WCN Opto Group Co., Limited

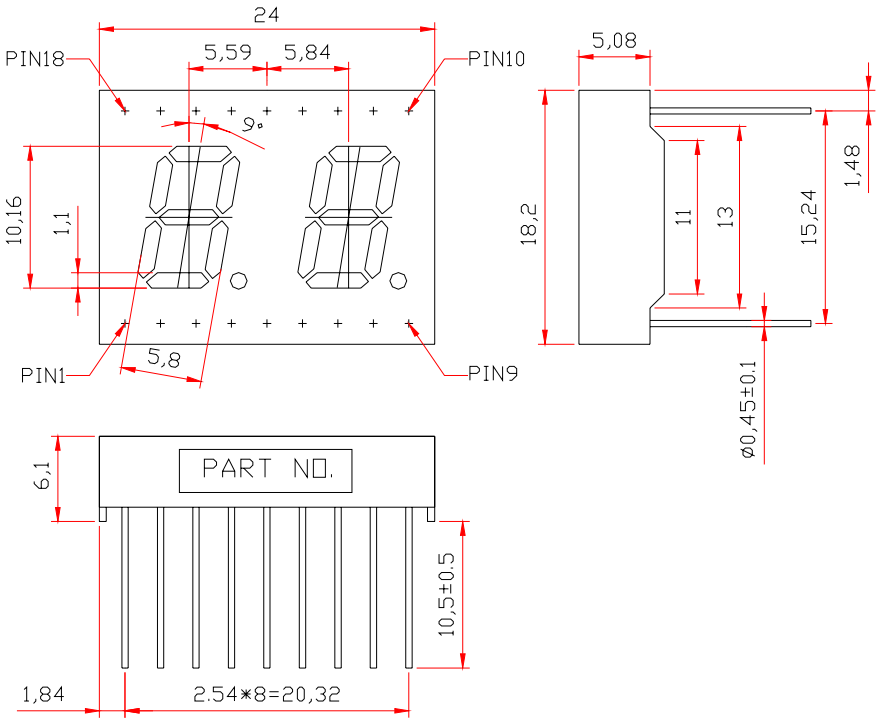
WCN2-0040R5-AA1

SPECIFICATIO

WCN			CUSTOMER Confirmed
Prepared by	Checked by	Approved by	
Fei 2016-03-25	Athena		
REVISION RECORD			

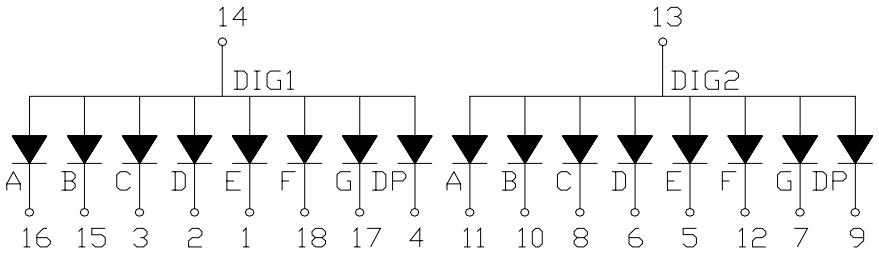
REVISION: A0

■ Outer Dimension:



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

■ Circuit Diagram:



■Pin Connection:

PIN NO.	CONNECTION	PIN NO.	CONNECTION
1	Cathode Dig1 E	10	Cathode Dig2 B
2	Cathode Dig1 D	11	Cathode Dig2 A
3	Cathode Dig1 C	12	Cathode Dig2 F
4	Cathode Dig1 DP	13	Common Anode Dig2
5	Cathode Dig2 E	14	Common Anode Dig1
6	Cathode Dig2 D	15	Cathode Dig1 B
7	Cathode Dig2 G	16	Cathode Dig1 A
8	Cathode Dig2 C	17	Cathode Dig1 G
9	Cathode Dig2 DP	18	Cathode Dig1 F

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■Features:

- **High Reliability**
- **Color: Red**
- **Low Power Requirement**
- **Easy Assembly**

■ Description:

- **Dual Digit LED Display**
- **Digit Height: 10.16mm (0.40″)**
- **Black Face and Milky Segment**

■Absolute Maximum Rating (Ta=25℃):

Parameter	Symbol	Condition	Color	Rating	Units
Power Dissipation Per Segment	P_d	—	Red	65	mW
Forward Current Per Segment	I_F	—	Red	25	mA
Peak Forward Current Per Segment	I_{FP}	1/10 Duty 10KHz	Red	100	mA
Reverse Voltage Per Segment	V_R	—	Red	5	V
Operating Temperature Range	Topr	—	—	-40～+85	℃
Storage Temperature Range	Tstg	—	—	-40～+85	℃

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

Item	Symbol	Test conditions	Location	Rating			Units
				Min.	Typ.	Max.	
Forward Voltage	V_F	I_F=20mA	Per Segment	1.8	2.0	2.60	V
Reverse Current	I_R	V_R=5V	Per Segment	—	—	100	μA
Luminous Intensity	I_V	I_F=10mA	Per Segment	4001	6600	10500	μcd
Wave Length	λ_P	I_F=20mA	Per Segment	—	650	—	nm
	λ_D				640		
Spectral Line Half Width	△λ	I_F=20mA	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: +/-10%)

