



## Data Sheet

---

Customer:

Part No:

Sample No:

Description:

Item No:

CLD-8021BUR-11

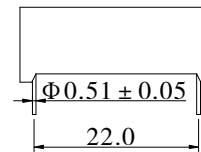
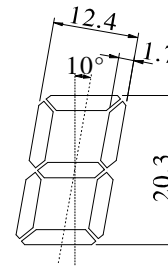
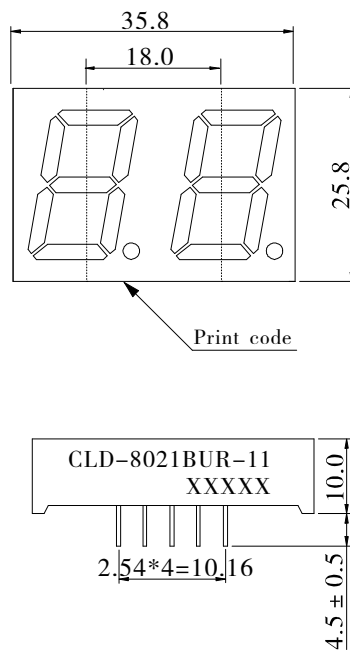
0.8 inch 2 Digit Red Color

| Customer |            |          |      |
|----------|------------|----------|------|
| Check    | Inspection | Approval | Date |
|          |            |          |      |

## Descriptions

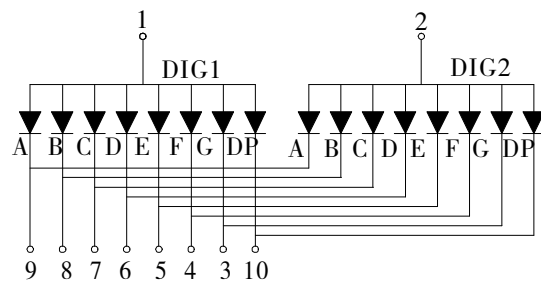
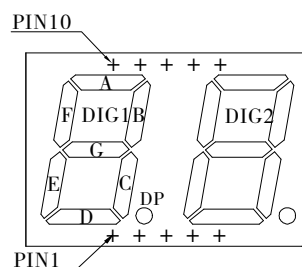
1. Emitting Color: Ultra Red
2. Lens Color: White Diffused
3. Surface Ink Color : Black
4. Dice Material: AlGaInP/GaAs

## Outline drawing



Tolerance is  $\pm 0.25\text{mm}$  unless otherwise noted, Unit=mm  
Pin bending  $\leq \text{length} \times 1\%$

## Internal Circuit Diagram (C.A.)



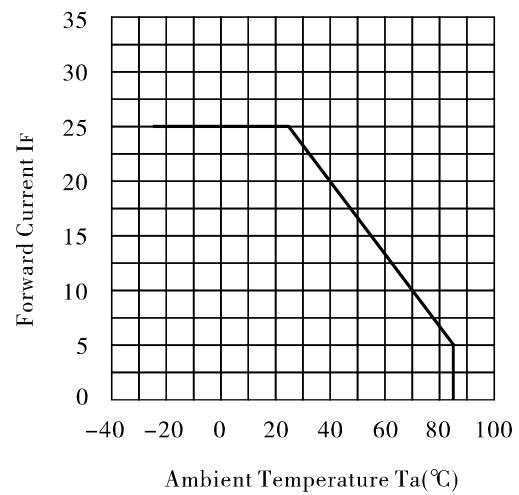
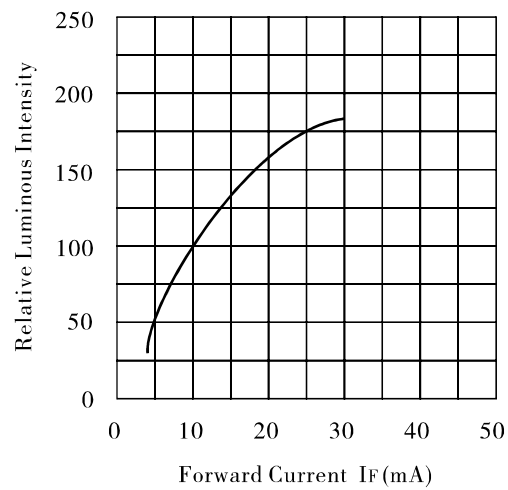
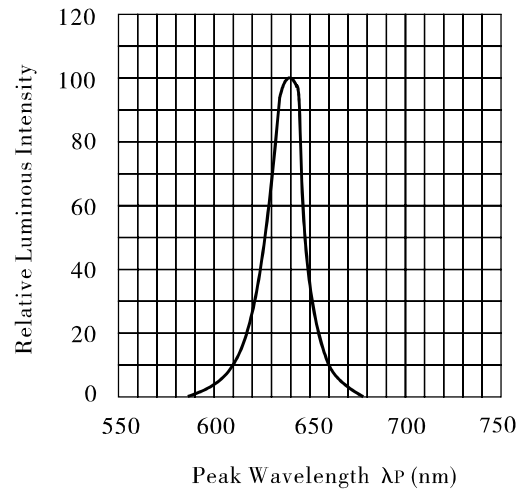
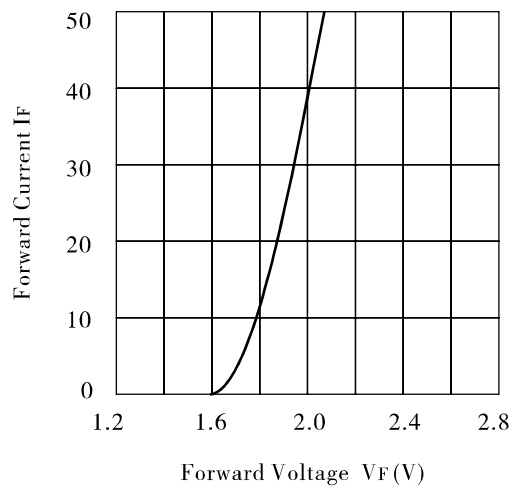
## Electrical optical characteristics ( Ta=25℃ )

