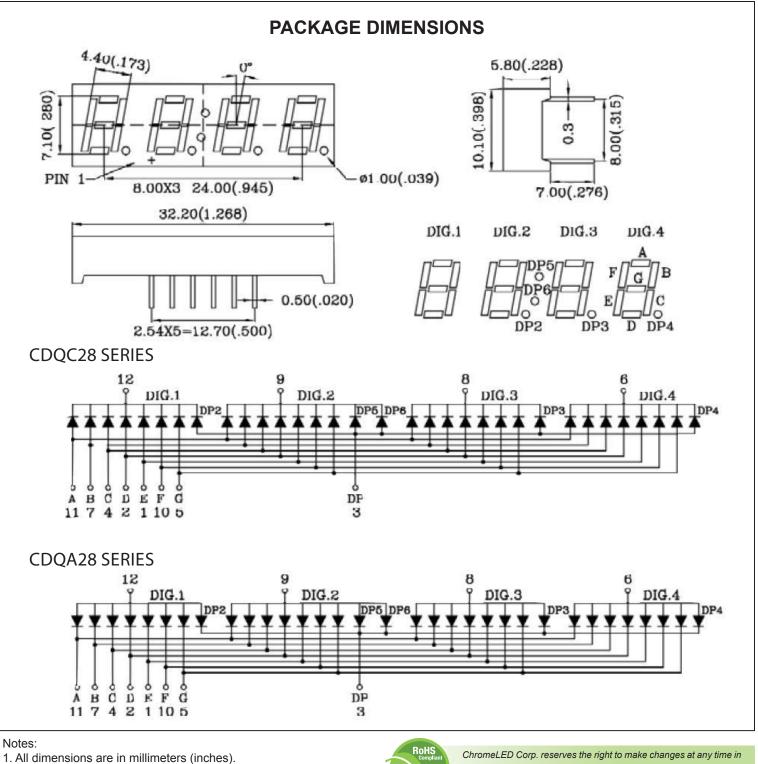


#### **SPECIFICATIONS**

# **CDQX28 SERIES**



2. Tolerance is  $\pm$  0.25mm (0.01") unless otherwised noted.

3. Specifications are subject to change without notice.



ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: www.chromeled.com

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#### PART NUMBER DESCRIPTION

Part Number	Chip Material	Color of Emission	Lens Type	Description
CDQA28R1W	GaAsP	Red	White Segment	Common Anode
CDQC28R1W	GaAsP	Red	White Segment	Common Cathode
CDQA28RR1W	AlGaAs	Super Red	White Segment	Common Anode
CDQC28RR1W	AlGaAs	Super Red	White Segment	Common Cathode
CDQA28Y1W	GaAsP	Yellow	White Segment	Common Anode
CDQC28Y1W	GaAsP	Yellow	White Segment	Common Cathode
CDQA28G1W	GaP	Green	White Segment	Common Anode
CDQA28G1W	GaP	Green	White Segment	Common Cathode

#### **OPTICAL-ELECTRICAL CHARACTERISTICS**

(TA=25°C)

(TA=25°C)

Part Number	Wave- length (nm)	Absolute Maximum			Electro-Optical Characteristics						
		Δλ	PD	IAF	IPF	VF (V)		IF	<b>lv (</b> µcd)		
		nm	mW	mA	(Peak)	Min	Тур	Max	(Rec)	Min	Тур
CDQA28R1W	625	45	75	30	100	1.7	1.85	2.5	10	1200	6400
CDQC28R1W	625	45	75	30	100	1.7	1.85	2.5	10	1200	6400
CDQA28RR1W	640	20	72	30	100	1.6	1.75	2.4	10	6000	12000
CDQC28RR1W	640	20	72	30	100	1.6	1.75	2.4	10	6000	12000
CDQA28Y1W	588	35	75	30	100	1.7	2.1	2.8	10	1200	3000
CDQC28Y1W	588	35	75	30	100	1.7	2.1	2.8	10	1200	3000
CDQA28G1W	568	30	65	25	100	1.7	2.1	2.8	10	3000	9000
CDQA28G1W	568	30	65	25	100	1.7	2.1	2.8	10	3000	9000

#### **ABSOLUTE MAXIMUM RATINGS**

#### Spectral Line half-width ( $\lambda$ ) **Reverse Voltage** 5V nm Reverse Current (Vr = 5V) 100µA Power Dissipation (PD) mW **Operating Temperature** -40°C~+85°C Peak Forward Current (Duty 1/10, @ KHz) mΑ Storage Temperature -40°C~+85°C Recommended Operation Current (IF Rec) mΑ Soldering Temperature 250C~260C for 3 sec. μA Average Luminous Intensity (IF=10)

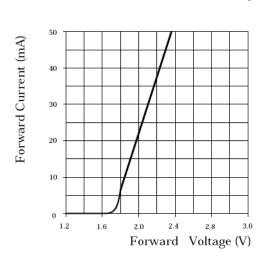


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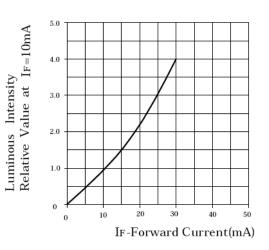
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## **OPTICAL CHARACTERISTIC CURVES - RED**

