WCN Opto Group Co., Limited

WCN1-00C0G6-C23

SPECIFICATION

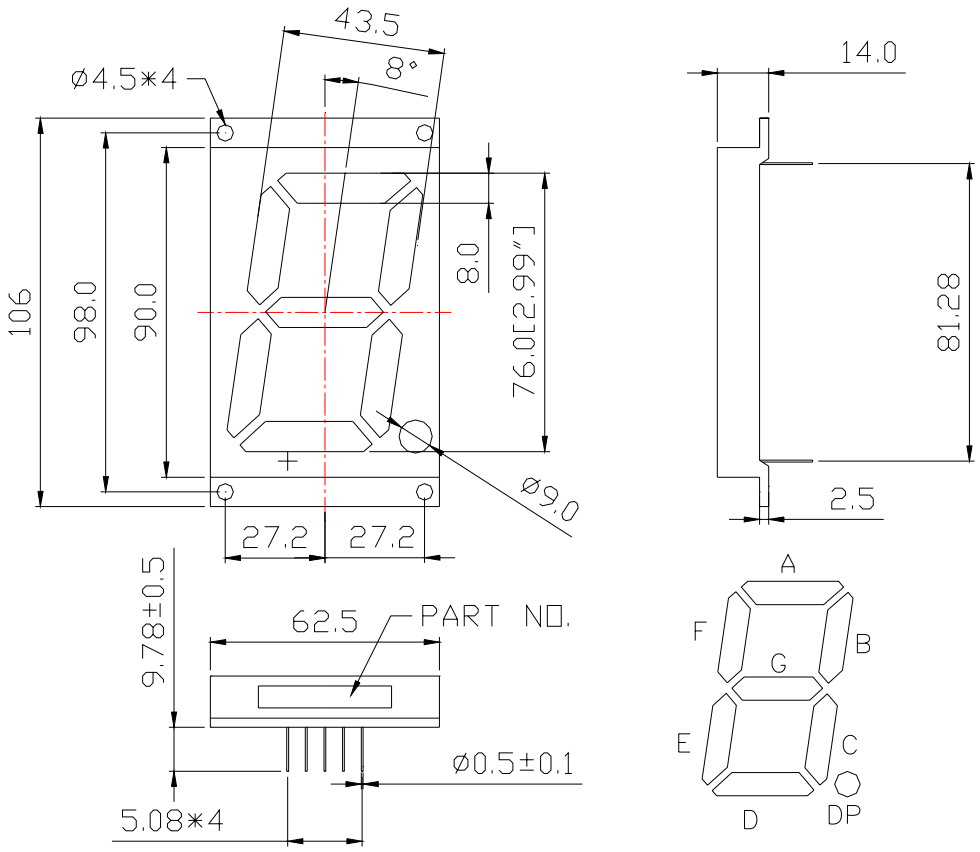
WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Fei	Athena		
REVISION RECORD			

RoHS

开发部 WCN

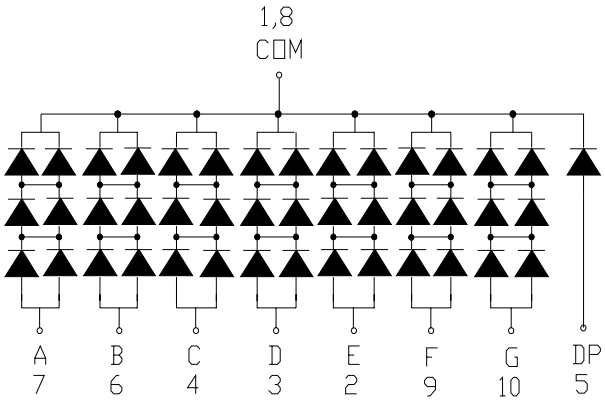
REVISION: A1

■ Outer Dimension:



Notes: Unless otherwise stated, The tolerance is ±0.25mm.

