EDIT HISTORY

Version A: Sep. 02, 2024

Preliminary Spec.

Version B: Feb. 10, 2026

Modify electrical optical characteristics.

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

Opto Plus LED Corp.
0.30” SMD Type LED Display
OPS-D3010W3 | OPS-D3011W3

FEATURES

- 0.30 inch (7.62 mm) Digit Height.
- SMD type.
- Low current operation.
- RoHS Compliant, Pb Free.

DESCRIPTION

The device are 0.30 inch (7.62 mm) height dual digit 7-segment 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

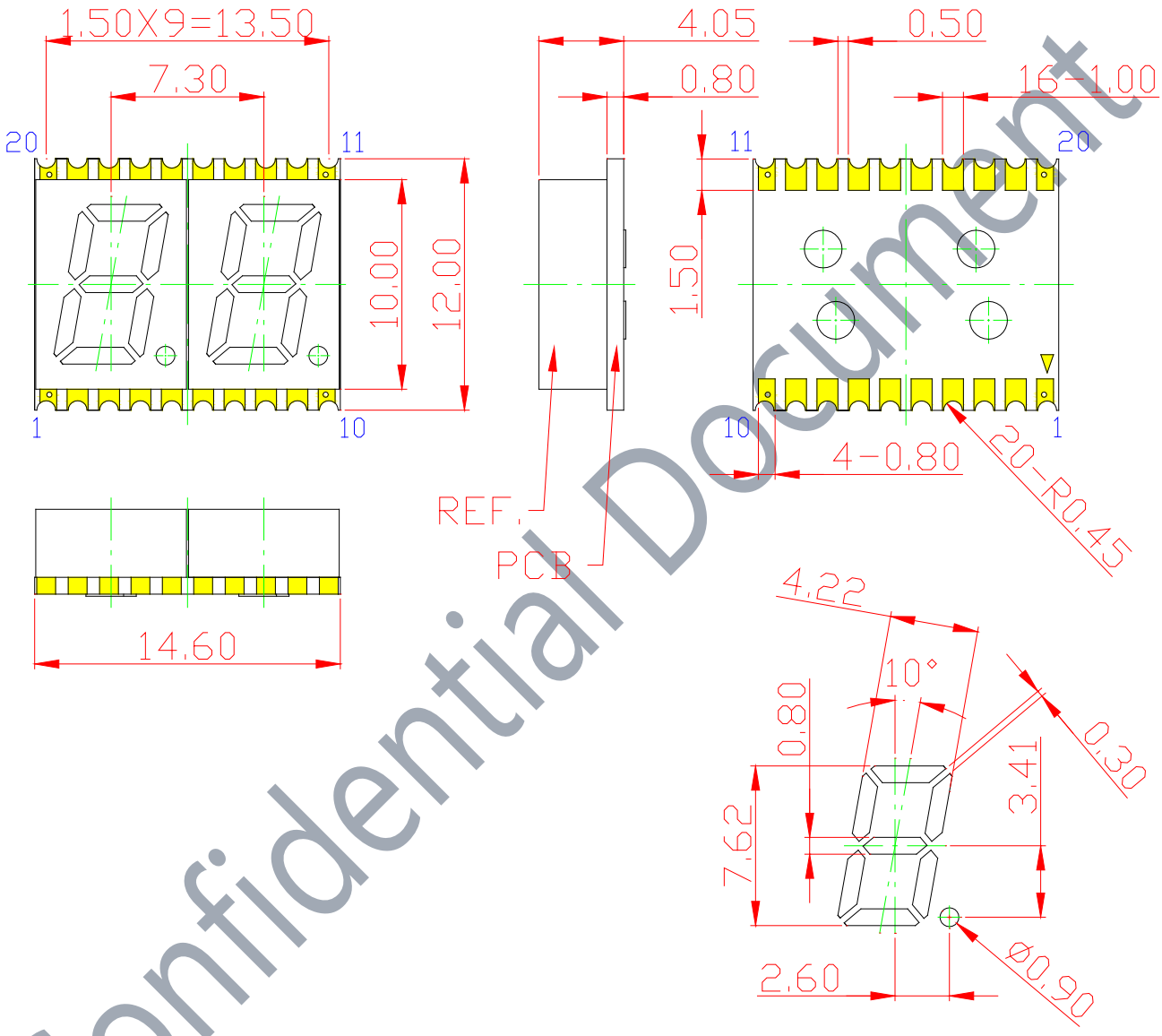
PART NO.		DESCRIPTION
	OPS-D3010W3-GW	Common Anode | Gray face | White segment
	OPS-D3011W3-GW	Common Cathode | Gray face | White segment
	OPS-D3010W3-BW	Common Anode | Black face | White segment
	OPS-D3011W3-BW	Common Cathode | Black face | White segment