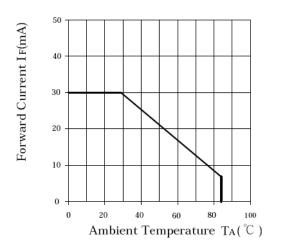


Forward Current vs. Forward Voltage

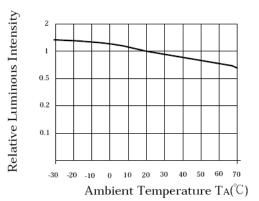


Relative Intensity vs. Forward Current

Forward Current vs. Ambient Temperature



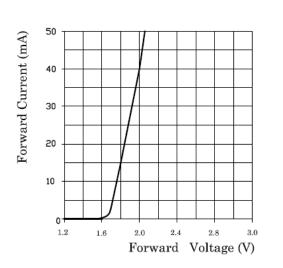
Luminous Intensity vs. Ambient Temperature



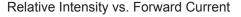


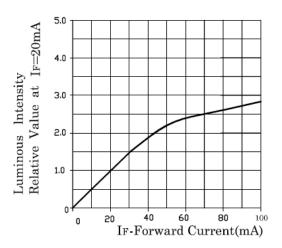


#### **OPTICAL CHARACTERISTIC CURVES - SUPER RED**

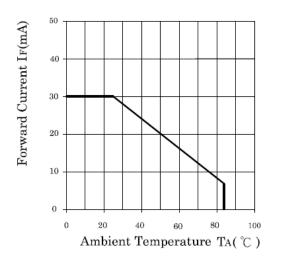


Forward Current vs. Forward Voltage

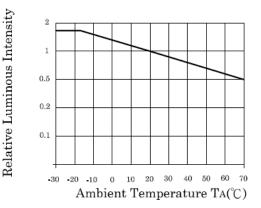




Forward Current vs. Ambient Temperature



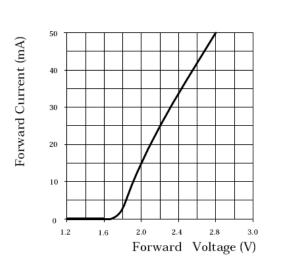
Luminous Intensity vs. Ambient Temperature



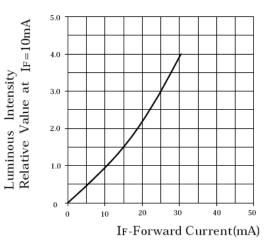




## **OPTICAL CHARACTERISTIC CURVES - YELLOW**

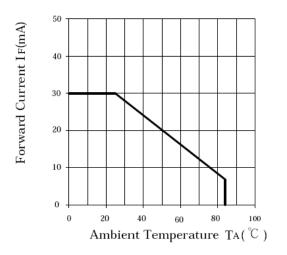


Forward Current vs. Forward Voltage

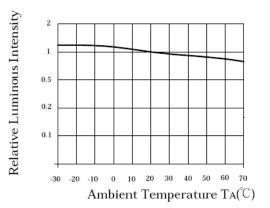


#### Relative Intensity vs. Forward Current

Forward Current vs. Ambient Temperature



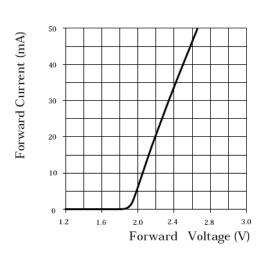
Luminous Intensity vs. Ambient Temperature



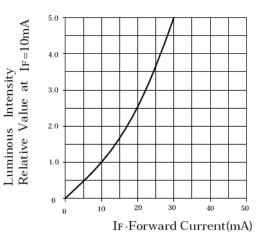




### **OPTICAL CHARACTERISTIC CURVES - GREEN**

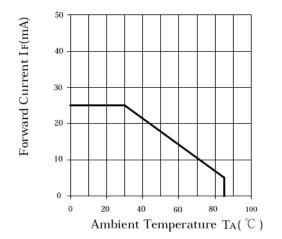


Forward Current vs. Forward Voltage



#### Relative Intensity vs. Forward Current

Luminous Intensity vs. Ambient Temperature



Forward Current vs. Ambient Temperature

 $\begin{array}{c} \begin{array}{c} & & & \\ \end{array} \right) \begin{array}{c} & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ \end{array} \right) \begin{array}{c} & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ \end{array} \right) \begin{array}{c} & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ &$ 





#### SOLDERING CONDITIONS - DISPLAY

- \* Solder the LED no closer than 3mm from the base of the epoxy bulb. Soldering beyond the base of the tie bar is recommended.
- \* Recommended soldering conditions

Dip Soldering				
Pre-Heat	100 °C Max			
Pre-Heat Time	60 Second Max			
Solder Bath Temperature	260 °C Max			
Dippng Time	5 Second Max			
Dipping Position	No lower than 3mm from the base of the epoxy			

Hand Soldering					
	3mm Series	Others			
Temperature Soldering Time Position	300 °C Max 3 Second Max No closer than 3mm from the base of the epoxy	350 °C Max 3 Second Max No closer than 3mm from the base of the epoxy			

- \* Do not apply any stress to the lead. Particularly when heated.
- \* The LED must not be repositioned after soldering.
- \* After soldering the LEDs, the epoxy bulb should be protected from mechanical shock or vibration until the LEDs return to room temperature.
- \* Direct soldering onto a PC board should be avoided. Mechanical stress to the resin may be caused by the PC board warping or from the clinching and cutting of the leadframes. When it is absolutely necessary, the LEDs may be mounted in this fashion, but, the user will assume responsibility for any problems. Direct soldering should only be done after testing has confirmed that no damage, such as wire bond failure or resin deterioration, will occur. LEDs should not be soldered directly to double sided PC boards because the heat will deteriorate the epoxy resin.
- \* When it is necessary to clamp the LEDs to prevent soldering failure, it is important to minimize the mechanical stress on the LEDs.
- \* Cut the LED leadframes at room temperature. Cutting the leadframes at high temperature may cause LED failure.