■ Circuit Diagram:



■ Pin Connection:

PIN NO.	CONNECTION	PIN NO.	CONNECTION
1	Common Cathode	6	Anode B
2	Anode E	7	Anode A
3	Anode D	8	Common Cathode
4	Anode C	9	Anode F
5	Anode DP	10	Anode G

WCN Opto Group Co., Limited

■ Features:

- . High Reliability
- . Color: Yellow Green
- . Low Power Requirement
- . Easy Assembly

■ Description:

- . Single Digit LED Display
- . Digit Height: 76mm (2.99")
- . Black Face and Milky Segment

■Absolute Maximum Rating (Ta=25℃):

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment/DP	P_d	—	Yellow Green	300/50	mW
Forward Current Per Segment/DP	I_F	—	Yellow Green	40/20	mA
Peak Forward Current Per Segment	I_{FP}	1/10 Duty 1KHz	Yellow Green	100	mA
Reverse Voltage Per Segment/DP	V_R	—	Yellow Green	15/5	V
Operating Temperature Range	Topr	—	—	-35～+85	℃
Storage Temperature Range	Tstg	—	—	-35～+85	℃

■Electrical/Optical Characteristics Rating(Ta=25℃)

Item	Symbol	Test conditions	Location	Rating			Units
				Min.	Typ.	Max.	
Forward Voltage	V_F	I_F=40mA	Per Segment	—	6.30	7.50	V
		I_F=20mA	DP	—	2.10	2.50	V
Reverse Current	I_R	V_R=15V/5V	Per Segment/DP	—	—	100	μA
Luminous Intensity	I_V	I_F=20mA	Per Segment	7201	11500	18000	μcd
Wave Length	λ_P	I_F=40mA	Per Segment	—	568	—	nm
	λ_D				571		
Spectral Line Half Width	△λ	I_F=40mA	Per Segment	—	20	—	nm
Luminous Intensity Matching Ratio (Segment To Segment)	I_{v-m}	I_F=10mA				1.2:1	

■ Luminous Intensity Sorting: (Luminous Intensity Tolerance is +/-10%)

Rank	Symbol	Condition	Min	Max	Unit
O	O	I_F=20mA	7201	8500	μcd
P	P	I_F=20mA	8501	10500	μcd
Q	Q	I_F=20mA	10501	12800	μcd
R	R	I_F=20mA	12801	15250	μcd
S	S	I_F=20mA	15251	18000	μcd

■ Hue Grade: I_F =10mA (Hue:+/-1nm)

Rank	Symbol	Hue Range	Units
3	3	569.1~571.0	nm
4	4	571.1~573.0	nm

■ Soldering Conditions: Soldering Temp. ≦+260℃, Soldering Time. ≦3sec.

(at 2mm Distance from The Case of Reflector Edge)

■ Typical Electro-Optical Characteristics Curve:

