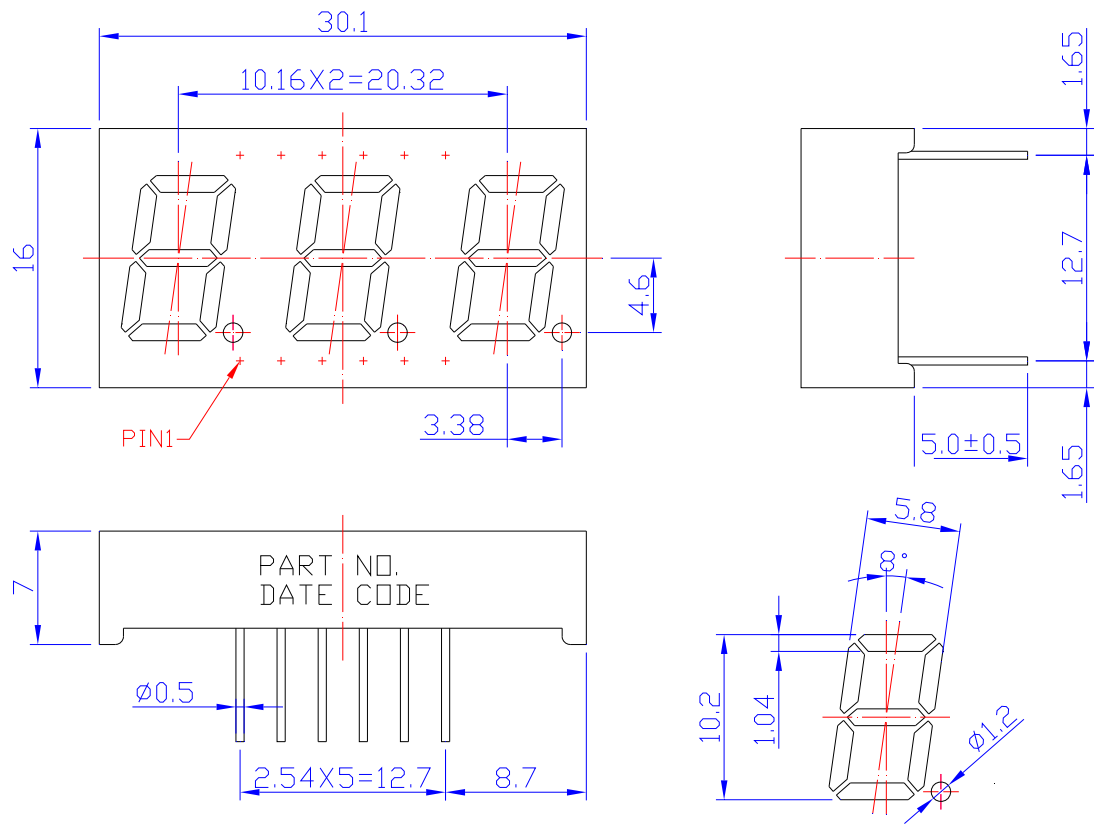


**SPECIFICATIONS** **CDTC40R2WF**

### OUTLINES DIMENSIONS



The technical drawings show the following dimensions:

- Top View:** Total width 30.1mm, height 16mm. Three LED chips are spaced 10.16mm apart (10.16 x 2 = 20.32mm). Pin 1 is on the left. Spacing from the right edge to the center of the chips is 3.38mm. Chip height is 4.6mm.
- Side View:** Total height 12.7mm. The LED chip height is 1.65mm. The package height is 5.0 ± 0.5mm. The bottom lead height is 1.65mm.
- Bottom View:** Lead height 7mm. Lead diameter is  $\phi 0.5$ mm. The lead pitch is 2.54mm (2.54 x 5 = 12.7mm). The distance from the last lead to the right edge is 8.7mm. The package contains markings for PART NO., DATE, and CODE.
- Isometric View:** LED chip height 10.2mm, chip width 5.8mm, chip depth 1.04mm. The lens has a diameter of  $\phi 1.2$ mm and a viewing angle of 8°.

