

PRODUCT SPECIFICATION

Model No.: CSOQ-28400B CSOQ-28401B

Descriptions:
<ul style="list-style-type: none"> ■ 0.28 Inch Quad Digit Display ■ CSOQ-28400 is Common Anode ■ CSOQ-28401 is Common Cathode ■ Emitting Color: Blue ■ Standard: -11: Gray face, white segment. -21: Black face, white segment.



CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY

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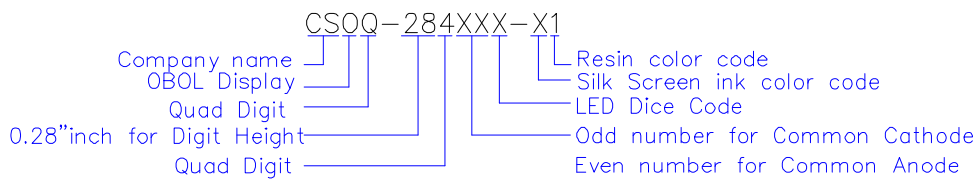
Features -

1. 0.28 inch (7.00mm) digit height.
2. Case mold type.
3. RoHS compliant.
4. Low power consumption.
6. Easy mounting on P.C. board or socket.

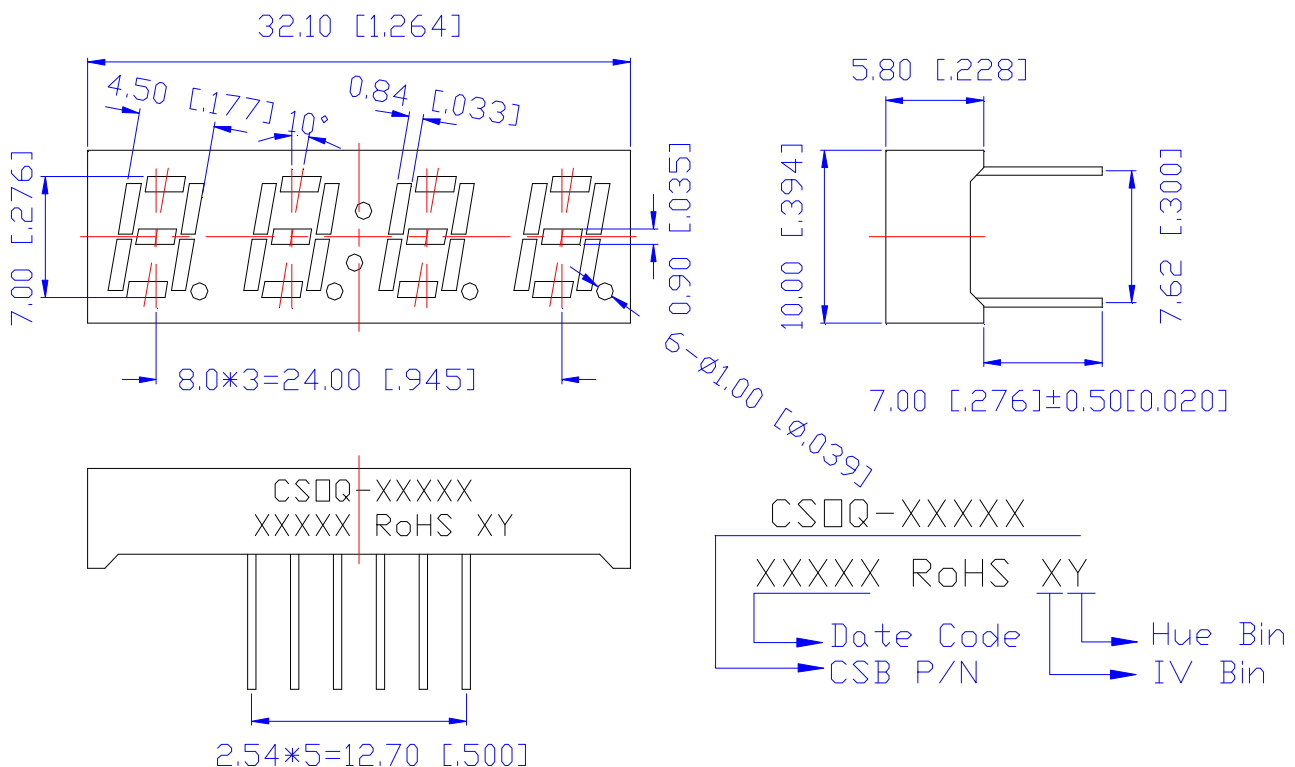
Device Selection Guide -

Model No.	Chip	
	Material	Emitting Color
CSOQ-2840xB	InGaN	Blue

LED Numeric/Alphanumeric Display



Mechanical Dimensions -

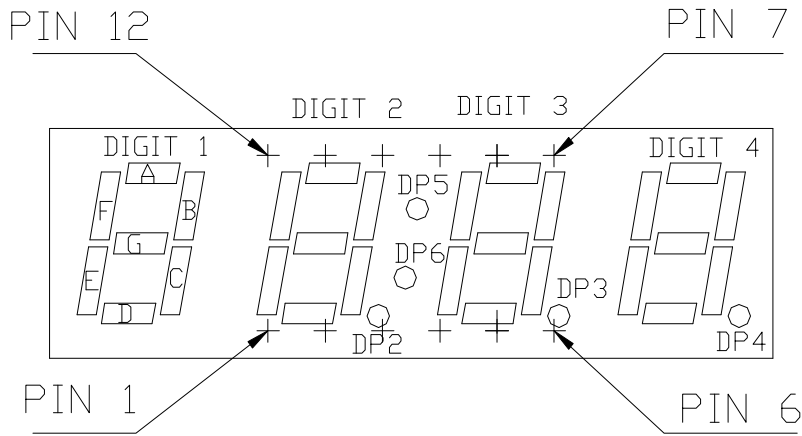


Notes:

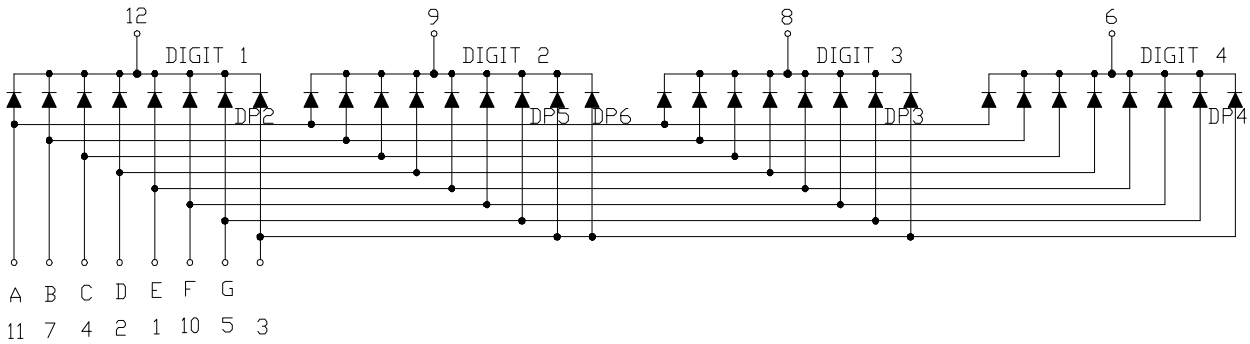
1. All pins are $\Phi 0.5[.020] \pm 0.1[.004]$
2. Dimension in millimeter [inch], tolerance is $\pm 0.25 [0.010]$ and angle is $\pm 1^\circ$ unless otherwise noted.
3. Bending \leq Length*1%.