Fig 1. Forward Current vs. Forward Voltage

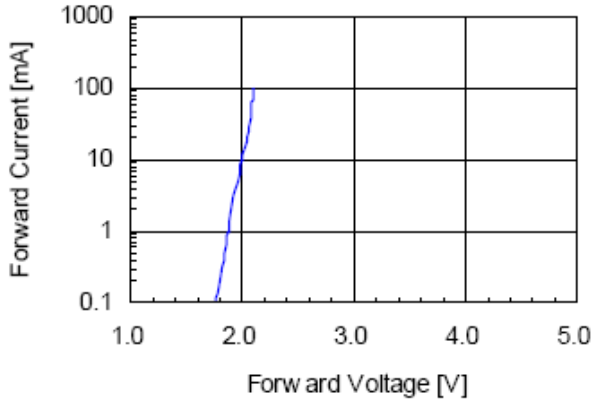


Fig 2. Relative Intensity vs. Forward Current

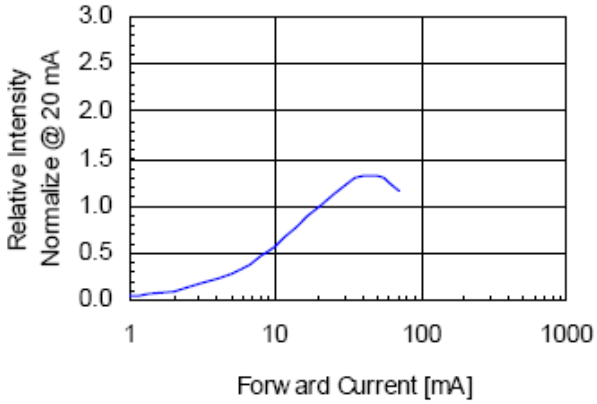


Fig 3. Forward Voltage vs. Temperature

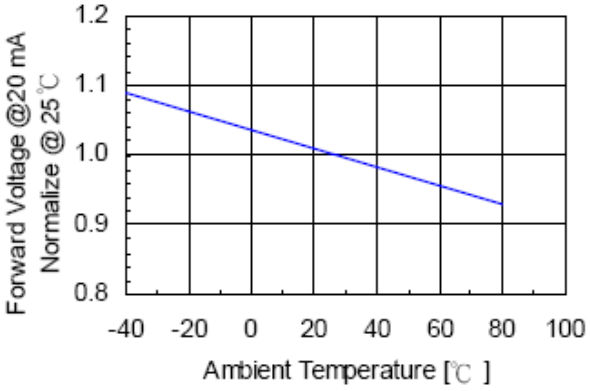


Fig 4. Relative Intensity vs. Temperature

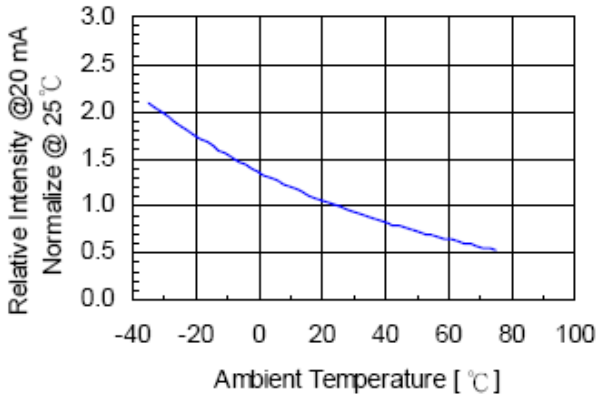
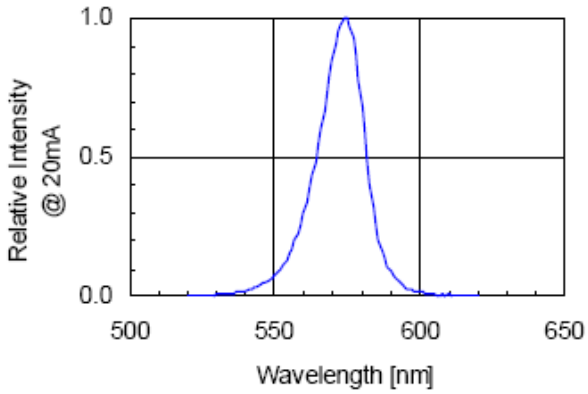


Fig 5. Relative Intensity vs. Wavelength



■ LED Displays Reliability Test:

CLASSIFICATION	TEST ITEM	DESCRIPTION AND TEST CONDITION
ENDURANCE TEST	OPERATION LIFE	EVALUATES RESISTANCE OF THE DEVICE WHEN OPERATED AT ELECTRICAL STRESS T_a = UNDER ROOM TEMPERATURE $I_F = I_F$ max
	HIGH TEMPERATURE HIGH HUMIDITY STORAGE	EVALUATES MOISTURE RESISTANCE OF THE DEVICE WHEN STORED FOR A LONG TERM AT HIGH TEMPERATURE AND HUMIDITY T_a =65±5°C RH=90~95%RH TEST TIME=240± 2Hrs
	HIGH TEMPERATURE STORAGE	EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN HIGH TEMPERATURE T_a =85±5°C(COB: Ta=65±5°C) TEST TIME=1000Hrs(-24Hrs, +72Hrs)
	IOW TEMPERATURE STORAGE	EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN LOW TEMPERATURE T_a =-35±5°C TEST TIME=1000Hrs(-24Hrs, +72Hrs)
ENVIRONMENTAL TEST	TEMPERATURE CYCLING	EVALUATES RESISTANCE OF DEVICE AT THERMAL STRESSES OR EXPANSION AND CONTRACTION 85°C ~ 25°C ~ -35°C ~ 25°C 30min 5min 30min 5min 10 CYCLES(COB: Thot=65°C, Tcold=-25°C
	THERMAL SHOCK	EVALUATES DEVICE STRUCTURE AND STRUCTURE AND MECHANICAL RESISTANCE WHEN SUDDENLY EXPOSED AT SERVE CHANGES 85±5°C ~-35±5°C 10min 10min 10 CYCLES(COB: Thot=65°C,Tcold=-25°C
	SOLDERABILITY	EVALUATES SOLDERABILITY ON LEADS OF DEVICE T.SOL=230±5°C DWELL TIME=5±1sec.
	SOLDER RESISTANCE	EVALUATES RESISTANCE TO THERMAL STRESS CAUSED BY SOLDERING T.SOL=260±5°C DWELL TIME=10±1sec.

■ Package method 1:

30 pcs / Red Expandable Polyethylene.

180 pcs / Box(360*175*130mm).

1080 pcs / Catton(550*380*280mm).