAsP/GaAs 655nm/Red
- (2) - GaP 570nm/Yellow Green
- (3) - GaAsP/GaP 585nm/Yellow
- (4) - GaAsP/GaP 635nm/Orange & Hi-Eff Red
- (5) - GaP 700nm/Bright Red
- (6) - GaAlAs/GaAs 660nm/Super Red
- (8) - GaAsP/GaP 610nm/Super Red
- (9) - GaAlAs 880nm
- (10) - GaAs/GaAs & GaAlAs/GaAs 940nm
- (A) -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



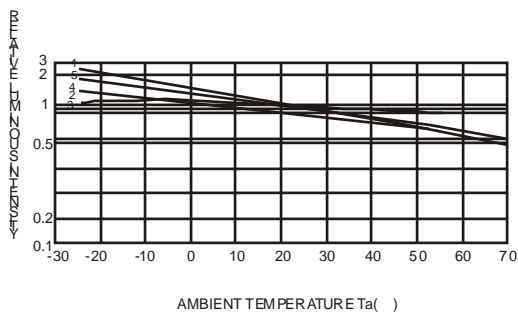
FORWARD VOLTAGE (Vf)  
FORWARD CURRENT VS.  
FORWARD VOLTAGE



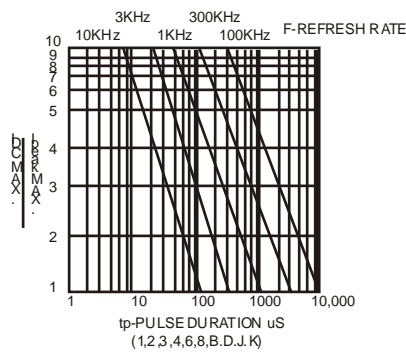
FORWARD CURRENT (mA)  
RELATIVE LUMINOUS  
INTENSITY VS. FORWARD  
CURRENT



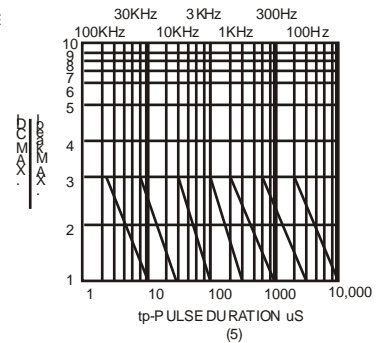
AMBIENT TEMPERATURE Ta ( °C )  
FORWARD CURRENT VS. AMBIENT  
TEMPERATURE



AMBIENT TEMPERATURE Ta ( °C )



tp-PULSE DURATION  $\mu$ s  
(1,2,3,4,6,8,B,D,J,K)



tp-PULSE DURATION  $\mu$ s  
(5)

NOTE:25 free air temperature unless otherwise specified

**LED BARGRAPH DISPLAY**

**BL-AR12Z3010**

**Packing and weighting**

