



WCN Opto Group Co., Limited

WCN4X-0030GU-A11

SPECIFICATION

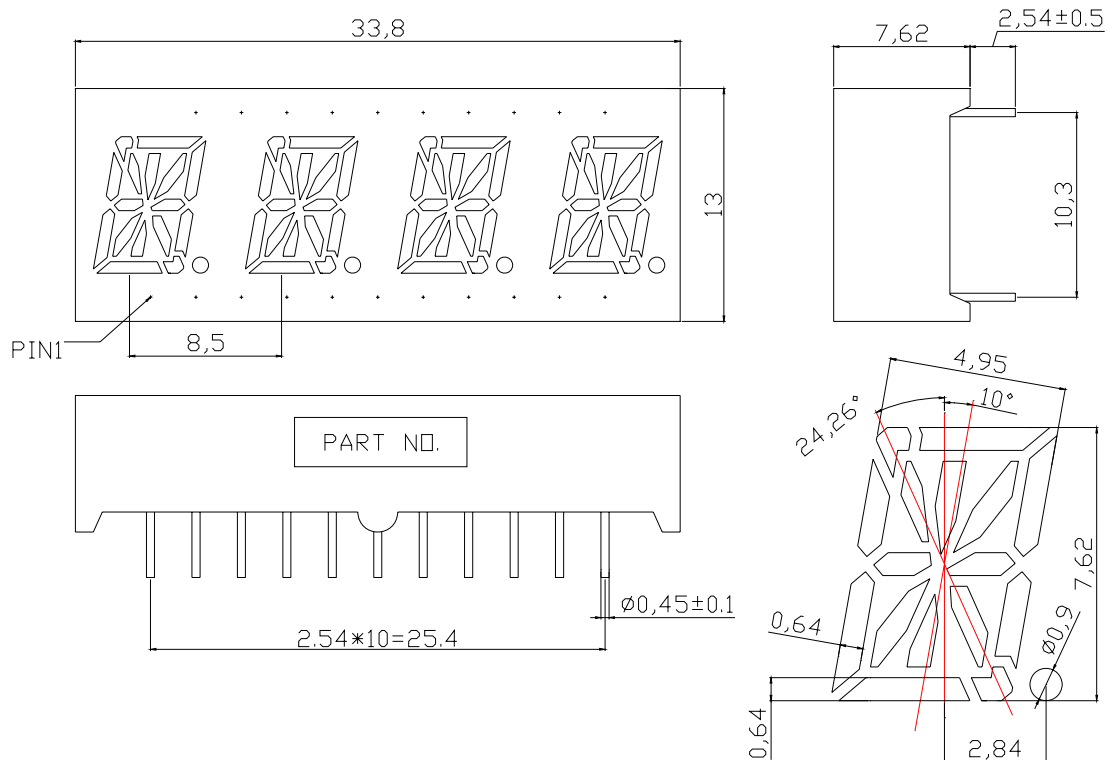
WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	



REVISION: A5

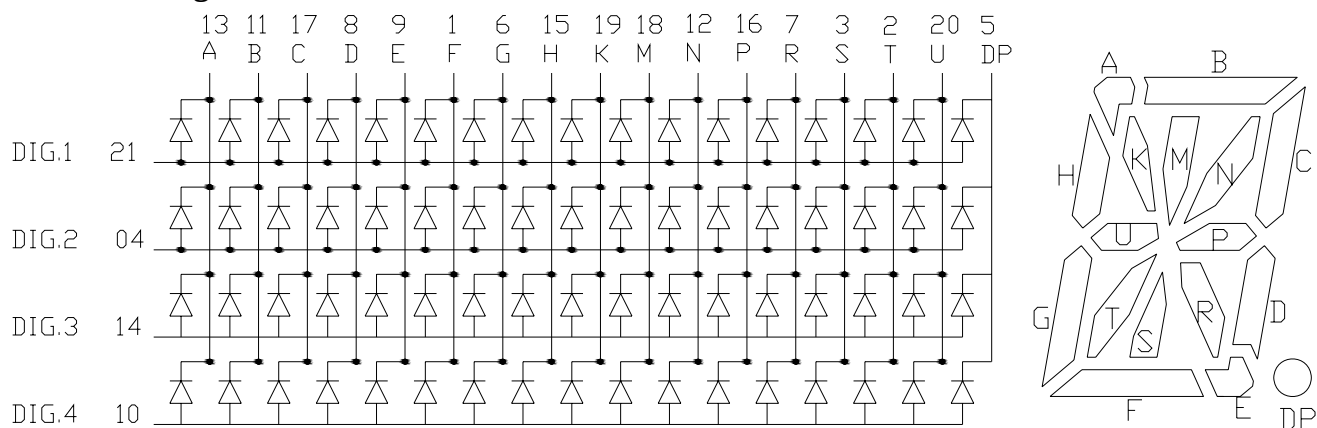
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■ **Outer Dimension:**



Notes: Unless otherwise stated, The tolerance is $\pm 0.25\text{mm}$.