RoHS Compliance

Pb Free.

Opto Plus LED Corp.
0.30” SMD Type LED Display
OPS-D3010W3 | OPS-D3011W3

MECHANICAL DIMENSIONS



NOTES: All dimensions are in millimeters. Tolerances are± 0.25 mm unless otherwise noted.

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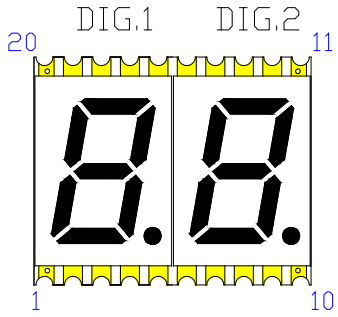
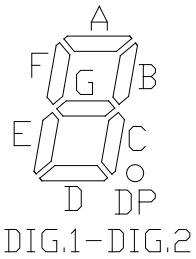
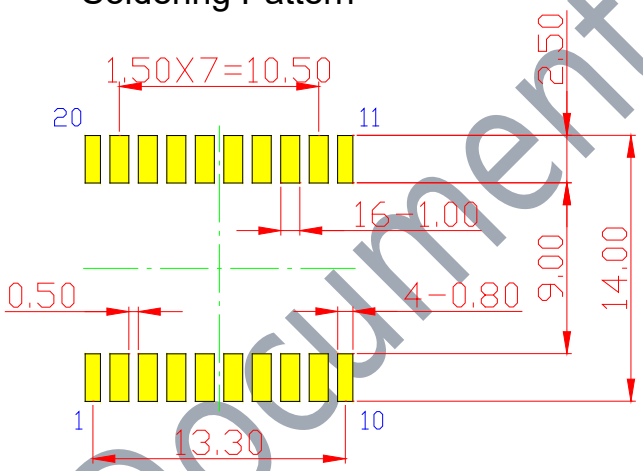
TYPICAL INTERNAL EQUIVALENT CIRCUIT

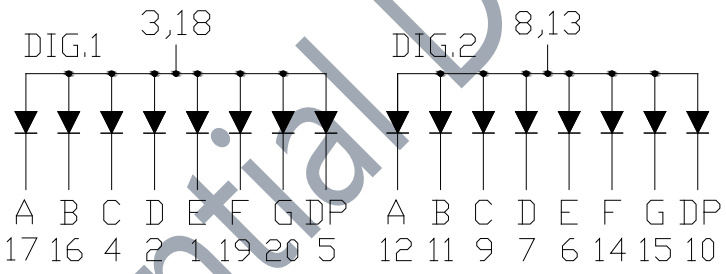
Turn On Color



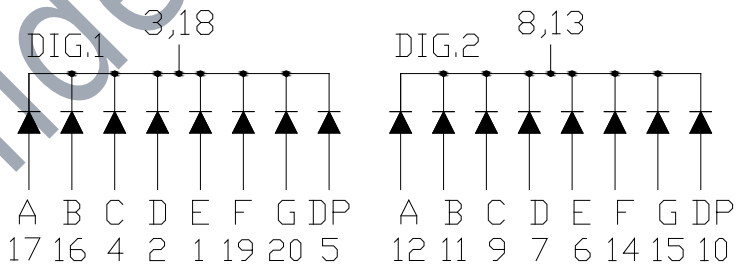


Recommended
Soldering Pattern





OPS-D3010W3 (Common Anode)



