WCN Opto Group Co., Limited

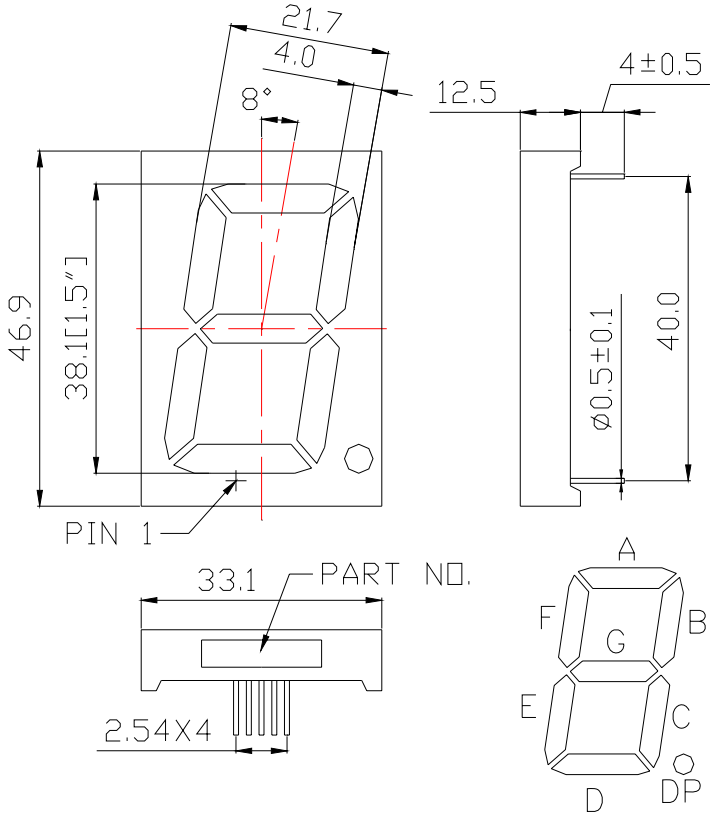
WCN1-00A5RG-A71

SPECIFICATION

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Fei 2016-5-2	Athena		
REVISION RECORD			

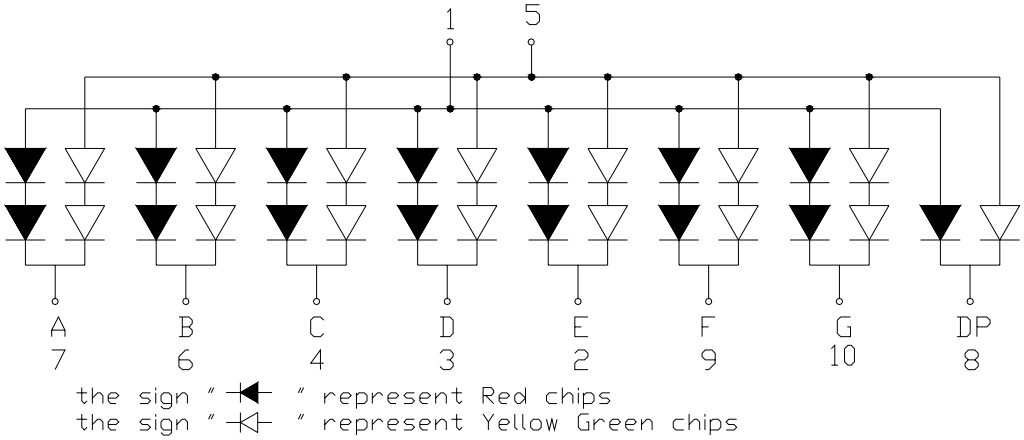
REVISION: A0

■ Outer Dimension:



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

■ Circuit Diagram:



■ Pin Connection:

PIN NO.	CONNECTION	PIN NO.	CONNECTION
1	Common (Red color)	6	Cathode B
2	Cathode E	7	Cathode A
3	Cathode D	8	Common DP
4	Cathode C	9	Cathode F
5	Common (Yellow Green color)	10	Cathode G

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■ Features:

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

■ Description:

- . Single Digit LED Display
- . Digit Height: 38.1 mm (1.5″)
- . Black Face and Milky Segment

■ Absolute Maximum Rating (Ta=25℃):

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	P_d	—	Red/Yellow Green	130 / 130	mW
Power Dissipation Per DP				65 / 65	
Forward Current Per Segment/DP	I_F	—	Red/Yellow Green	25/25	mA
Derating Of If Per Segment	$\triangle I_F$	Ta≧25℃	Red/Yellow Green	0.30/0.33	mA/℃
Peak Forward Current Per	I_{FP}	1/10 Duty 0.1ms	Red/Yellow Green	100	mA
Reverse Voltage Per Segment/DP	V_R	—	Red/Yellow Green	10 / 5	V
Operating Temperature Range	Topr	—	—	-35～+85	℃
Storage Temperature Range	Tstg	—	—	-35～+85	℃

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

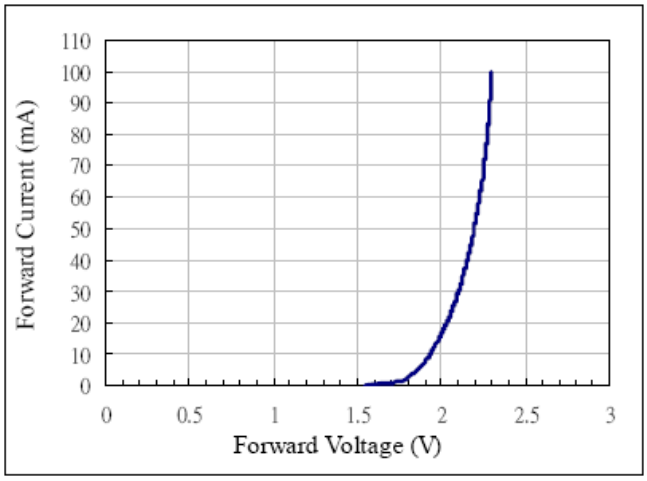
Item	Symbol	Test condition	Location	Color	Rating			Units
					Min.	Typ.	Max.	
Forward Voltage	V_F	I_F=20mA	Per DP/ Segment	Red	—	2.0/4.0	2.60/5.2	V
				Yellow green	—	2.25/4.5	2.60/5.2	
Reverse Current	I_R	V_R=5V	Per DP/ Segment	Red	—	—	100	μA
		V_R=10V		Yellow green				
Luminous Intensity	Iv	I_F=10mA	Per DP/ Segment	Red+Yellow green	12.56	25.00	—	mcd
Wave Length	λ_P	I_F=20mA	Per DP/ Segment	Red / Yellow Green	—	640/568	—	nm
	λ_D					630/572		
Spectral Line Half Width	$\triangle\lambda$	I_F=20mA	Per DP/ Segment	Red	—	20	—	nm
				Yellow green		20		
Luminous Intensity Matching Ratio (Segment To Segment)	I_{v-m}	I_F=20mA					1.2:1	

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

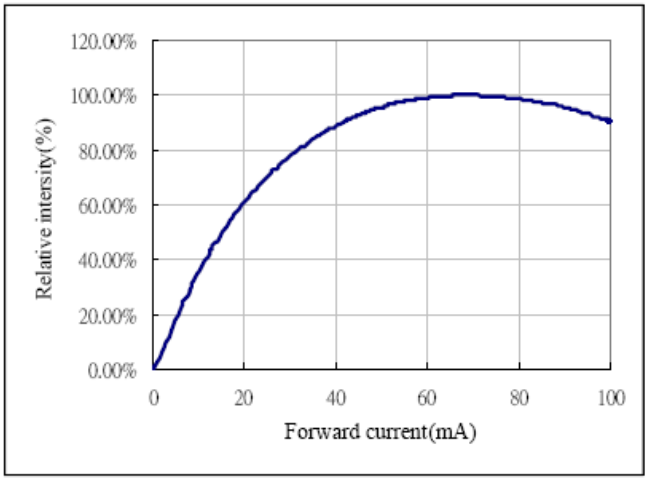
(at 2mm Distance from The Case of Reflector Edge)