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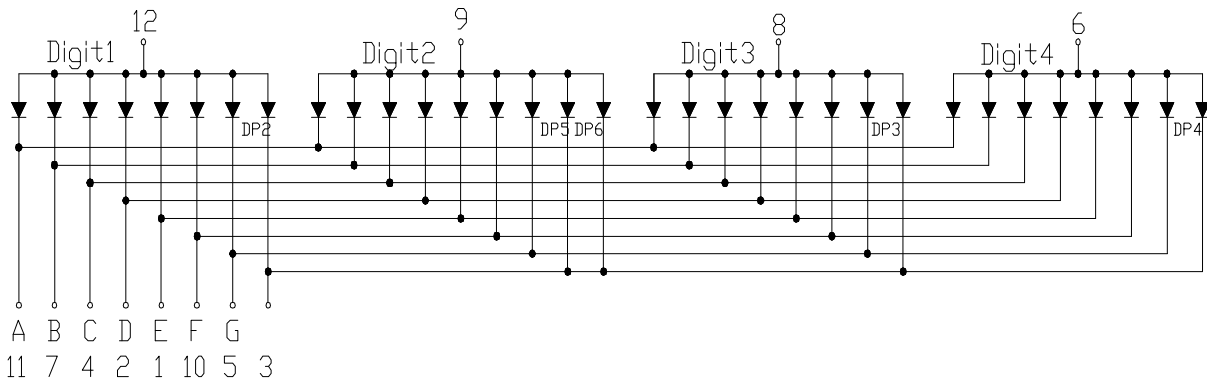
■ All Light On Segments Feature & Pin Position



■ Internal Circuit Diagrams -



CSOQ-28401 is Common Cathode



CSOQ-28400 is Common Anode

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■ Absolute Maximum Rating -

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Power Dissipation Per Dice	P _{AD}	114	mW
Derating Liner from 25°C per Dice	-	0.4	mA/°C
Continuous Forward Current Per Dice	I _{AF}	30	mA
Peak Current Per Dice(duty cycle 1/10,1KHz)	I _{PF}	100	mA
Reverse Voltage Per Dice	V _R	5	V
Electrostatic discharge(HBM)	ESD	1000	V
Operating Temp.	T _{opr}	-35 ~ +85	°C
Storage Temp.	T _{stg}	-35 ~ +85	°C
Hand Soldering Temp.	T _{sol}	350	°C

■ Electro-optical Characteristics -

(Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage Per Segment	V _F	-	3.2	3.8	V	I _F =20mA
Luminous Intensity Per Segment	I _v	-	16	-	mcd	I _F =10mA
Dominant Wavelength	λ _d	-	465	-	nm	I _F =20mA
Reverse Current	I _R	-	-	50	μA	V _R =5V
Luminous Intensity Matching Ratio	I _{v-m}	-	-	2:1	-	I _F =10mA

Notes:The device can not operated under continuous reverse voltage.

■ Typical Electrical / Optical Characteristics Curves -

(Ta = 25°C Unless Otherwise Noted)

