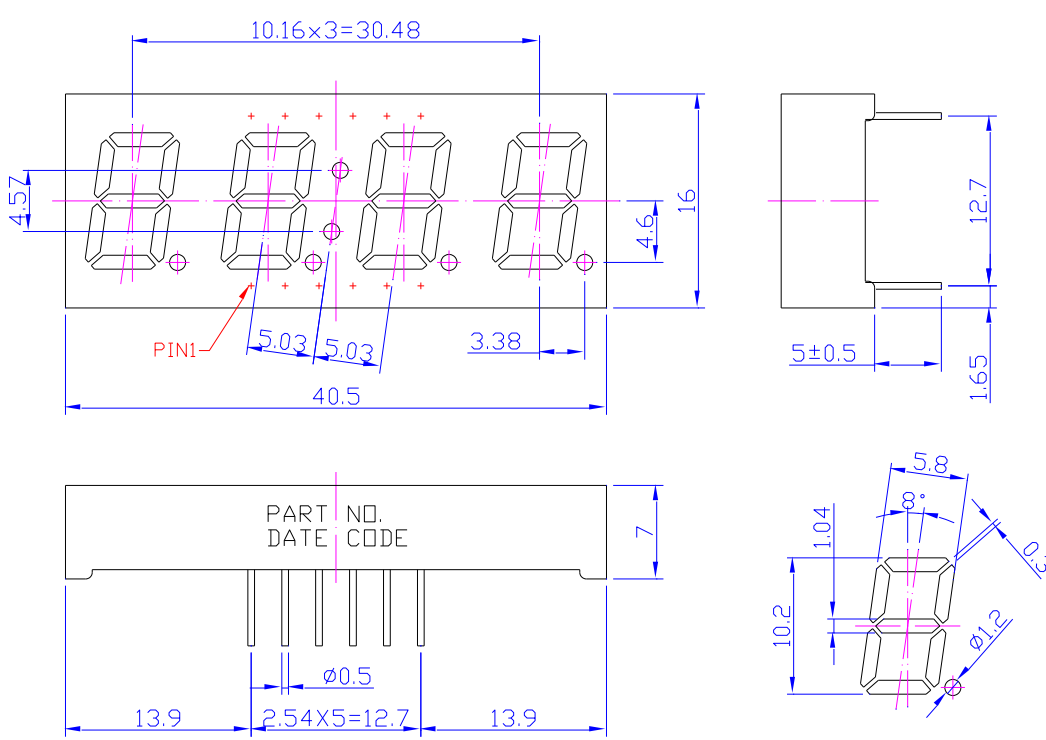


**SPECIFICATIONS** **CDQC40R2WBF**

### OUTLINES DIMENSIONS



The technical drawings show the following dimensions:

- Top View:** Total width 40.5mm, total height 16mm. Four LED chips are arranged in a row. The distance between the centers of adjacent chips is 10.16mm (3 chips = 30.48mm). The distance from the left edge to the first chip center is 4.57mm. The distance from the last chip center to the right edge is 4.6mm. The distance between the center of a chip and the center of the adjacent pin is 5.03mm. The distance from the center of a chip to the right edge is 3.38mm.
- Side View:** Total height 12.7mm. The distance from the top surface to the bottom of the chip is 1.65mm. The distance from the left edge to the center of the chip is 5±0.5mm.
- Bottom View:** Total width 40.5mm, total height 7mm. The distance from the left edge to the center of the chip is 13.9mm. The distance between the centers of adjacent pins is 2.54mm (5 pins = 12.7mm). The diameter of the pins is 0.5mm.
- Detail View:** Shows a single LED chip with a width of 5.8mm, a height of 10.2mm, and a lens diameter of 1.2mm. The lens has a height of 1.04mm and a bevel angle of 8°. The distance from the center of the chip to the edge of the lens is 0.3mm.