OPS-D3011W3 (Common Cathode)

※EMITTED COLOR：SUPER BRIGHT WHITE

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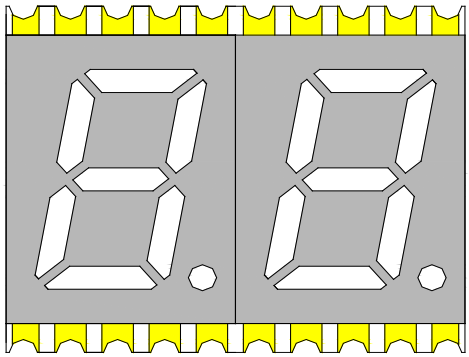
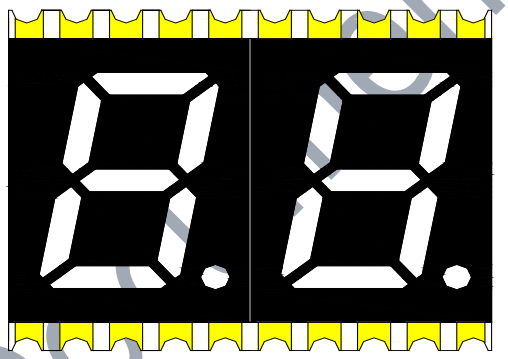
PRODUCT APPEARANCE

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
OPS-D3010W3-GW	Common Anode ｜ Gray face ｜ White segment
OPS-D3011W3-GW	Common Cathode ｜ Gray face ｜ White segment
OPS-D3010W3-BW	Common Anode ｜ Black face ｜ White segment
OPS-D3011W3-BW	Common Cathode ｜ Black face ｜ White segment

W3: SUPER BRIGHT WHITE (InGaN/GaN)

ABSOLUTE MAXIMUM RATING AT Ta=25°C (Per SMD Chip)

Parameter	Symbol	Maximum Rating	Unit
Power dissipation	P_D	16	mW
Forward current	I_F	5	mA
Pulse forward current	I_{FP}	15	mA
In-rush current	I_{IR}	15	mA
Supply voltage	V_{DD}	5	V
Reverse voltage	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		V_F	I_F =5mA	-	2.8	3.2	V
Reverse Current		I_R	V_R =5V	-	-	10	μA
Luminous Intensity	Per Segment	I_V	I_F =5mA	-	50	-	mcd
	Per SMD Chip			71.5	150	226	
Chromaticity Coordinate			X	-	0.3000		
			Y	-	0.2963		

● WHITE: IV BIN (Unit : mcd) 5mA (PER SMD CHIP)

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: (PER SMD CHIP)

	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: (PER SMD CHIP)

