EDIT HISTORY

Version A: Jun. 30, 2022

Preliminary Spec.

Opto Plus LED Corp. 7F-3, No.496 , Bannan Road, Jhonghe Dist., New Taipei City 235, Taiwan (R.O.C)
Website: www.opledtw.com E-mail: sales@opledtw.com Tel: 886-2-2222-5698 Fax: 886-2-2222-2566

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www.opledtw.com

Opto Plus LED Corp.
0.30” Case Mold Type LED Display
OPD-AD3020W3 | OPD-AD3021W3

FEATURES

- 0.30 inch (7.62 mm) Digit Height.
- Low current operation.
- Case mold type.
- RoHS compliant, Pb Free.

DESCRIPTION

The device are 0.30 inch (7.62 mm) height dual character alphanumeric display.

height dual digits display

The device is Opto Plus LED Corp standard LED Display.

This device utilizes Super Bright White SMD LED chip which are made from InGaN on a transparent GaN substrate.

The device has face and segment option, please refer to **PRODUCT APPEARANCE**.

DEVICE

	PART NO.	DESCRIPTION
	OPD-AD3020W3-GW	Common Anode | Gray face | White segment
	OPD-AD3021W3-GW	Common Cathode | Gray face | White segment
	OPD-AD3020W3-BW	Common Anode | Black face | White segment
	OPD-AD3021W3-BW	Common Cathode | Black face | White segment

RoHS Compliance

Pb Free.

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0.30” Case Mold Type LED Display
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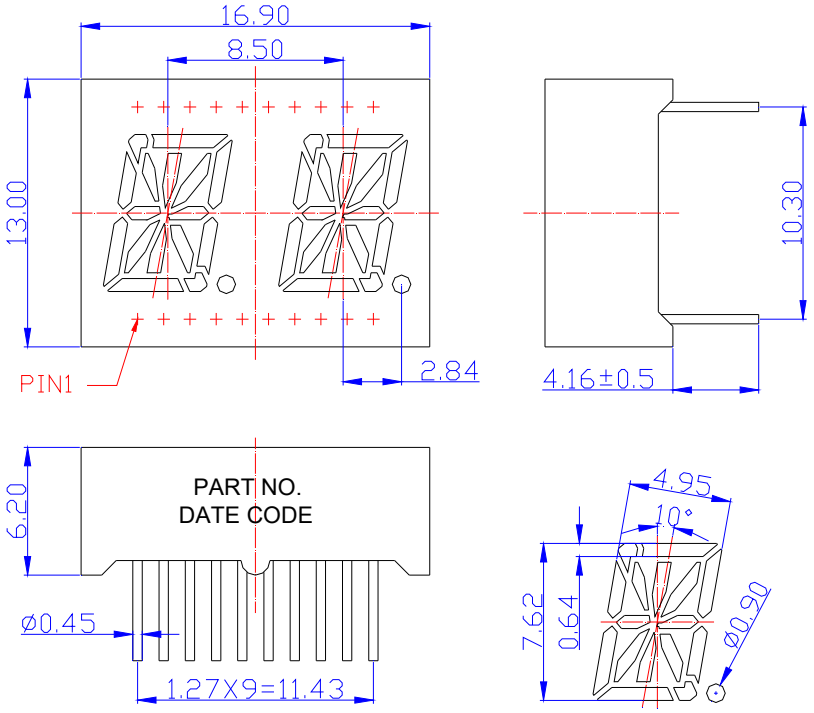
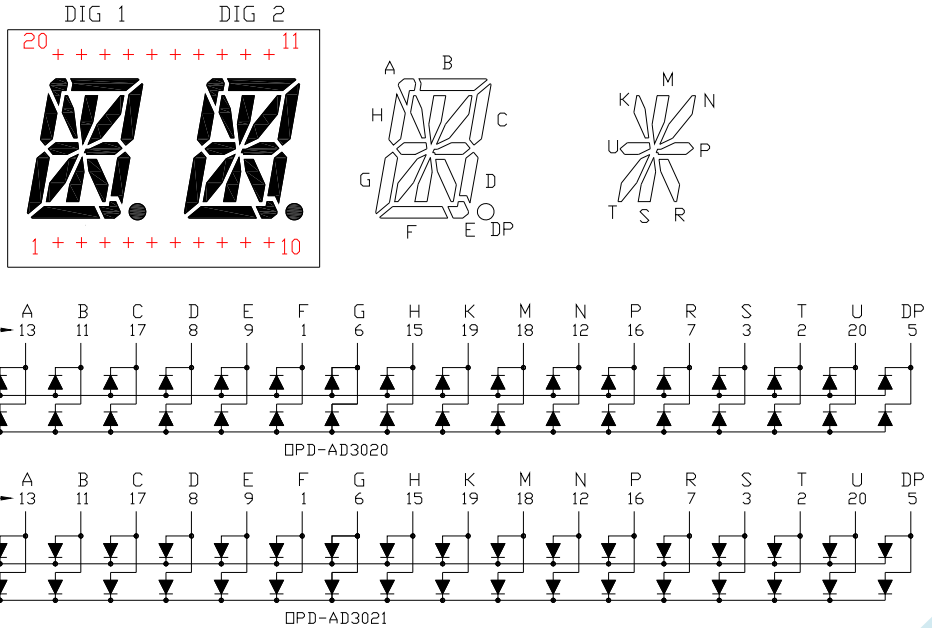
● MECHANICAL DIMENSIONS



