



WCN Opto Group Co., Limited

Customer Name:

Date:

2019-12-2

Part No:

WCN-SMLB-1515R1

Product Group Description:

Touch SMD LED Display

Customer Part No:

Approval Date:

Customer Confirmation

Approved by

William
2019-12-2

Checked by

Athena
2019-12-2

Prepared By

Zhang
2019-12-2

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WCN Opto Group Co., Limited

REVISION RECORD

MARKER	Matter for revision	SHEET	DTAE	MAKER	APPOVED SIGN	
	Reason for revision					
A0	P# WCN-SMLB-1515R1	Whole Spec	2019-12-2	Zhang	Athena	William
	New Version issued					

1. Type No./Manufacture's Name

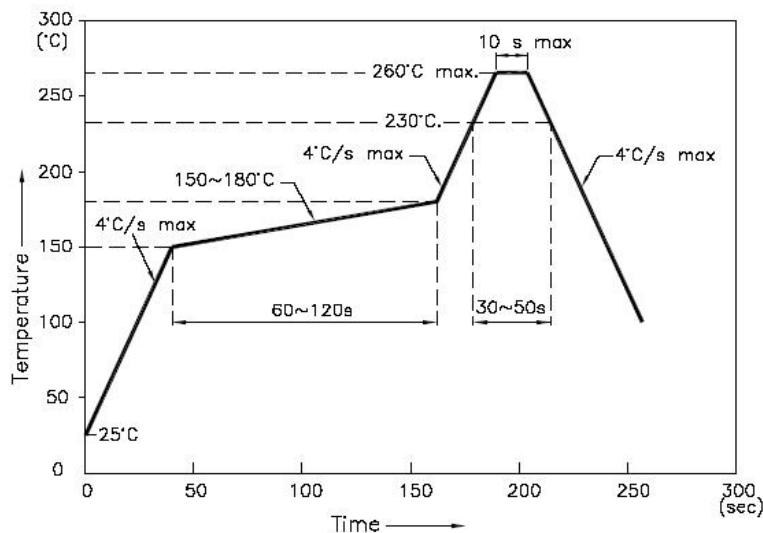
WCN-SMLB-1515R1 / WCN Opto Group Co., Limited.

2. Features:

- . High Reliability
- . Low Power Requirement
- . Easy Assembly

3. Faction: Display Digit Characteristic**4. Soldering Conditions: Soldering Temp. 260 ± 5 °C, Soldering Time. 3~5 sec.**

Soldering Power <30 W.

5. Re-flow Temp/Time**NOTES:**

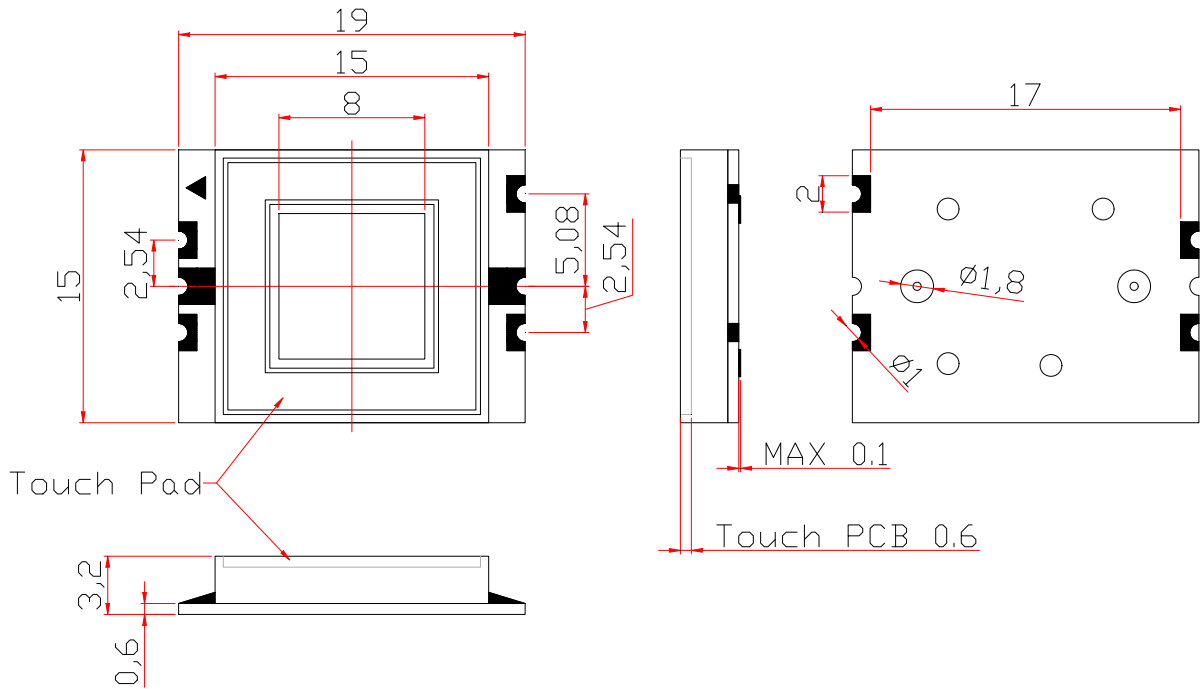
5.1. We recommend the re-flow temperature $245^{\circ}\text{C}(\pm 5^{\circ}\text{C})$, the maximum soldering temperature should be limited to 260°C .