| Parameter                | Symbol          | Ultra Red |      |      | Unit    | Test Condition |
|--------------------------|-----------------|-----------|------|------|---------|----------------|
|                          |                 | Min       | Typ  | Max  |         |                |
| Forward Voltage          | $V_F$           | ---       | 2.00 | 2.40 | V       | IF=20mA        |
| Luminous Intensity       | $I_V$           | 7.0       | 13.7 | ---  | mcd     | IF=10mA        |
| Peak Wavelength          | $\lambda_P$     | ---       | 645  | ---  | nm      | IF=20mA        |
| Dominant Wavelength      | $\lambda_d$     | ---       | 635  | ---  | nm      | IF=20mA        |
| Spectral Line half-width | $\Delta\lambda$ | ---       | 20   | ---  | nm      | IF=20mA        |
| Reverse Leakage Current  | $I_R$           | ---       | ---  | 50   | $\mu A$ | VR=5V          |

## Absolute Maximum Parameters(Ta=25℃)

| Parameter                   | Symbol | Condition      | Rating     | Unit |
|-----------------------------|--------|----------------|------------|------|
| Power Dissipation           | $P_D$  | ---            | 80         | mW   |
| Reverse Voltage             | $V_R$  | ---            | 5          | V    |
| Forward Average Current     | $I_F$  | ---            | 30         | mA   |
| Temperature Coefficient     | I/C    | ---            | 0.33       | mA/℃ |
| Pulse Current               | IFP    | Duty=1/10,1kHz | 100        | mA   |
| Operating Temperature Range | Topr   | ---            | -25 ~ +85  | ℃    |
| Storage Temperature Range   | Tstg   | ---            | -30 ~ +100 | ℃    |
| Soldering Condition         | Tsd    | ---            | 260℃/5sec  | ℃    |

Typical Electro-Optical characteristic curves (  $T_a=25^{\circ}\text{C}$  )



### Reliability test conditions

| Test Item                                   | Test Condition                           | Result | Judgment criteria                                                                                                                                                                                             |
|---------------------------------------------|------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Consecutive operating life test             | IF=20mA, T=25℃, t=168h                   | 0/12   | Forward Voltage<br>$V_F(V) = \text{Upper Limit} \times 1.2$<br>Reverse Leakage Current<br>$I_R(\mu A) = \text{Upper Limit} \times 2.0$<br>Luminous Intensity $I_v$<br>$(mcd) = \text{Lower Limit} \times 0.7$ |
| High temperature storage life test          | T=100℃, t=168h                           | 0/12   |                                                                                                                                                                                                               |
| Low temperature storage life test           | T=-25℃, t=168h                           | 0/12   |                                                                                                                                                                                                               |
| high Temperature humidity storage life test | T=85 ± 2℃, RH=85% ± 3, t=168h            | 0/12   |                                                                                                                                                                                                               |
| Temperature cycle test                      | -25℃~25℃~100℃, 30min 5min 30min 10cycles | 0/12   |                                                                                                                                                                                                               |
| Thermal shock test                          | 100℃ 0℃<br>5min 5min 20 cycles           | 0/12   |                                                                                                                                                                                                               |
| Soldering heat test                         | T=260 ± 5℃, t=10s ± 1s                   | 0/12   | Steeped Part ≥ 95%                                                                                                                                                                                            |
| Solderability test                          | T=230 ± 5℃, t=5s ± 0.5s                  | 0/12   |                                                                                                                                                                                                               |
| Fall test                                   | h=100cm, Free fall, 3times               | 0/12   | Intact                                                                                                                                                                                                        |
| Terminal strength test                      | W=9.8N, t=30 ± 5s                        | 0/12   |                                                                                                                                                                                                               |
| Lead Bending test                           | W=4.9N, 2times                           | 0/12   |                                                                                                                                                                                                               |