NOTES: Dimension is in millimeters. Tolerance is ± 0.25 mm unless otherwise noted.

● TYPICAL INTERNAL EQUIVALENT CIRCUIT

Turn On Color



※EMITTED COLOR：SUPER BRIGHT WHITE

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W3: SUPER BRIGHT WHITE (InGaN/GaN)

ABSOLUTE MAXIMUM RATING AT Ta=25°C

Parameter	Symbol	Maximum Rating	Unit
Power dissipation per SMD	P_D	16	mW
Forward current per SMD	I_F	5	mA
Pulse forward current per SMD	I_{FP}	15	mA
Reverse voltag per SMD	V_R	5	V
Operating temperature	T_{OP}	-40 to + 85	°C
Storage temperature	T_{ST}	-40 to + 100	°C

ELECTRICAL - OPTICAL CHARACTERISTICS AT Ta=25°C (Per SMD Chip)

Characteristic	Symbol	Condition	Min.	Type	Max.	Unit
Forward Voltage per SMD	V_F	I_F =5mA	-	2.8	3.2	V
Reverse Current per SMD	I_R	V_R =5V	-	-	10	μA
Chromaticity Coordinate per SMD		X	-	0.3000	-	
		Y	-	0.2963	-	
Luminous Intensity per SMD	I_V	I_F =5mA	71.5	150	226	mcd
Viewing Angle 2Θ 1/2 per SMD		X	-	110	-	deg
		Y	-	110	-	

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● WHITE: IV BIN (Unit : mcd) 5mA

Super Bright White	1	2	3
	71.5 – 112.5	112.5 – 180.0	180.0 – 226.0
SMD BIN	Q	R	S1

Note: It maintains a tolerance of ±10% on Luminous Intensity

● WHITE: COLOR BIN

	X	Y	X	Y	X	Y
CIE	0.2700	0.2325	0.2900	0.2600	0.3100	0.2875
	0.2700	0.2775	0.2900	0.3050	0.3100	0.3325
	0.2900	0.3050	0.3100	0.3325	0.3300	0.3600
	0.2900	0.2600	0.3100	0.2875	0.3300	0.3150
SMD BIN	C2		D1		D2	

Note: It maintains a tolerance of x,y ±0.007

● FORWARD VOLTAGE (VF) BIN:

BIN CODE	G1	G2	G3	G4
SPEC. RANGE	2.4-2.5	2.5-2.6	2.6-2.7	2.7-2.8

BIN CODE	H1	H2	H3	H4
SPEC. RANGE	2.8-2.9	2.9-3.0	3.0-3.1	3.1-3.2

Note: It maintains a tolerance of ±0.05V on forward voltage measurements

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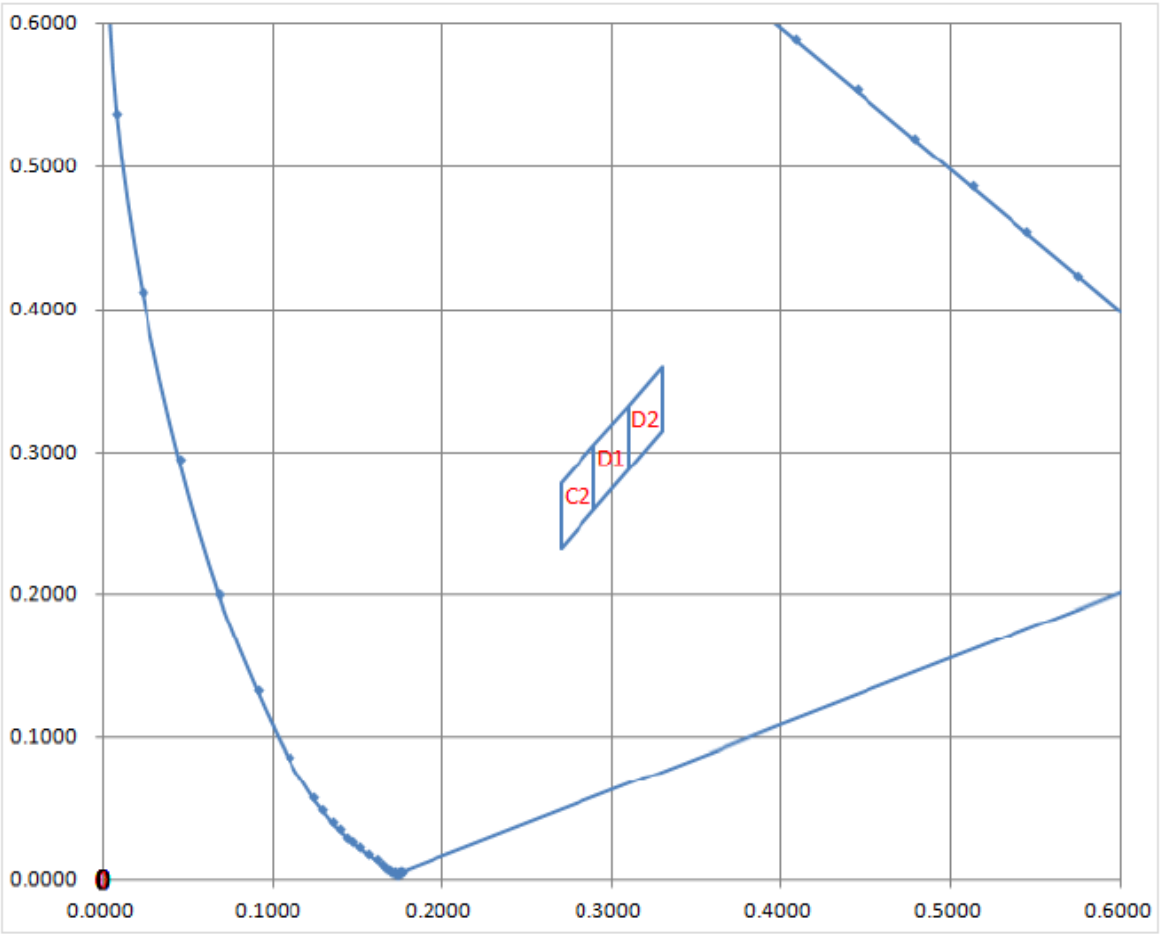
AVAILABLE BIN / HUE TABLE

1C2	2C2	3C2
1D1	2D1	3D1
1D2	2D2	3D2

CHROMATICITY COORDINATE:



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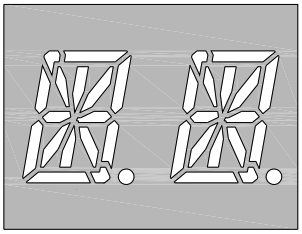
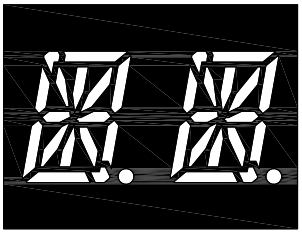
● PRODUCT APPEARANCE

The most common reflector color and segment color are show in below diagram.

-GW	-BW
	
※ REFLECTOR COLOR: Gray ※ SEGMENT COLOR: White	※ REFLECTOR COLOR: Black ※ SEGMENT COLOR: White

Opto Plus can customize reflector and segment colors by customer’s request. If you have these request please visit www.opledtw.com or contact sales@opledtw.com for more **Standard Product Customization** information.