■ Typical Elector-Optical Characteristics Curve:

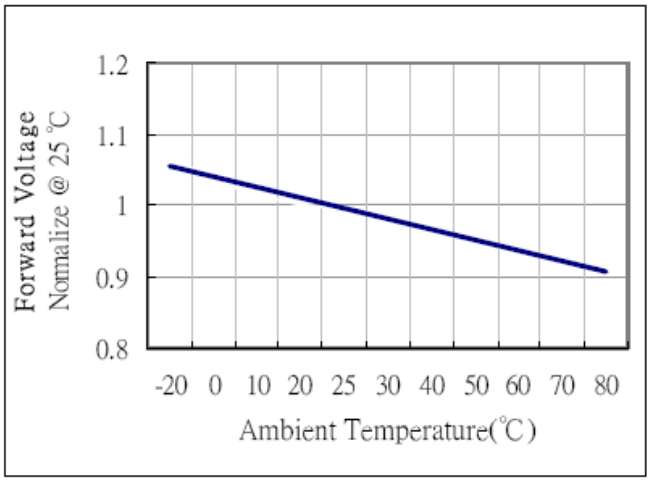
Forward current vs. Forward voltage



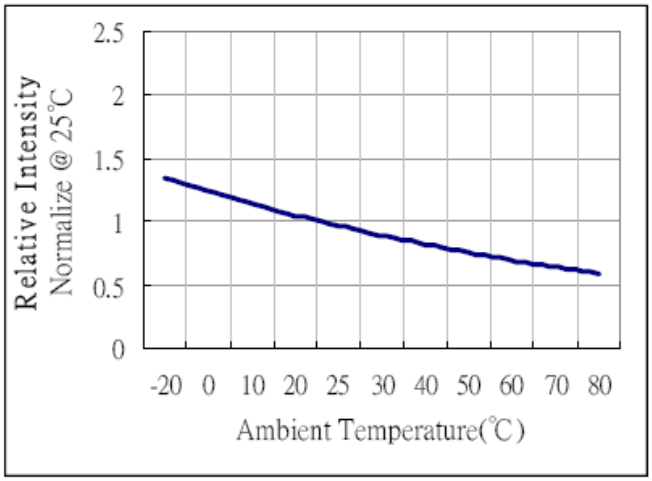
Relative intensity vs. Forward current



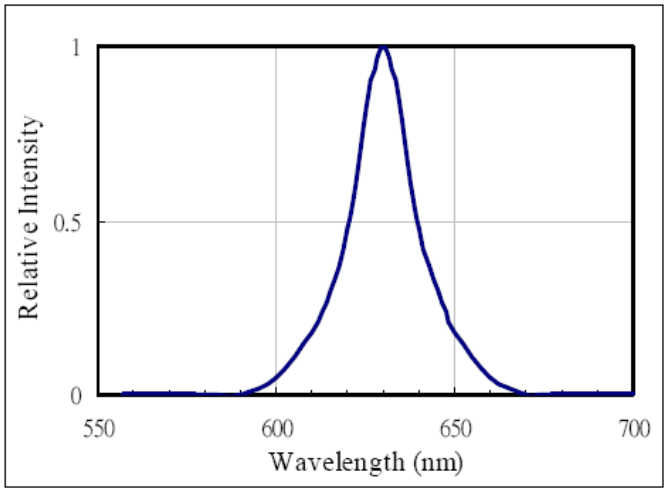
Forward voltage vs. Temperature



Relative intensity vs. Temperature



Relative intensity vs. Wavelength



■ Typical Elector-Optical Characteristics Curve:

Fig 1. Forward Current vs. Forward Voltage

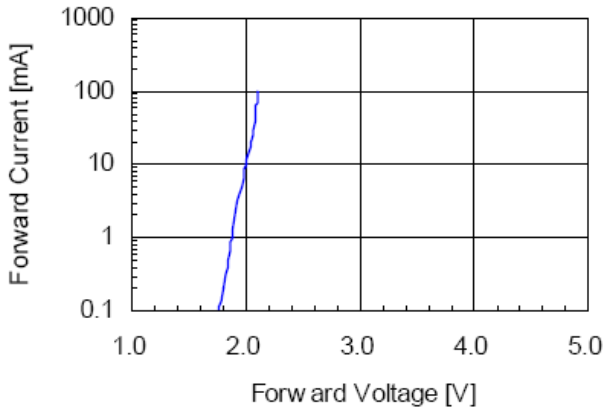


Fig 2. Relative Intensity vs. Forward Current

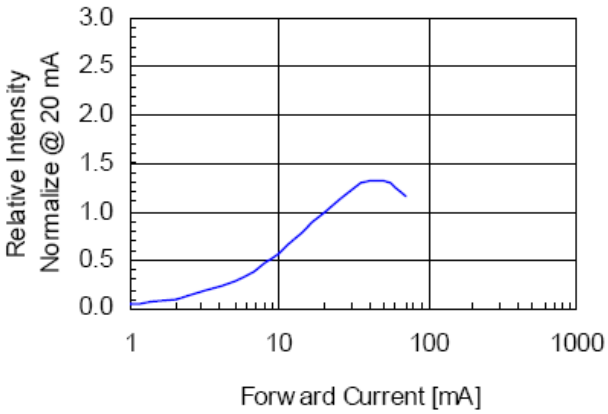


Fig 3. Forward Voltage vs. Temperature

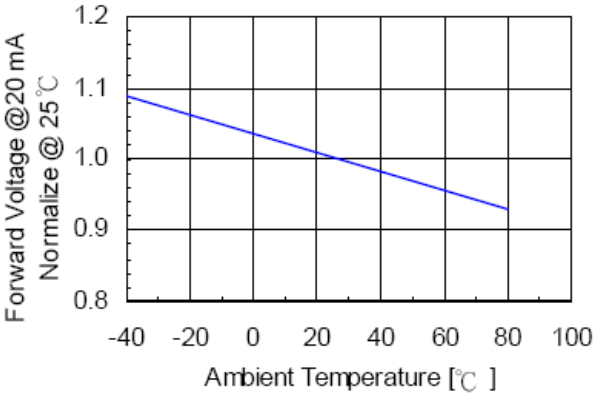


Fig 4. Relative Intensity vs. Temperature

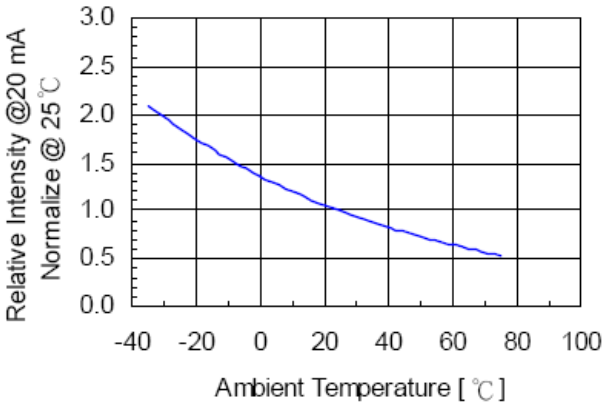
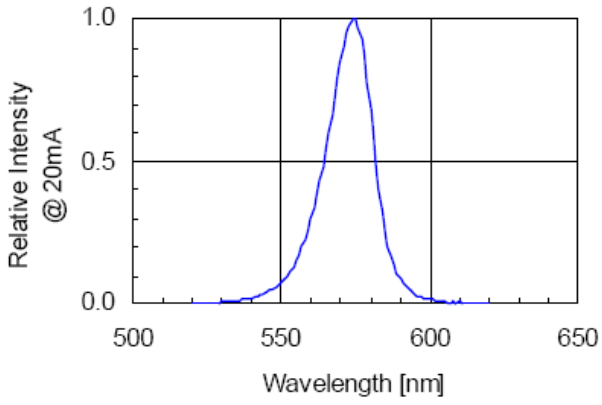


Fig 5. Relative Intensity vs. Wavelength



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 Pattern:

40pcs / Red Expandable Polyethylene.

200pcs / Box(360*175*130mm).

1200pcs / Catton(550*380*280mm).