**Notes:**

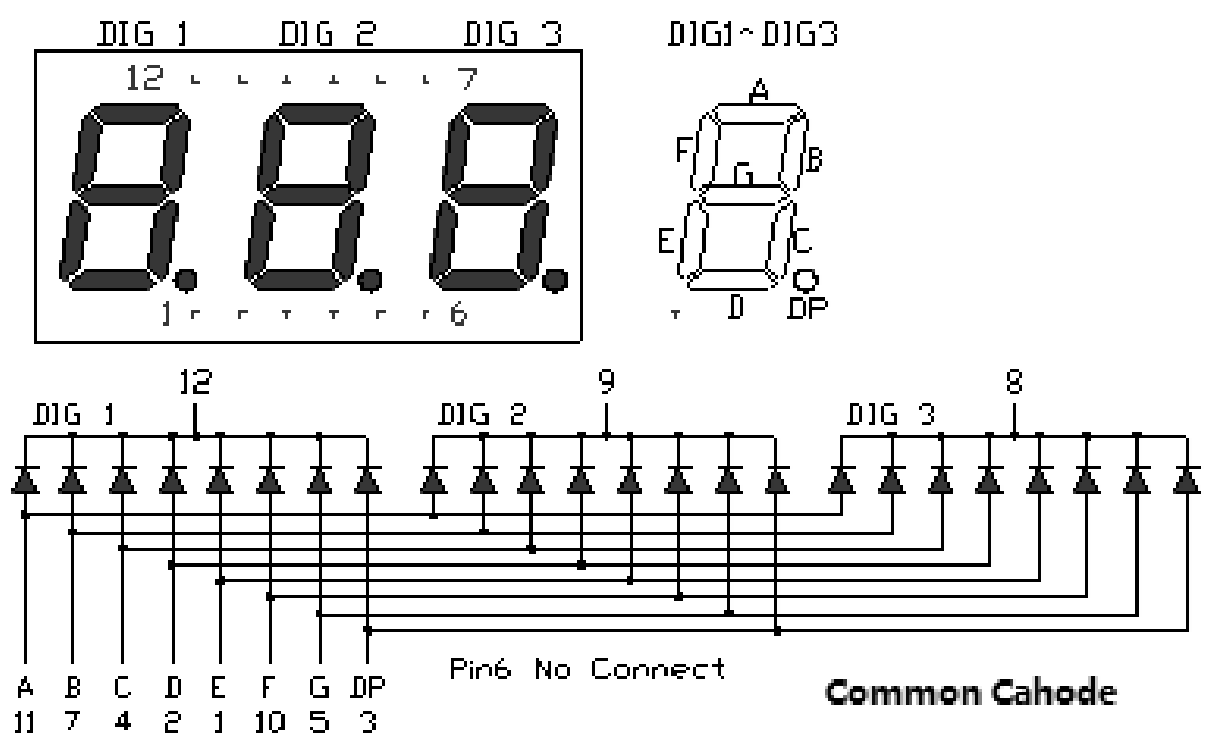
1. All Dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25$ mm (0.01") unless otherwise noted.
3. Specifications are subject to change without notice.

| Part Number | Chip Material | Color of Emission | Lens Type     | Description    |
|-------------|---------------|-------------------|---------------|----------------|
| CDTC40R2WF  | InGaAlP       | Red               | White Segment | Common Cathode |



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## TYPICAL INTERNAL EQUIVALENT CIRCUIT



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**ABSOLUTE MAXIMUM RATINGS**
**(TA=25°C)**

| Parameter  | Symbol | Max Rating | Unit |
|--|--------|------------|------|
| Power Dissipation  | PD     | 48         | mW   |
| Pulse Forward Current  | IFP    | 40         | mA   |
| Continuous Forward Current   | IF     | 20         | mA   |
| Reverse Voltage Segment  | VR     | 5          | V    |
| Operating Temperature Range  | TOPR   | -40~+85    | °C   |
| Storage Temperature Range  | TSTG   | -40~+85    | °C   |
| IFP = Pulse Width ≤ 10 ms, Duty Ratio ≤1/10. Soldering Condition: 260 °C/ 5sec |        |            |      |