5.2. Don't cause stress to the epoxy resin while it is exposed to high temperature. Number of re-flow process shall be 2 times or less.

6. Description:

- . Radiation Size: 8.0*8.0mm
- . White Face with Touch PCB
- . White Epoxy Resin
- . Emitted Color: Yellow

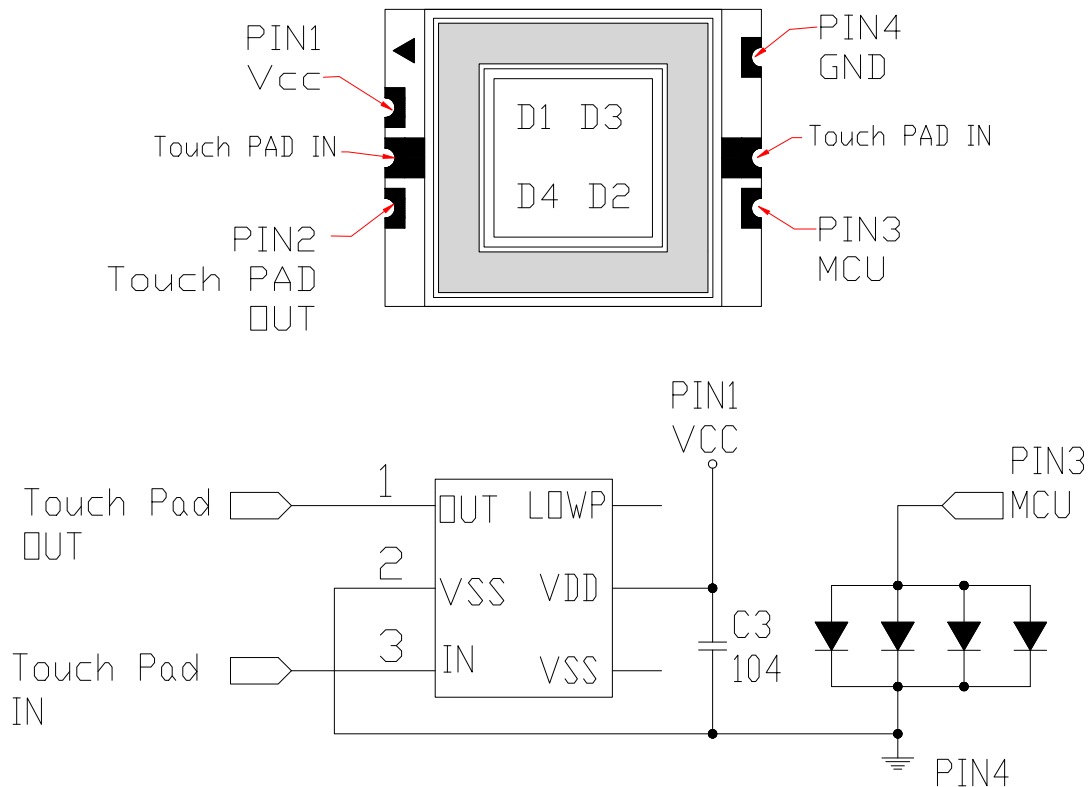
■ **Outer Dimension:**



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

■ **Circuit Diagram:**

ALL LIGHT ON SEGMENTS FEATURE & PAD POSITION



■ ABSOLUTE MAXIMUM RATING

Parameter	Symbol	Rating	Unit
Power Dissipation (Per Dice)	P_D	114	mW
Continuous Forward Current (Per Dice)	I_F	30	mA
Peak Current (Per Dice, duty cycle 1/10, 1KHz)	I_{FP}	100	mA
Derating Liner from 25°C (Per Dice)	$\Delta I_f / \Delta T$	0.4	mA / °C
Reverse Voltage (Per Dice)	V_R	5	V
Operating Temp.	T_{OPR}	-40 ~ +105	°C
Storage Temp.	T_{STG}	-40 ~ +105	°C
Electrostatic Discharge (HBM)	ESD	1500	V
Hand Soldering Temperature	T_{SOL}	350	°C

■ TOUCH IC ELECTOR-OPTICAL CHARACTERISTICS (Ta=25°C)

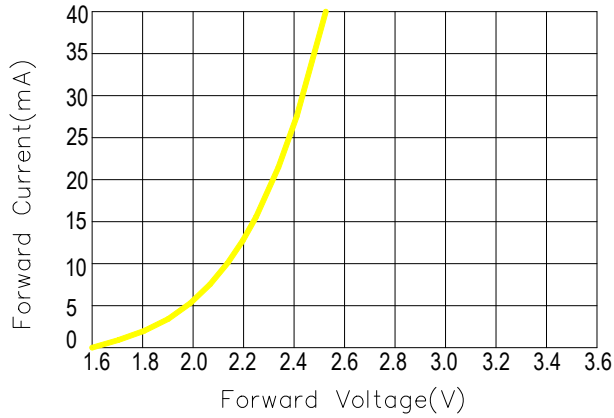