Part NO. related to reflector and segment colors show as table below.

PART NO.	DESCRIPTION
OPD-AD3020W3-GW	Common Anode ｜ Gray face ｜ White segment
OPD-AD3021W3-GW	Common Cathode ｜ Gray face ｜ White segment
OPD-AD3020W3-BW	Common Anode ｜ Black face ｜ White segment
OPD-AD3021W3-BW	Common Cathode ｜ Black face ｜ White segment

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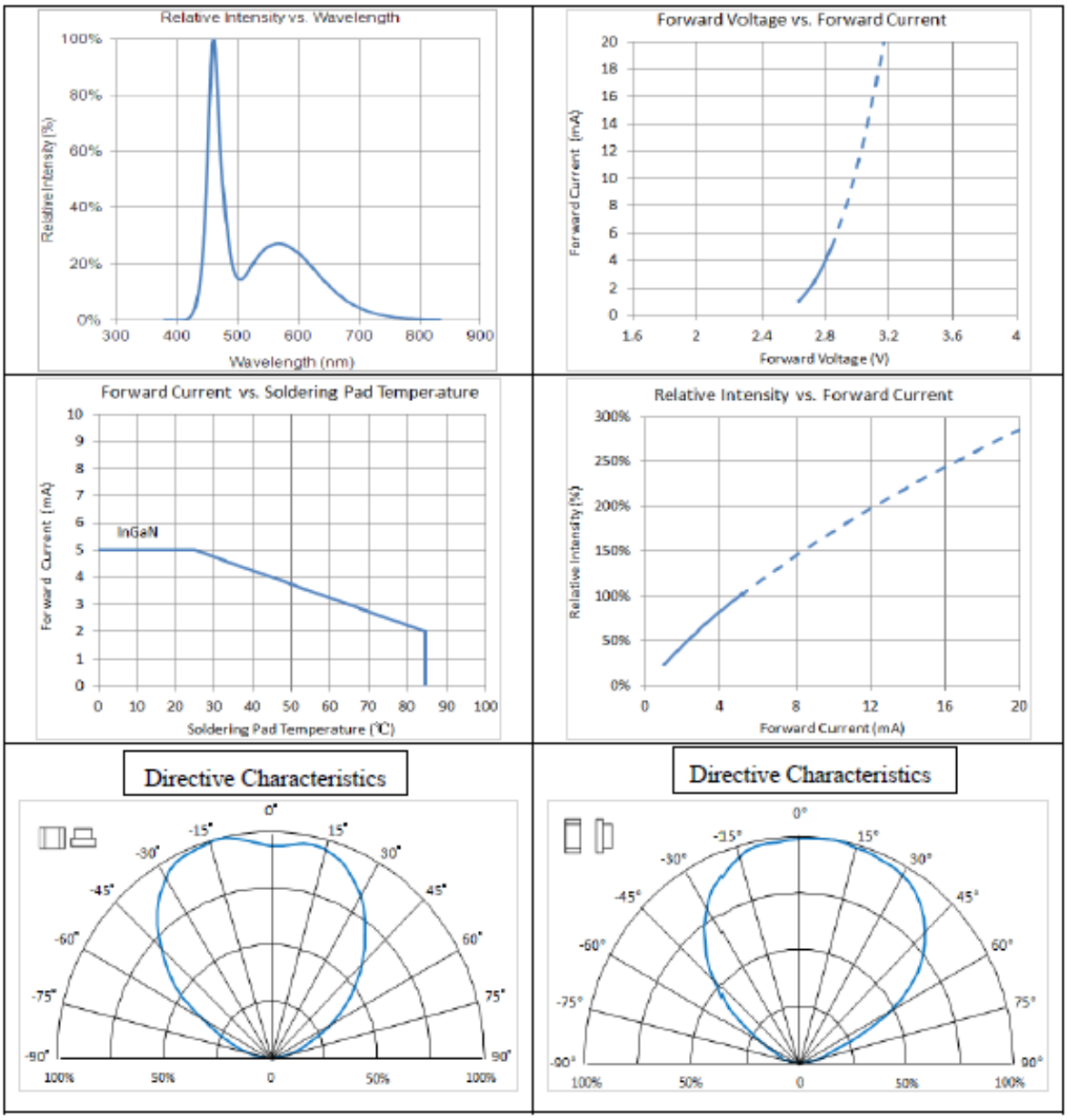
W3: SUPER BRIGHT WHITE (InGaN/GaN) CURVE