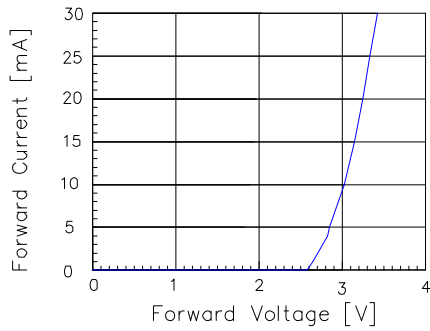


Fig 1. Forward Current vs. Forward Voltage

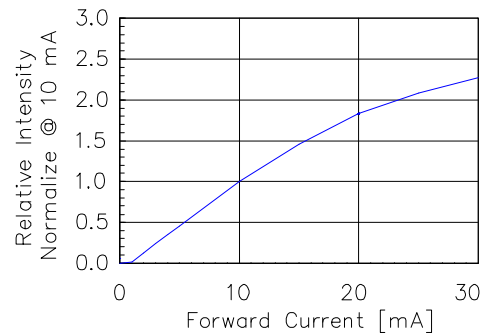


Fig 2. Relative Intensity vs. Forward Current

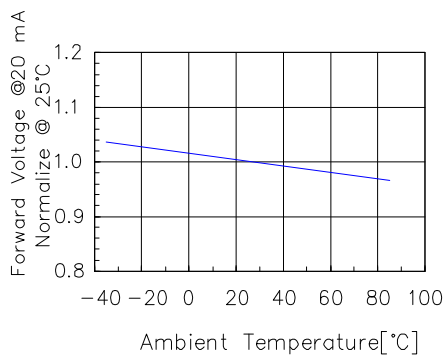


Fig 3. Forward Voltage vs. Temperature

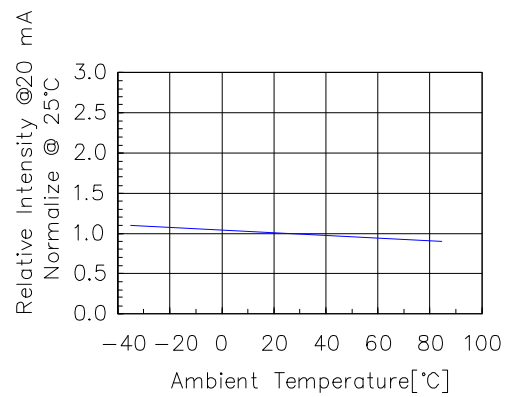


Fig 4. Relative Intensity vs. Temperature

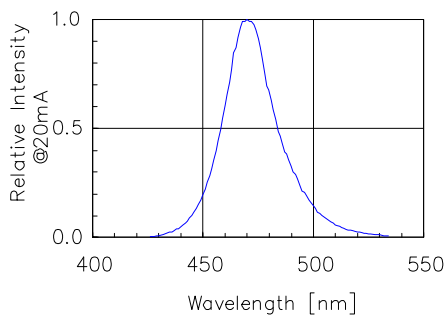


Fig 5. Relative Intensity vs. Wavelength

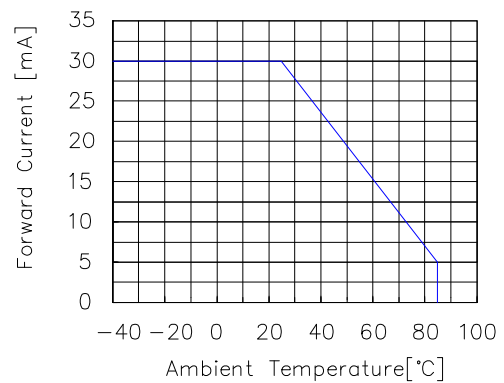


Fig 6. Forward current vs. Temperature

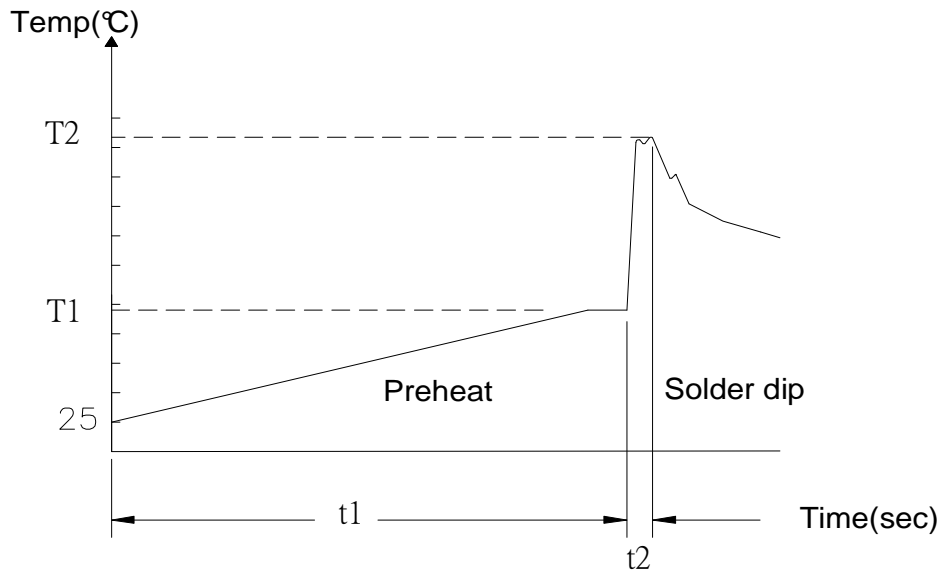
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■ Precautions For Use -

1.Wave Soldering Profile

Distance:1.6mm min(From seating plane)

Item	Condition		Note
Preheat	Temperature T1	80 – 120°C	PWB temperature (Soldering side surface)
	Time t1	60 – 180sec	
Solder Dip	Temperature T2	230 – 260°C	Bath temperature
	Time t2	2 – 4sec	Solder tank passage time



2.Hand Soldering (Iron Condition)

Soldering Iron:30W Max

Temperature 350°C Max

Soldering Time:3 Seconds Max(One Time)

Distance:1.6mm min(From seating plane)