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Supply Voltage	V_{DD}	--	2.0	--	5.5	V
High Level Input Voltage	V_{IH}	$V_{DD} = 5V$	3.5	--	5	V
Low Level Input Voltage	V_{IL}	$V_{DD} = 5V$	0	--	1.5	V
Operating Current	I_{DD1}	$V_{DD} = 5V(\text{No load})$	--	16	--	μA
		$V_{DD} = 3V(\text{No load})$	--	3.5	--	
Operating Current (SLRT = V_{DD})	I_{DD2}	$V_{DD} = 5V(\text{No load})$	--	10.5	--	μA
		$V_{DD} = 3V(\text{No load})$	--	2.5	--	
Low Level Output Current	I_{OL}	$V_{DD} = 3V / V_{OL} = 1V$	--	30	--	mA
High Level Output Current	I_{OH}	$V_{DD} = 3V / V_{OH} = 1V$	--	8	--	mA

■ ELECTOR-OPTICAL CHARACTERISTICS (Ta=25°C)

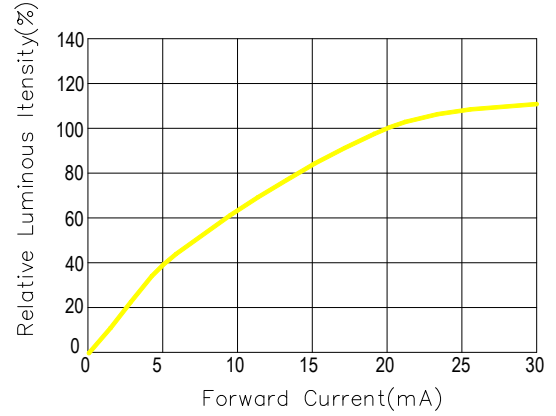
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I_V	$I_F = 20 \text{ mA}$	80	110		mcd
Forward Voltage	V_F	$I_F = 20 \text{ mA}$	1.8	--	2.4	V
Dominant Wavelength	λ_D	$I_F = 20 \text{ mA}$	--	589	--	nm
Spectrum Radiation Bandwidth	$\Delta \lambda$	$I_F = 20 \text{ mA}$	--	23	--	nm
Reverse Current	I_R	$V_R = 5V$	--	--	100	μA