Typical Electro-optical Characteristic Curves

(25℃ Free Air Temperature Unless Otherwise Specified)



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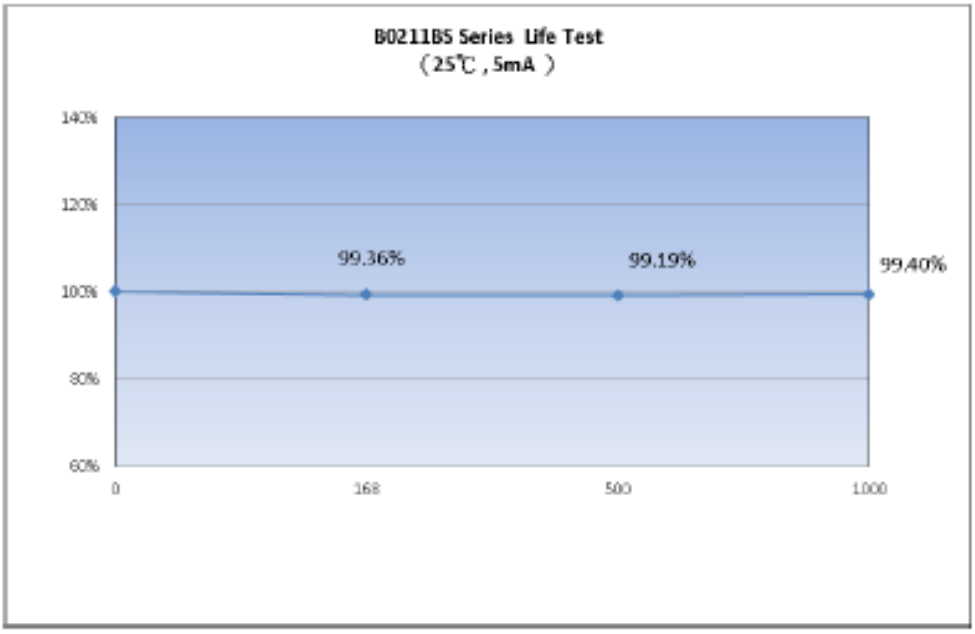
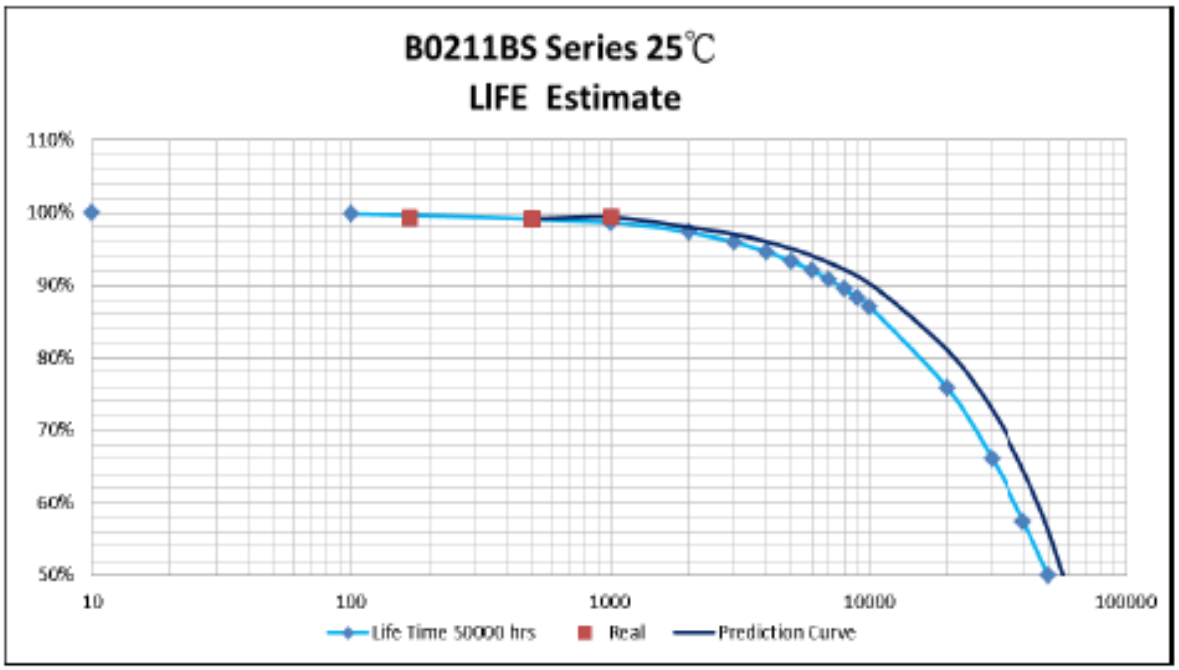
Life Time