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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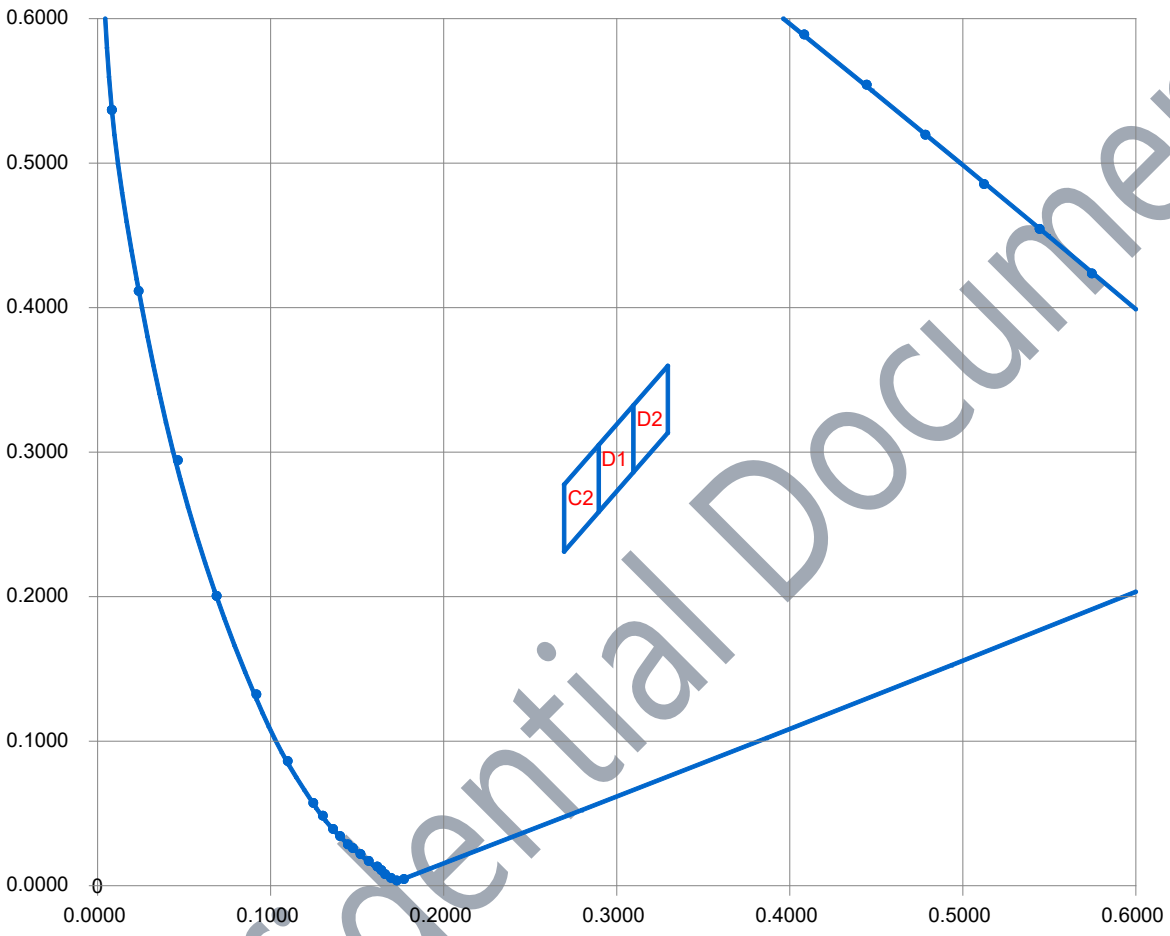
CHROMATICITY COORDINATE: (PER SMD CHIP)



