WCN Opto Group Co., Ltd

Company Name	
Date	2021-2-23
Part No.	WCNWCN1-00F0WW-A23
Product Group Description	LED Display
Customer Part No.	
Approval Date	

Customer Confirmation	Approved by	Checked by	Prepared By
	William 2021-2-23	Athena 2021-2-23	Zhang 2021-2-23

恒盛源光电科技(深圳)有限公司 开发部 WCN

Country of Origin: China

World Components Network Service Ltd

5th Floor,Block A-2,Xuxingda Ind Zone
Shiyan Town,Bao An District , Shenzhen
Tel : (86)755-29000022
Fax : (86)755-29000023

www . wcnopto.net

RoHS

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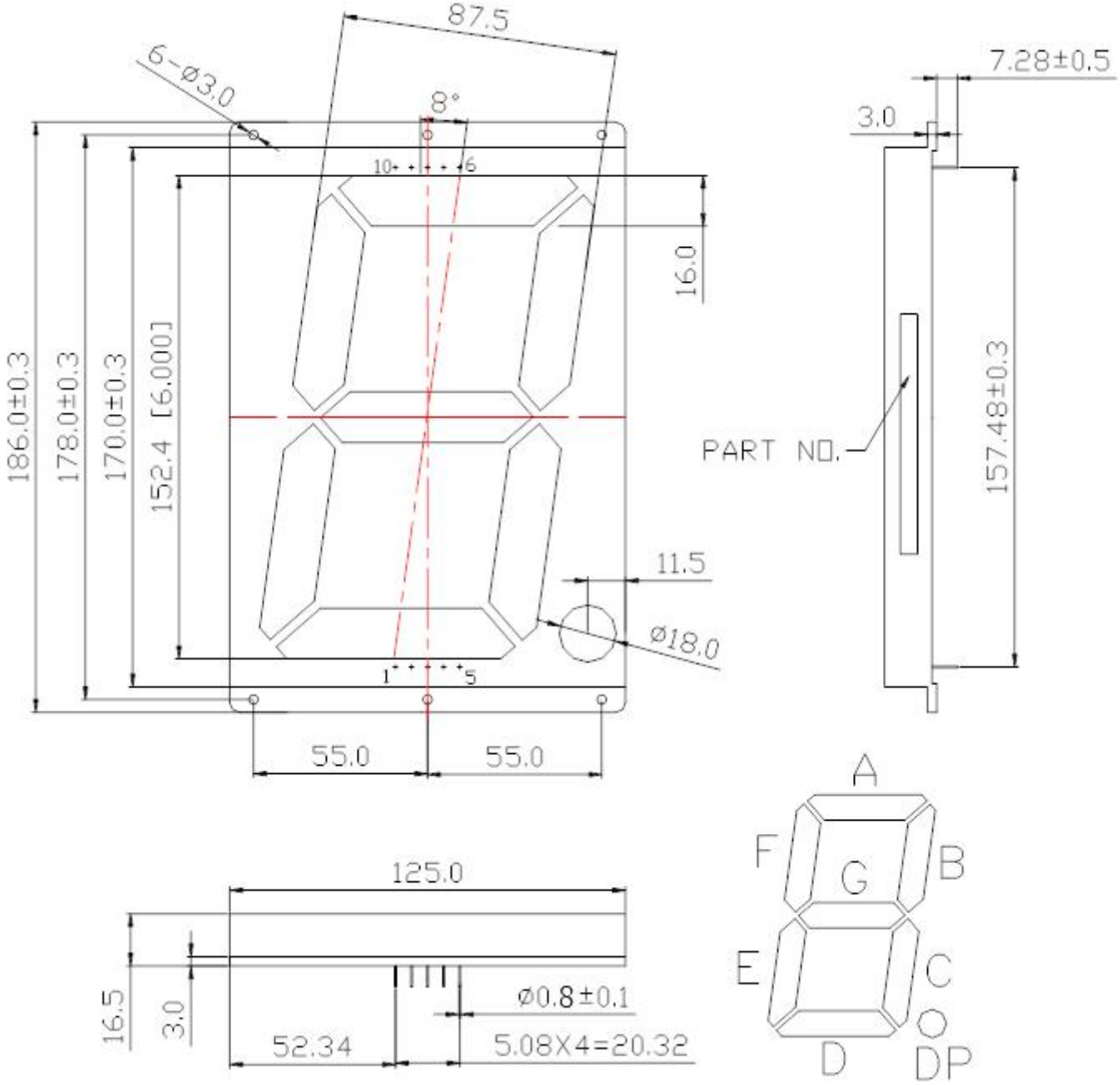
REVISION RECORD