**OPTICAL-ELECTRICAL CHARACTERISTICS**
**(TA=25°C)**

| Parameter                    | Symbol | Test Condition | Value |     |     | Unit |
|------------------------------|--------|----------------|-------|-----|-----|------|
|                              |        |                | Min   | Typ | Max |      |
| Luminous Intensity           | IV     | IF = 20mA      | -     | 40  | -   | mcd  |
| Forward Voltage              | VF     | IF = 20mA      | -     | 2.1 | 2.4 | V    |
| Reverse Leakage Current      | IR     | VR = 5V        | -     | -   | 10  | µA   |
| Peak Wavelength              | λP     | IF = 20mA      | -     | 632 | -   | nm   |
| Dominant Wavelength          | λD     | IF = 20mA      | -     | 624 | -   | nm   |
| Spectral Radiation Bandwidth | Δλ     | IF = 20mA      | -     | 20  | -   | nm   |



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## OPTICAL CHARACTERISTIC CURVES

(25 °C Free Air Temperature Unless Otherwise Specified)

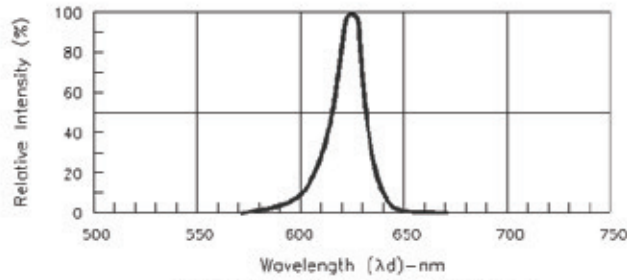


Fig.1-Relative Intensity VS. Wavelength

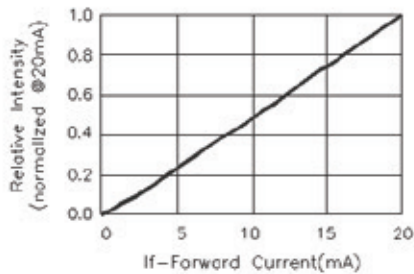


Fig.2-Relative Luminous Intensity vs. Forward Current

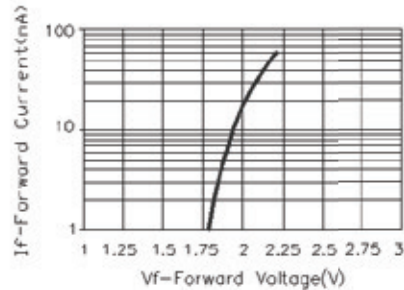


Fig.3-Forward Current vs. Forward Voltage