Typical Optical-Electronic Characteristic Curves

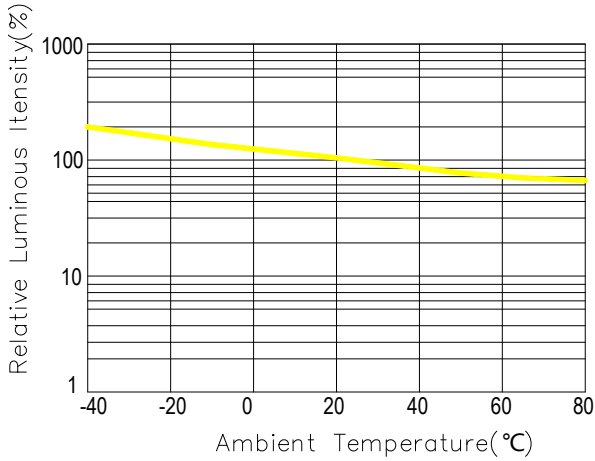
Forward Current VS Forward Voltage



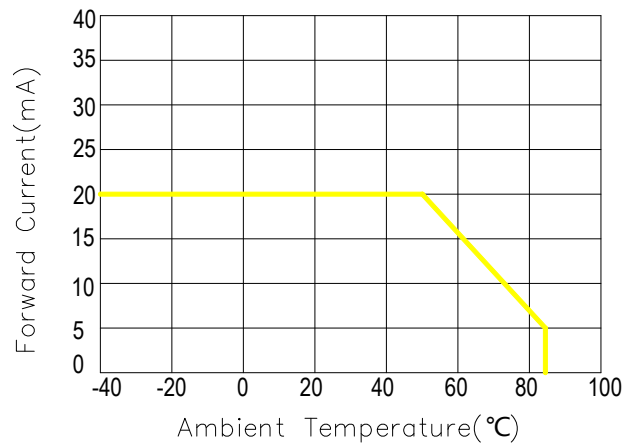
Relative Flux VS Forward Current



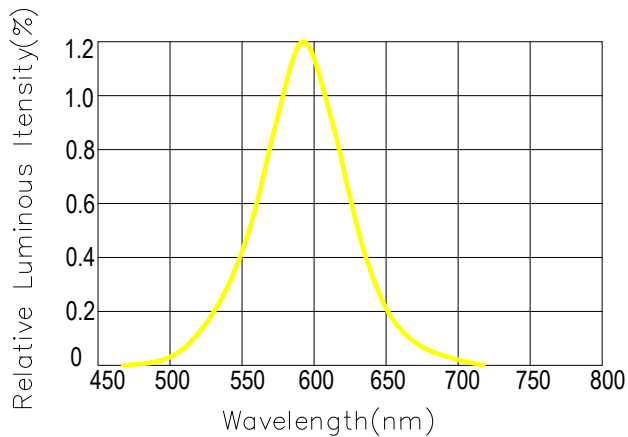
Relative Flux VS Ambient Temperature