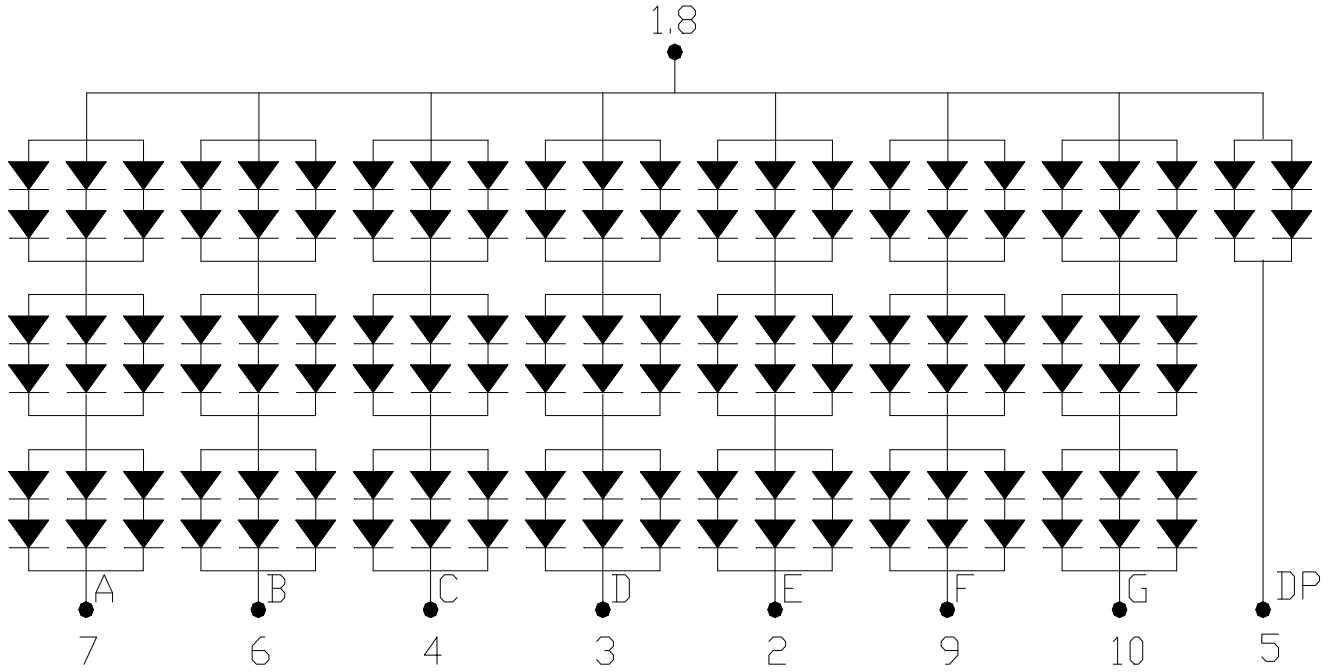
MARKER	Matter for revision Reason for revision	SHEET	DTAE	MAKER	APPOVED SIGN	
A0	P# WCNWCN1-00F0WW-A23 New Version issued	WHOLE SHEET	2021-2-23	Zhang	Athena	William

■ **Outer Dimension:**



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

■ **Circuit Diagram:**



■ **Pin Connection:**

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

■ Features:

- . High Reliability
- . Color: White
- . Low Power Requirement
- . Easy Assembly

■ Description:

- . Single Digit LED Display
- . Digit Height: 152.4 mm (6.0″)
- . Black Face and milky Segment

■ Absolute Maximum Rating (Ta=25℃):

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	P_d	—	White	1300/300	mW
Forward Current Per Segment/DP	I_F	—	White	60/40	mA
Peak Forward Current Per Segment	I_{FP}	1/10 Duty 10KHz	White	50	mA
Reverse Voltage Per Segment	V_R	—	White	5	V
Operating Temperature Range	Topr	—	—	-35～+85	℃
Storage Temperature Range	Tstg	—	—	-35～+85	℃

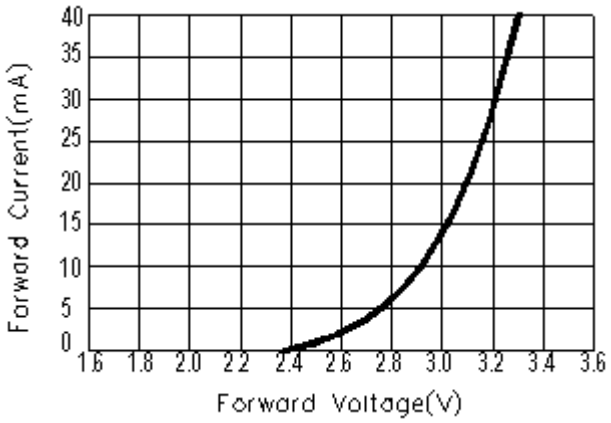
■ Electrical/Optical Characteristics Rating(Ta=25℃)

Item	Symbol	Test conditions	Location	Rating			Units
				Min.	Typ.	Max.	
Forward Voltage	V_F	I_F=60mA	Per Segment	15.6	—	21.6	V
		I_F=40mA	DP	5.20	—	7.20	
Reverse Current	I_R	V_R=30V	Per Segment	—	—	100	μA
		V_R=10V	DP				
Luminous Intensity	I_V	I_F=20mA	Per LED	600	1000	1400	mcd
CIE Coordinate	X	I_F=20mA	Per LED	—	0.2769	—	
	Y			—	0.2844	—	
Luminous Intensity Matching Ratio (Segment to Segment)	I_{v-m}	I_F=60mA	—	—	—	1.2:1	