**Notes:**

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

Part Number	Chip Material	Color of Emission	Lens Type	Description
CDQC40R2WBF	InGaAlP	Red	White Seg./Black Face	Common Cathode



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

Parameter	Symbol	Max Rating	Unit
Power Dissipation	PD	70	mW
Pulse Forward Current	IFP	90	mA
Continuous Forward Current	IF	25	mA
Reverse Voltage Segment	VR	5	V
Operating Temperature Range	TOPR	-25~+85	°C
Storage Temperature Range	TSTG	-25~+85	°C
IFP = Pulse Width ≤ 10 ms, Duty Ratio ≤ 1/10. Soldering Condition: 260 °C/ 5sec			

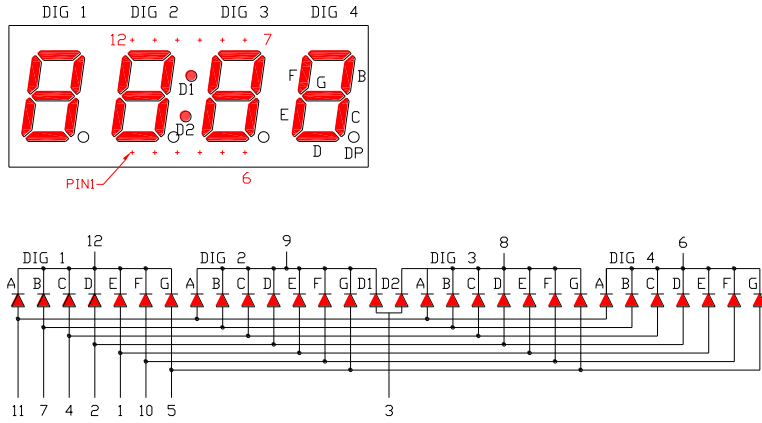
**OPTICAL-ELECTRICAL CHARACTERISTICS**
**(TA=25°C)**

Parameter	Symbol	Test Condition	Value			Unit
			Min	Typ	Max	
Luminous Intensity	IV	IF = 20mA	-	60	-	mcd
Forward Voltage	VF	IF = 20mA	-	2.0	2.4	V
Reverse Leakage Current	IR	VR = 5V	-	-	10	µA
Peak Wavelength	λP	IF = 20mA	-	632	-	nm
Dominant Wavelength	λD	IF = 20mA	619	624	629	nm
Spectral Radiation Bandwidth	Δλ	IF = 20mA	-	20	-	nm



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## TYPICAL INTERNAL EQUIVALENT CIRCUIT



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## OPTICAL CHARACTERISTIC CURVES

(25 °C Free Air Temperature Unless Otherwise Specified)