■ **Circuit Diagram:**



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■ Features:

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

■ Description:

- Four Digit LED Display
- Digit Height: 7.62mm(0.30")
- Black Face and Milky Epoxy

■ Absolute Maximum Rating (Ta=25°C):

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Segment	P _d	—	Yellow Green	75	mW
Forward Current Segment	I _F	—	Yellow Green	25	mA
Derating Of If Per Segment	△I _F	Ta ≥ 25°C	Yellow Green	0.33	mA/°C
Peak Forward Current Per Segment	I _{FP}	1/10 Duty 1KHz	Yellow Green	100	mA
Reverse Voltage Per Segment	V _R	—	Yellow Green	5.0	V
Operating Temperature Range	T _{opr}	—	—	-40~+105	°C
Storage Temperature Range	T _{stg}	—	—	-40~+105	°C

■ Electrical/Optical Characteristics Rating(Ta=25°C)

Item	Symbol	Test conditions	Location	Color	Rating			Units
					Min.	Typ.	Max.	
Forward Voltage	V _F	I _F =20mA	Per Segment	Yellow Green	1.80	2.25	2.60	V
Reverse Current	I _R	V _R =5V	Per Segment	Yellow Green	—	—	100	μA
Luminous Intensity	I _V	I _F =10mA	Per Segment	Yellow Green	2351	4500	—	μcd
Wave Length	λ _P	I _F =20mA	Per Segment	Yellow Green	—	568	—	nm
	λ _D					571		
Spectral Line Half Width	△λ	I _F =20mA	Per Segment	Yellow Green	—	30	—	nm
Luminous Intensity Matching Ratio (Segment To Segment)	I _{v-m}	I _F =10mA					2:1	

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

Rank	Symbol	Condition	Min	Max	Unit
J	J	I _F =10mA	2351	3050	μcd
K	K	I _F =10mA	3051	4000	μcd
L	L	I _F =10mA	4001	5000	μcd
M	M	I _F =10mA	5001	6100	μcd
N	N	I _F =10mA	6101	7200	μcd

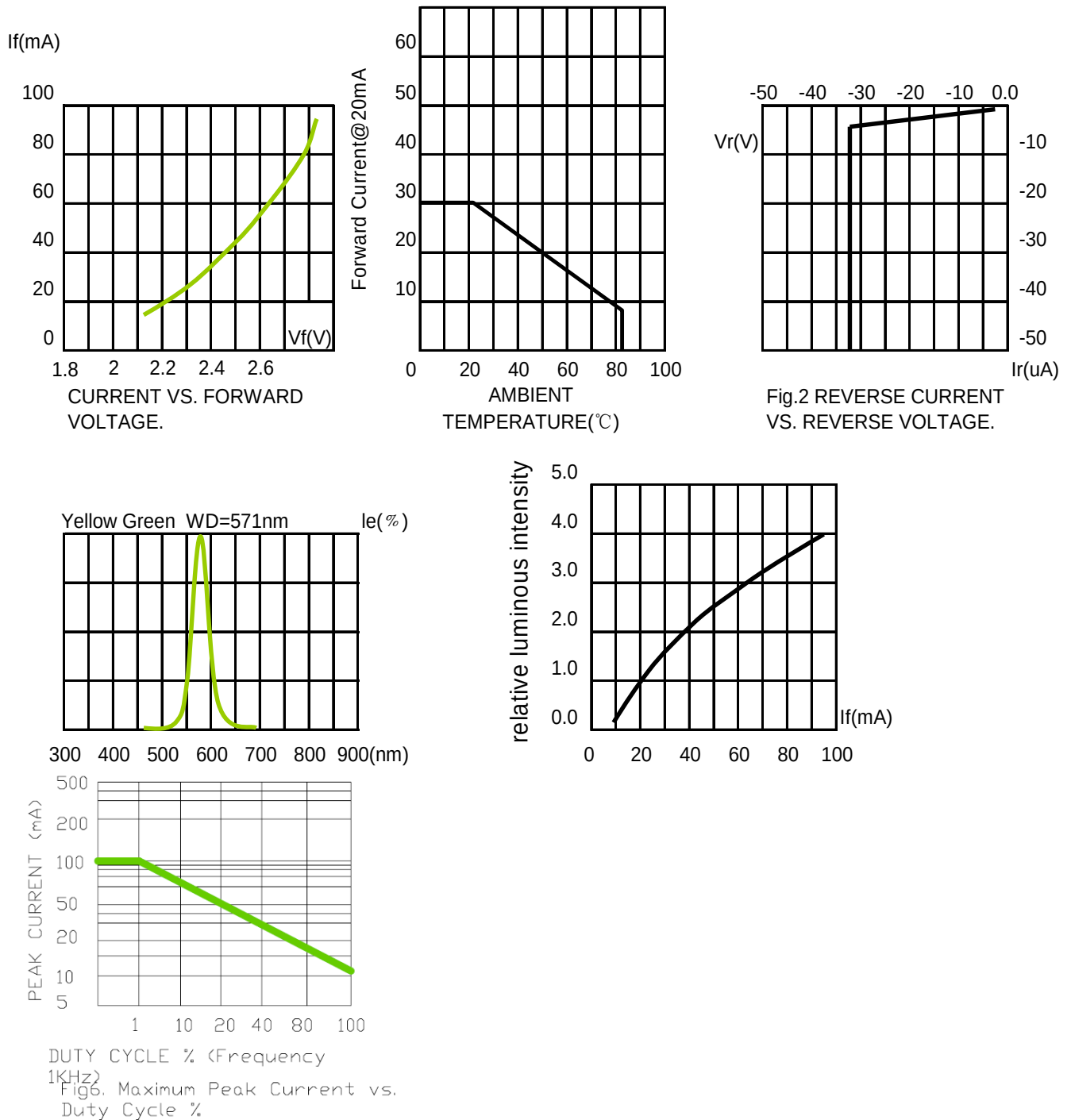
■ Hue Grade:(I_F=10mA ,Color Coordinates Tolerance:±1nm)