Rank	Symbol	Condition	Min	Max	Unit
L	L	I_F=10mA	4001	5000	μcd
M	M	I_F=10mA	5001	6100	μcd
N	N	I_F=10mA	6101	7200	μcd
O	O	I_F=10mA	7201	8500	μcd
P	P	I_F=10mA	8501	10500	μcd

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

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

■ Typical Optical-Electronic Characteristic Curves

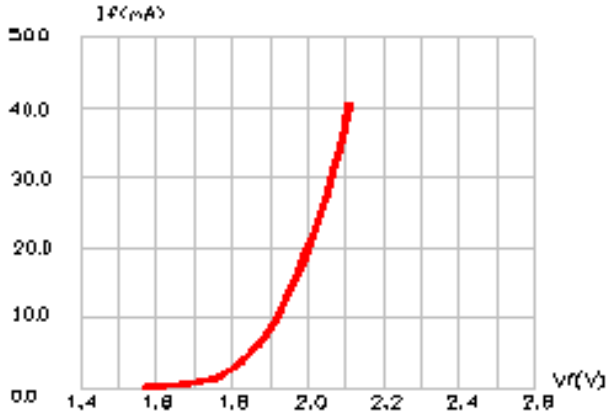

FIG.1 FOEWARD CURRENT VS. FORWARD VOLTAGE

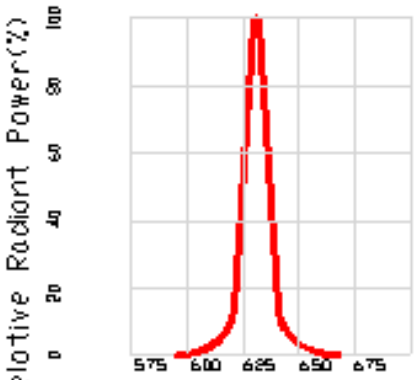

Fig.2 Relative Radiant Power vs. Wavelength

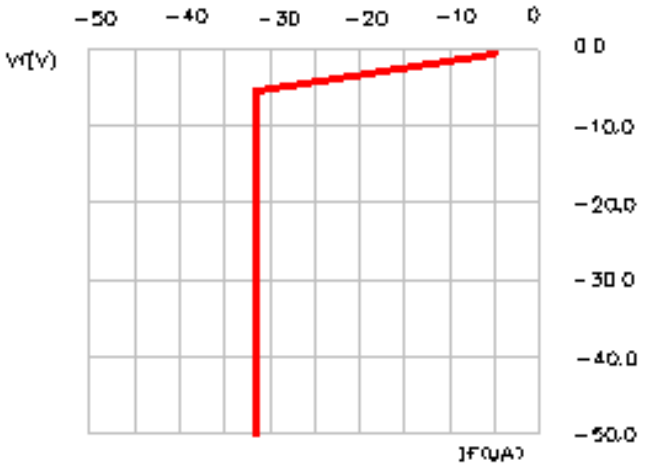

FIG.3 REVERSE CURRENT VS. REVERSE VOLTAGE.

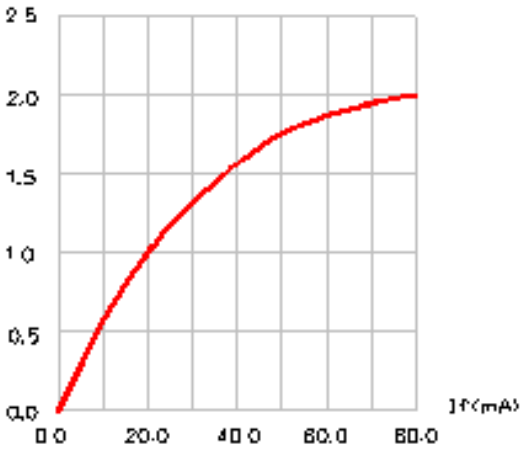

FIG.4 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT.

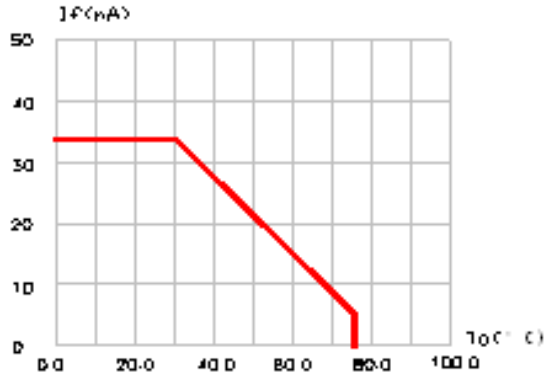

FIG.5 MAXIMUN FORWARD DC CURRENT VS AMBIENT TEMPERATURE ($T_{j max}$=95°C)

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:

104 pcs / Expandable Polyethylene.
520 pcs / Box(360*175*130mm).
3120 pcs / Catton(550*380*280mm).