AVAILABLE BIN / HUE TABLE

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

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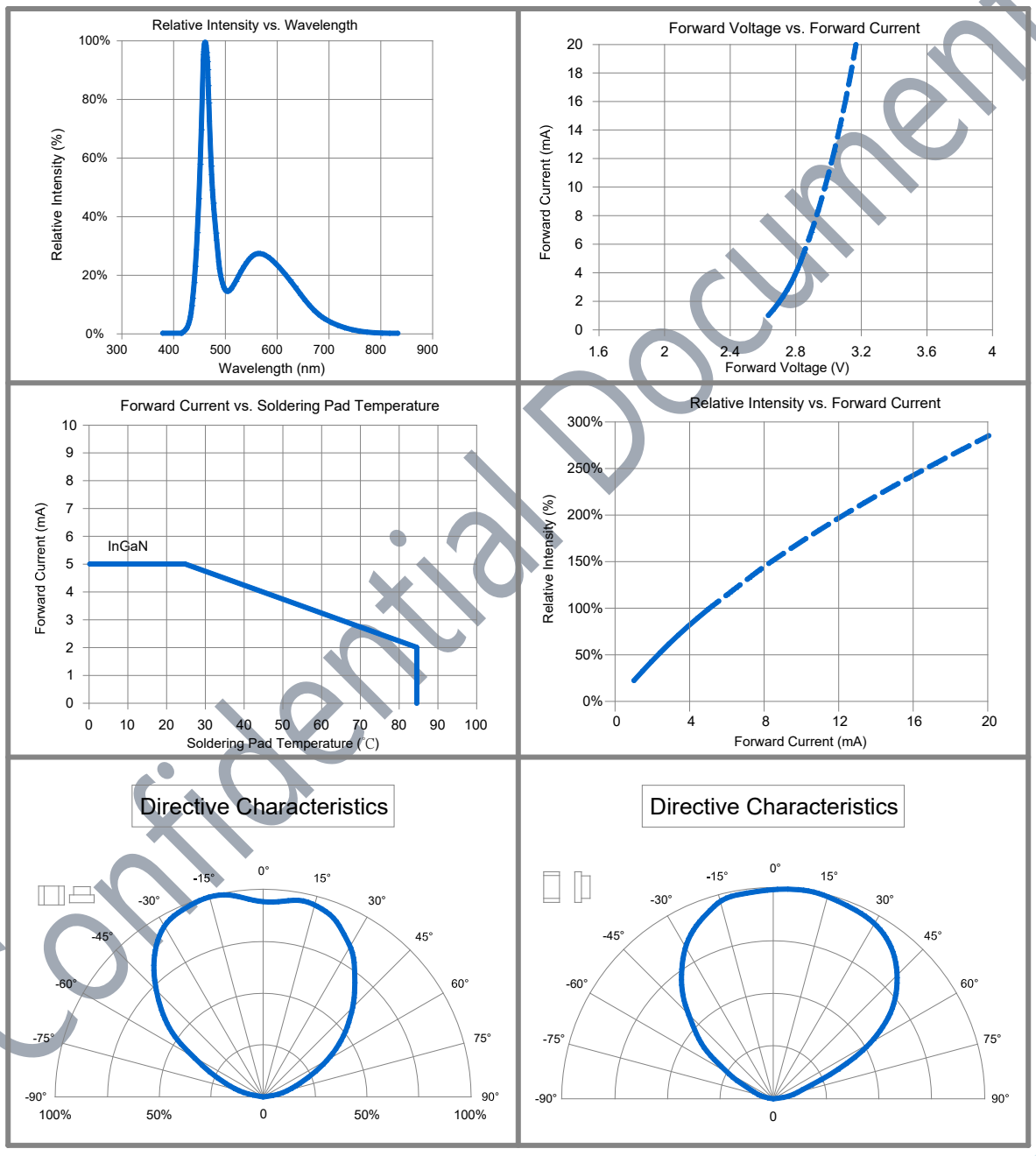
W3: SUPER BRIGHT WHITE (InGaN/GaN) CURVE (PER SMD CHIP)

Typical Electro-optical Characteristic Curves

(25 ℃ Free Air Temperature Unless Otherwise Specified)



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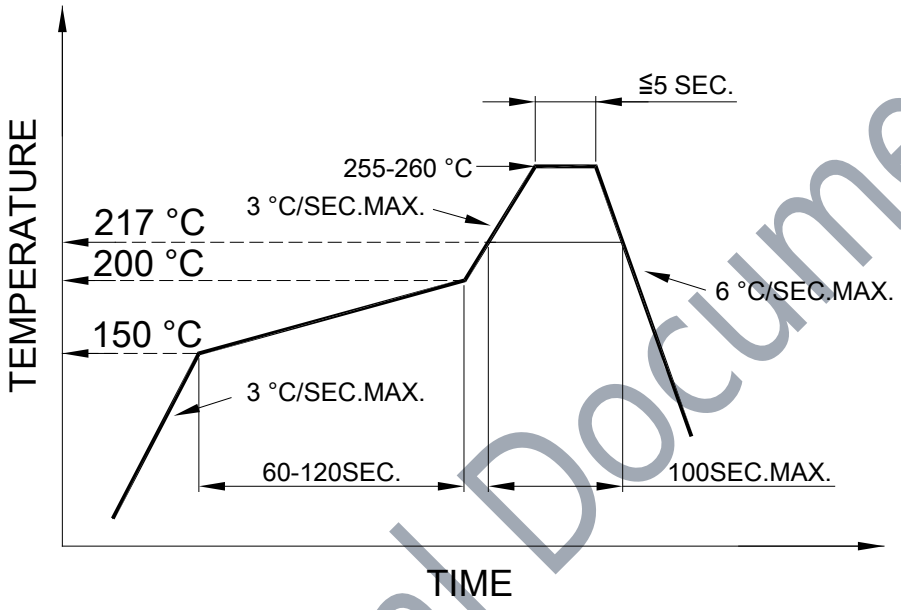
SMT REFLOW SOLDERING INSTRUCTIONS

SMT Soldering Profile

Pb free reflow soldering Profile



- We recommend the reflow temperature 245°C (+/- 5°C).
  The maximum soldering temperature should be limited to 260°C.
- Number of reflow process shall be 2 times or less.