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

■ Soldering Conditions: Soldering Temp. ≤ +260°C, Soldering Time. ≤ 3sec. (at 2mm Distance from The Case of Reflector Edge)

■ **Features:**

Typical Optical-Electronic Characteristic Curves



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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 $I_F = I_{F \text{ max}}$
	HIGH TEMPERATURE HIGH HUMIDITY STORAGE	EVALUATES MOISTURE RESISTANCE OF THE DEVICE WHEN STORED FOR A LONG TERM AT HIGH TEMPERATURE AND HUMIDITY $T_a = 65 \pm 5^\circ\text{C}$ RH=90~95%RH TEST TIME=240 $\pm$ 2Hrs
	HIGH TEMPERATURE STORAGE	EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN HIGH TEMPERATURE $T_a = 85 \pm 5^\circ\text{C}$ (COB: $T_a = 65 \pm 5^\circ\text{C}$) TEST TIME=1000Hrs(-24Hrs, +72Hrs)
	LOW TEMPERATURE STORAGE	EVALUATES DEVICE DURABILITY FOR LONG TERM STORAGE IN LOW TEMPERATURE $T_a = -35 \pm 5^\circ\text{C}$ TEST TIME=1000Hrs(-24Hrs, +72Hrs)
ENVIRONMENTAL TEST	TEMPERATURE CYCLING	EVALUATES RESISTANCE OF DEVICE AT THERMAL STRESSES OR EXPANSION AND CONTRACTION $85^\circ\text{C} \sim 25^\circ\text{C} \sim -35^\circ\text{C} \sim 25^\circ\text{C}$ 30min 5min 30min 5min 10 CYCLES(COB: $T_{\text{hot}}=65^\circ\text{C}$, $T_{\text{cold}}=-25^\circ\text{C}$)
	THERMAL SHOCK	EVALUATES DEVICE STRUCTURE AND STRUCTURE AND MECHANICAL RESISTANCE WHEN SUDDENLY EXPOSED AT SERVE CHANGES $85 \pm 5^\circ\text{C} \sim -35 \pm 5^\circ\text{C}$ 10min 10min 10 CYCLES(COB: $T_{\text{hot}}=65^\circ\text{C}$, $T_{\text{cold}}=-25^\circ\text{C}$)
	SOLDERABILITY	EVALUATES SOLDERABILITY ON LEADS OF DEVICE $T_{\text{SOL}}=230 \pm 5^\circ\text{C}$ DWELL TIME=5 $\pm$ 1sec.
	SOLDER RESISTANCE	EVALUATES RESISTANCE TO THERMAL STRESS CAUSED BY SOLDERING $T_{\text{SOL}}=260 \pm 5^\circ\text{C}$ DWELL TIME=10 $\pm$ 1sec.

Packing method A:

90 pcs / Red Expandable Polyethylene.

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

3240 pcs / Carton(550*380*280mm).

Packing method B:

15 pcs / IC Tube.(525*17*16)

1320 pcs / Box(537*175*125mm).

5280 pcs / Carton(550*380*280mm).