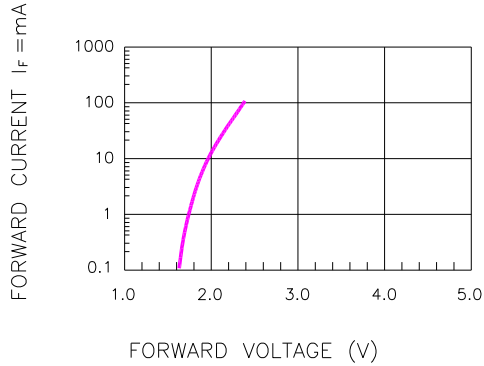


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

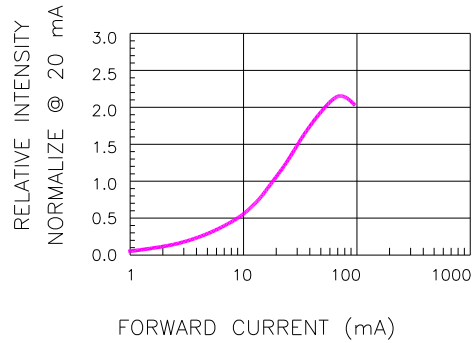


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

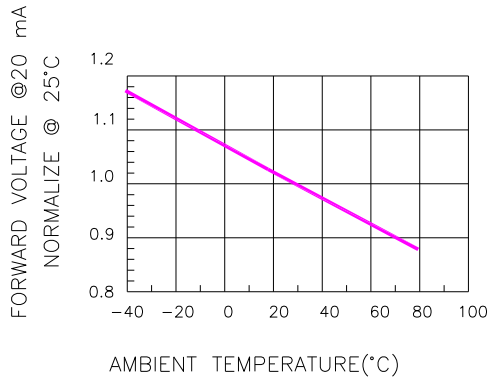


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

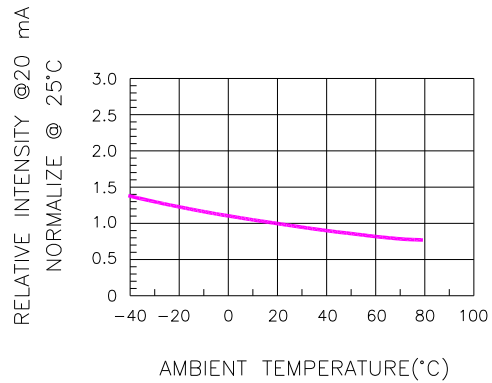


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

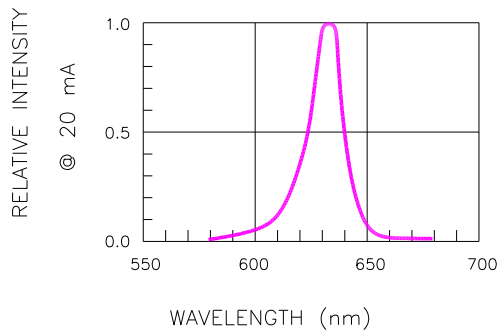


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

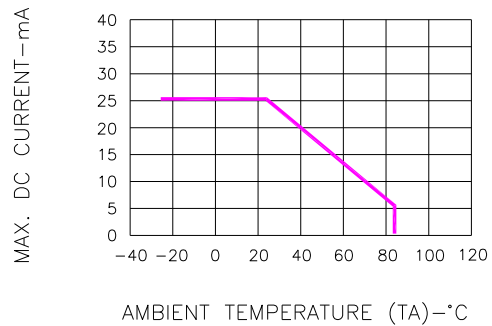


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

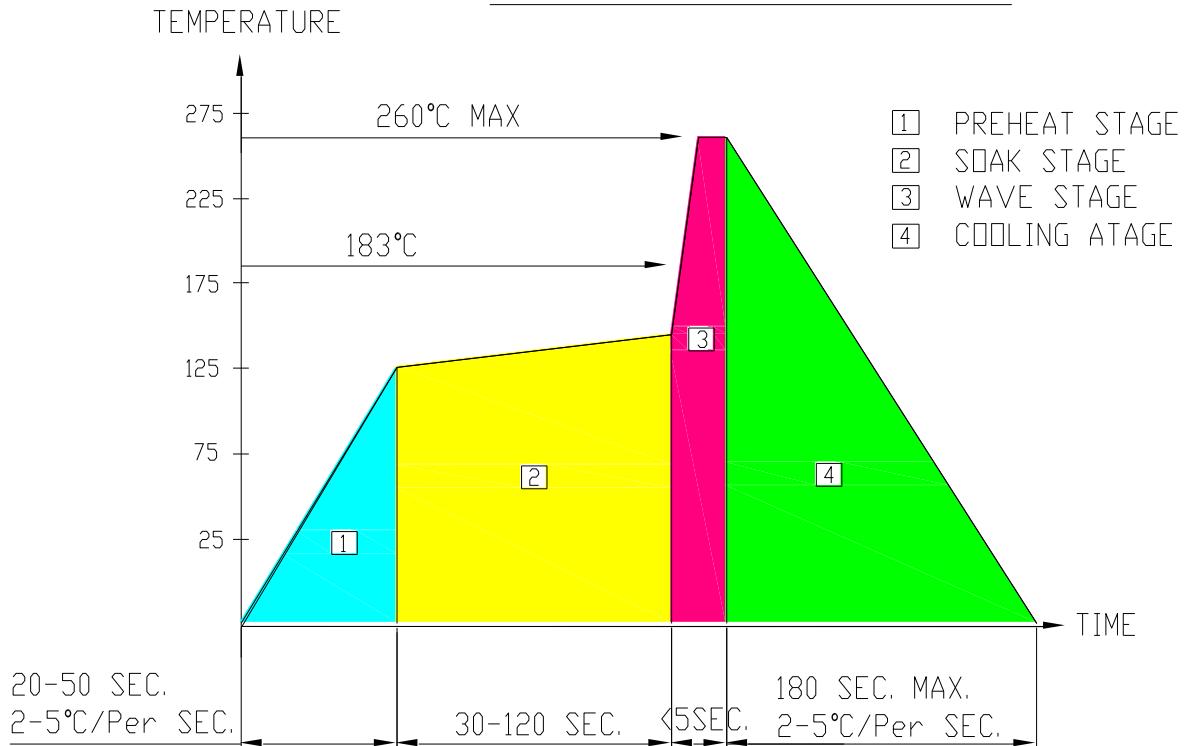


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## SOLDERING CONDITIONS – DISPLAY TYPE LED

### ● RECOMMEND SOLDERING PROFILE

#### WAVE SOLDER PROFILE



### ● 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  $\leq 4$  sec under 245°C.



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