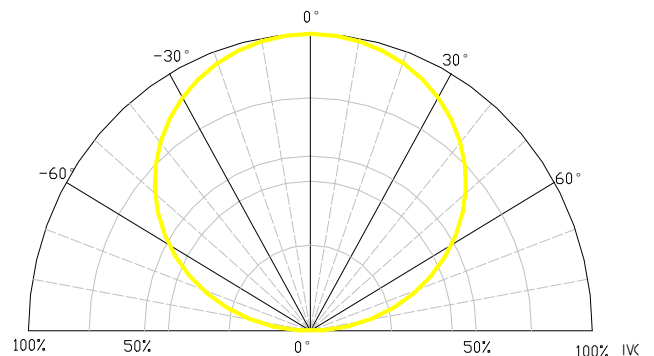
Forward Current VS Ambient Temperature



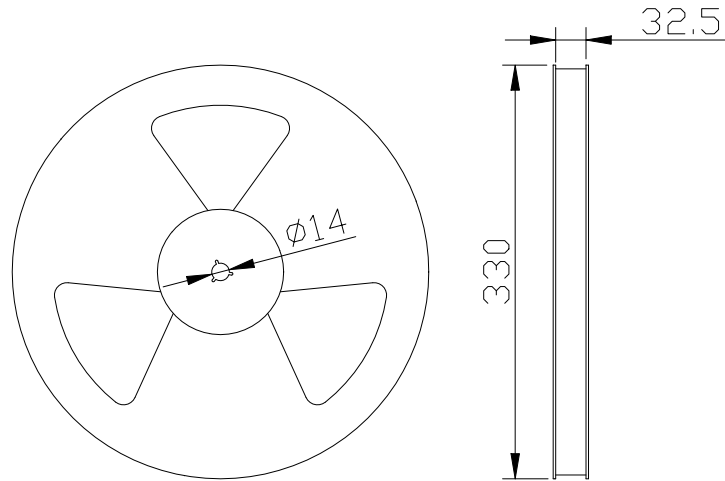
Relative Spectral Distribution



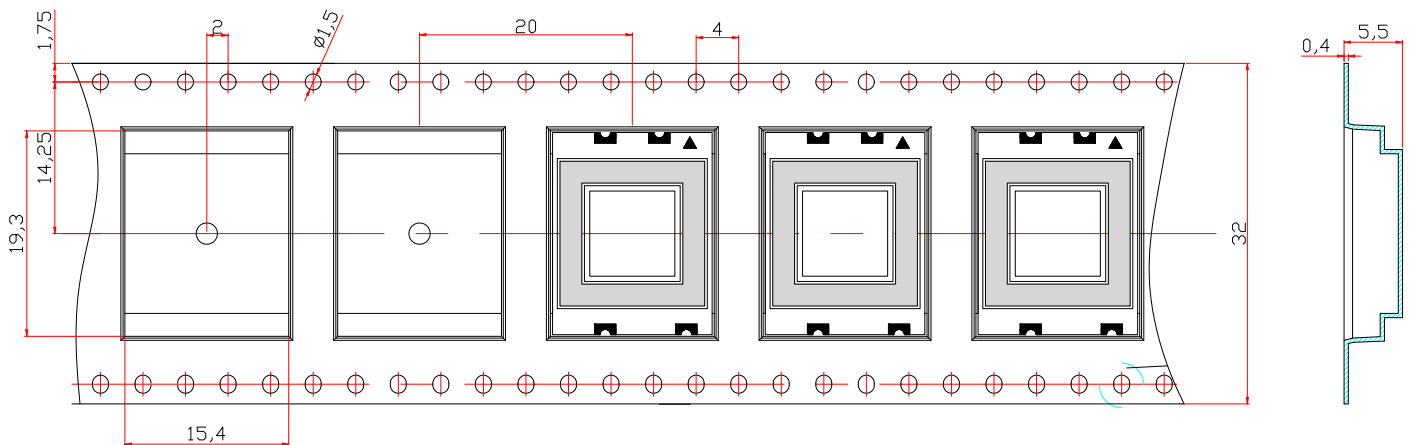
Typical Spectral Distribution



■ Packing Reel Dimensions(mm):