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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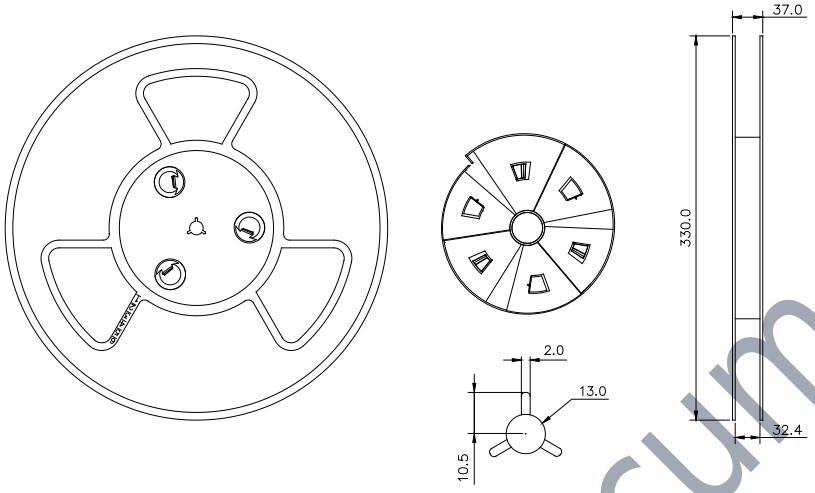
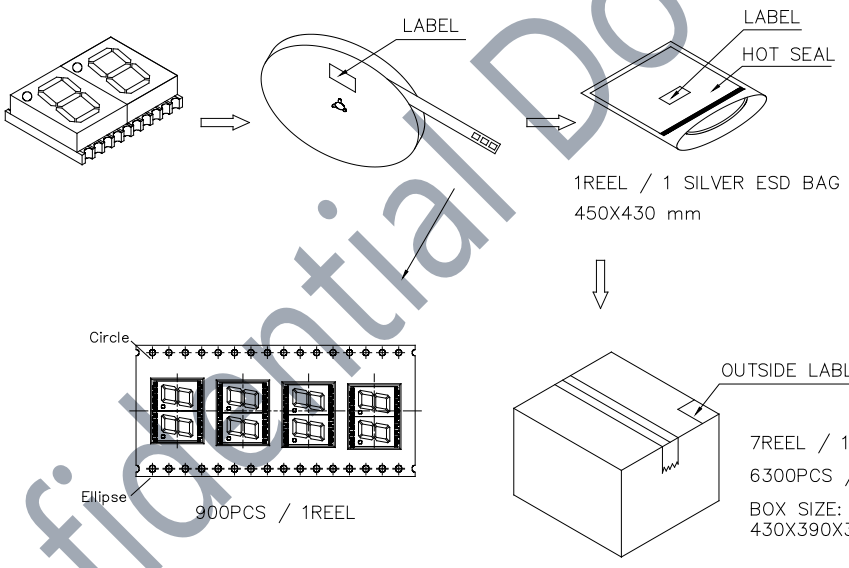
REEL DIMENSIONS



PACKING & LABEL SPECIFICATIONS



STORAGED CONDITION

In factory original sealed bag package

TEMPERATURE CONDITION	HUMIDITY CONDITION
5℃ ~ 30℃	Below 60%RH

After opened and not in factory original sealed bag package

TEMPERATURE CONDITION	HUMDITY CONDITION	STORAGE TIME
5℃ ~ 30℃	Below 60%RH	Within 4 weeks (MSL as level 2a)

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