25℃ 5mA





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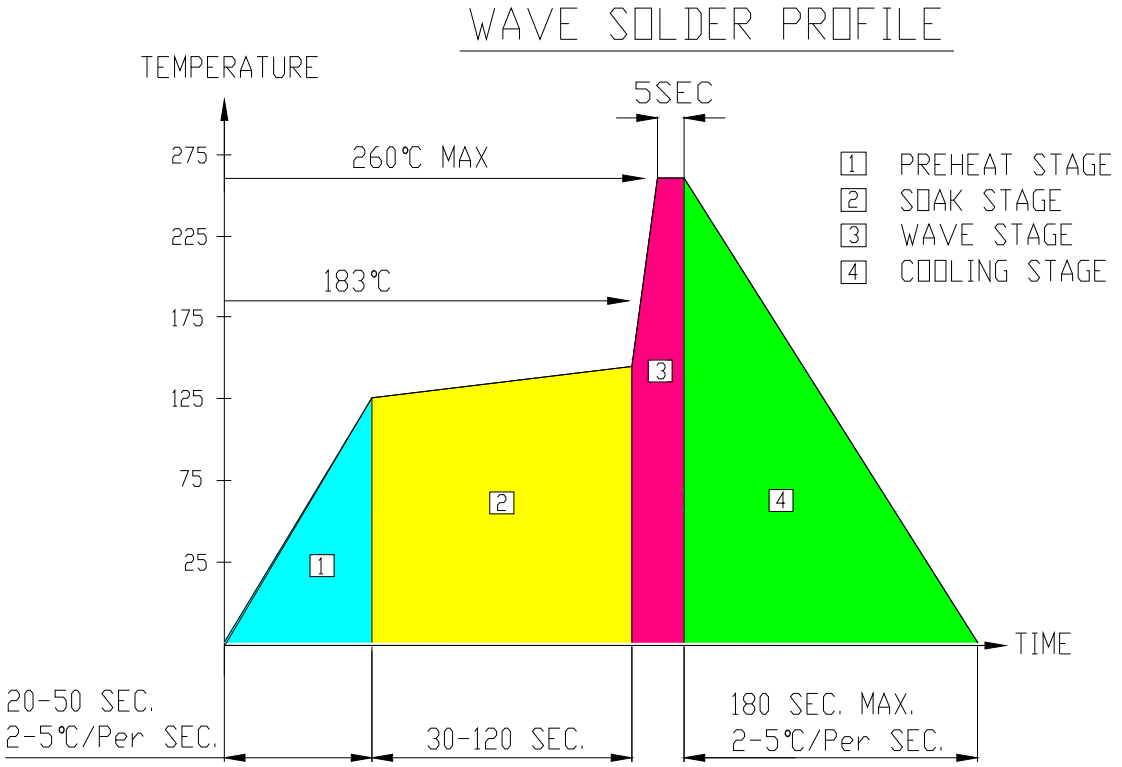
RECOMMEND SOLDERING PROFILE



Note:

- Recommend pre-heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260°C
- Peak wave soldering temperature between 245°C ~ 225°C for 3 sec (5 sec max)
- No more than one wave soldering pass

SOLDERING IRON

Basic spec is ≦4 sec when 260°C. If temperature is higher, time should be shorter (+10°C→1 sec). Power dissipation of Iron should be smaller than 15W, and temperature should be controllable. Surface temperature of the device should be under 230°C.

REWORK

Customer must finish rework within ≦3 sec under 350°C.
The head of soldering iron cannot touch copper foil.

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