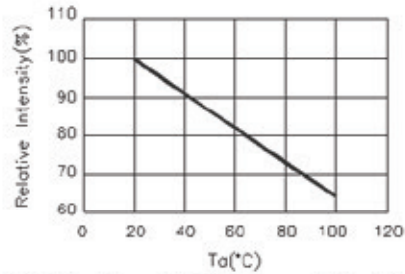


Fig.4-Relative Intensity(@20mA) vs. Ambient Temperature

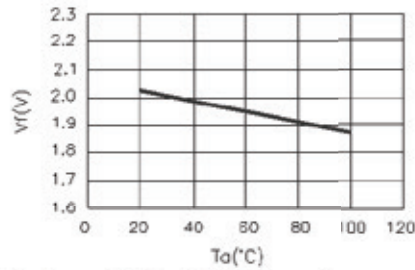


Fig.5-Forward Voltage(@20mA) vs. Ambient Temperature

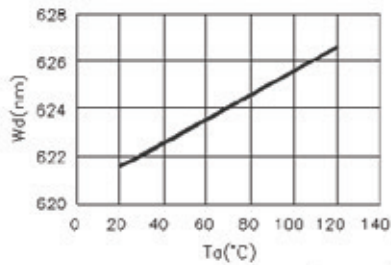


Fig.6-Dominant Wavelength(@20mA) VS. Ambient Temperature

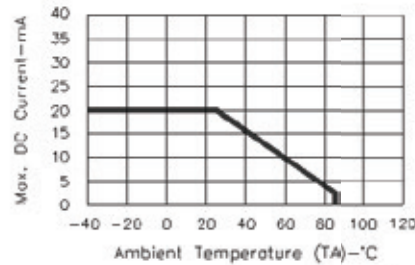


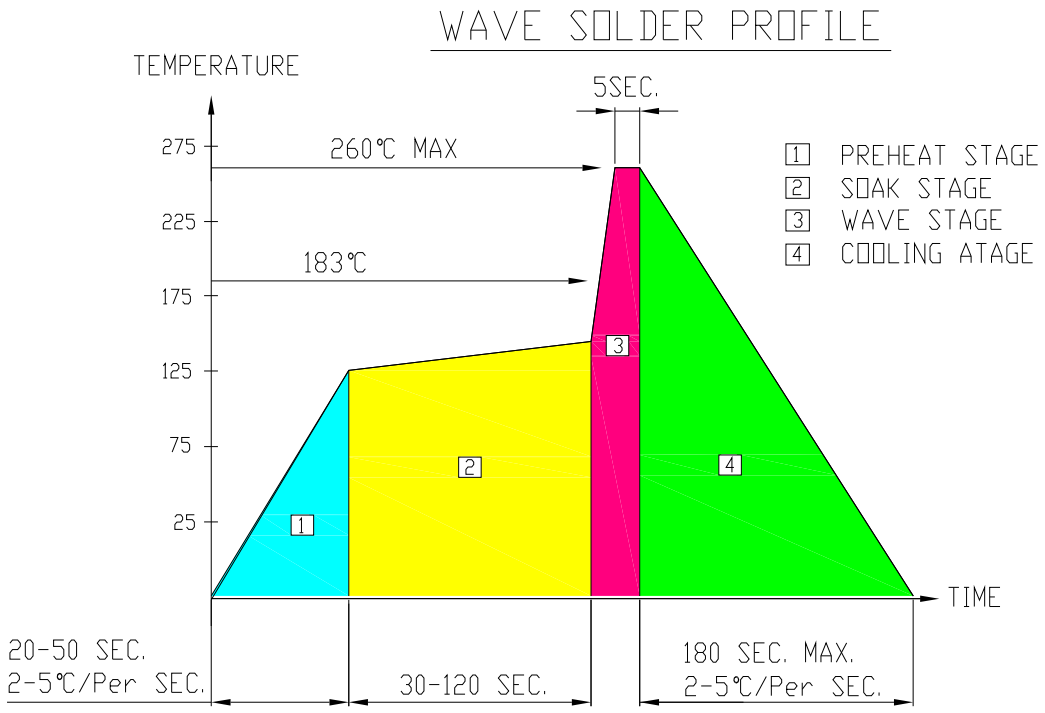
Fig.7-Max. Allowable DC Current VS. Ambient Temperature



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# SOLDERING CONDITIONS – DISPLAY TYPE LED

## ● RECOMMEND SOLDERING PROFILE



### ● Note:

- Recommend pre-heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260°C
- Peak wave soldering temperature between 245°C ~ 225°C for 3 sec (5 sec max)
- No more than one wave soldering pass

### ● SOLDERING IRON

Basic spec is  $\leq 4$  sec when 260°C. If temperature is higher, time should be shorter (+10°C → 1 sec). Power dissipation of Iron should be smaller than 15W, and temperature should be controllable. Surface temperature of the device should be under 230°C.

### ● REWORK

Customer must finish rework within  $\leq 3$  sec under 350°C. The head of soldering iron cannot touch copper foil.



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