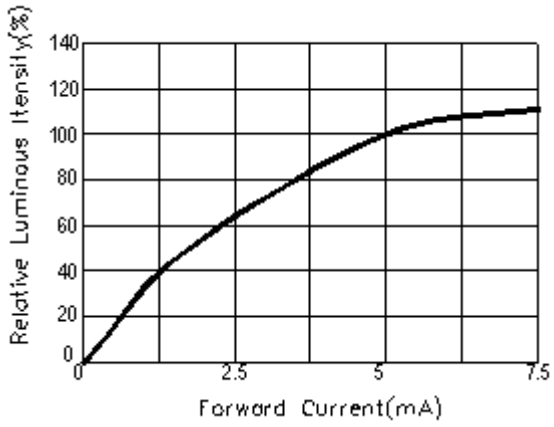
■Soldering Conditions: Soldering Temp. ≦+260℃, Soldering Time. ≦3sec.
(at 2mm Distance from The Case of Reflector Edge)

■ Typical Elector-Optical Characteristics Curve of White:

Forward Current VS Forward Voltage

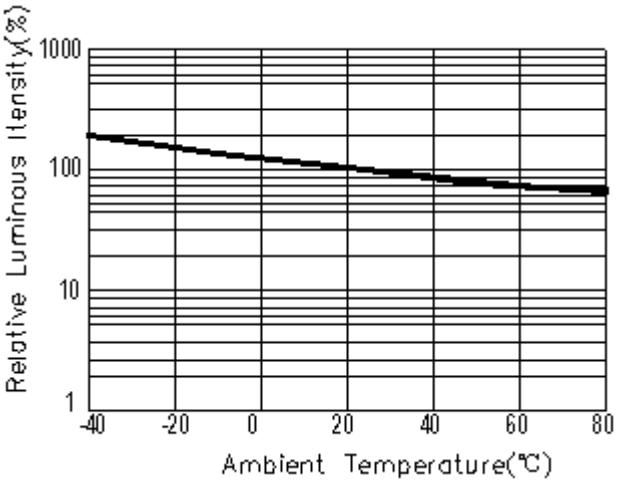


Relative Flux VS Forward Current

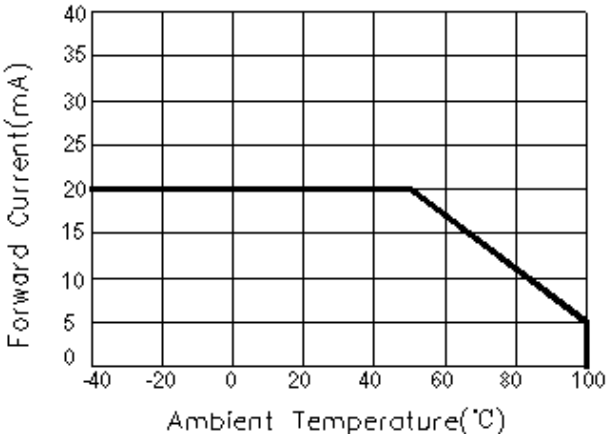


Relative Flux VS Ambient Temperature

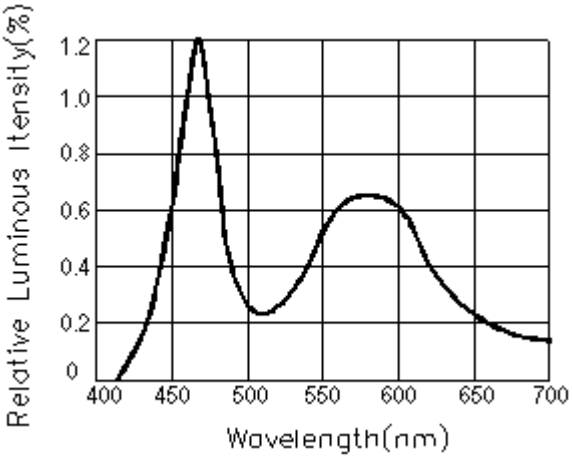
Temperature



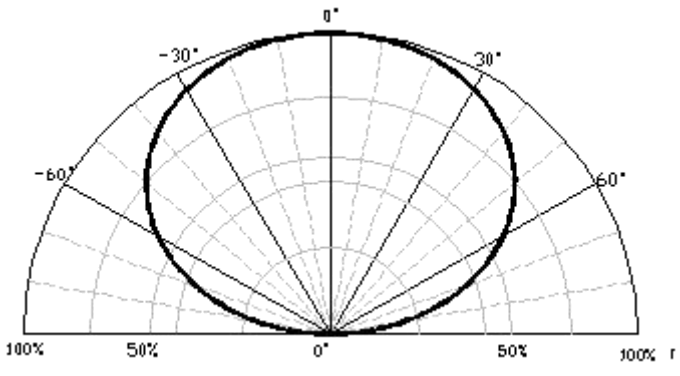
Forward Current VS Ambient



Relative Spectral Distribution



Typical Spectral Distribution



■ 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.