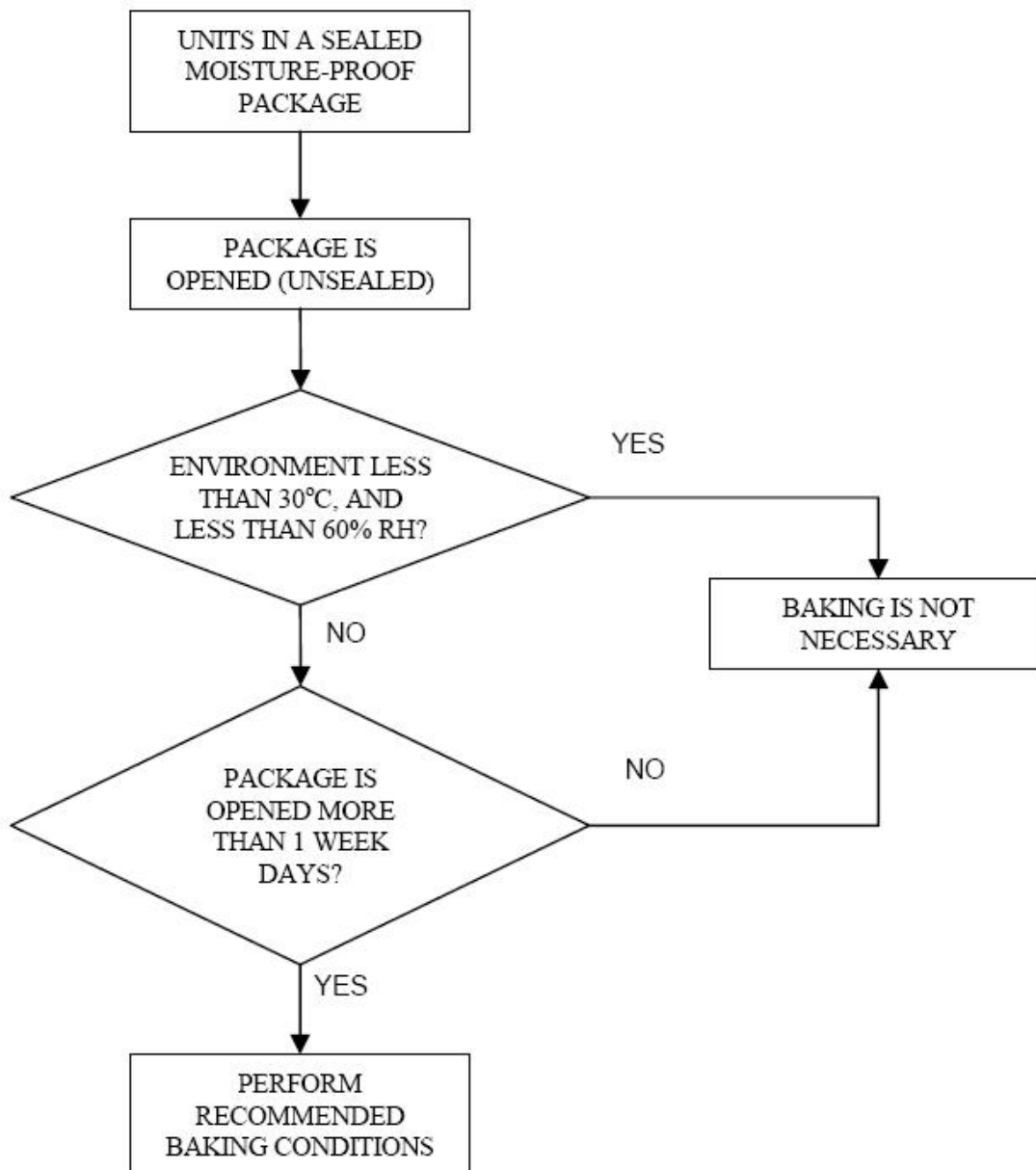
■ Dimensions of Tape (Unit: mm)



■ One Reel contained 700 PCS products:

Moisture Proof Packaging:

All N/D SMD displays are shipped in moisture proof package. The displays should be stored at 30°C or less and 60% RH or less. Once the package opened, moisture absorption begins.



Baking Conditions:

If the parts not stored in dry conditions, they must be baked before re-flow to prevent damage to the parts.

Package	Temperature	Time
In Reel	60 °C	≥ 48hours
In Bulk	100 °C	≥ 4hours
	125 °C	≥ 2hours

■ Baking should only be done once.