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**American Opto Plus LED Corp.**  
**0.30" Case Mold Type LED Display**  
**AOP A301LE G/W**  
**AOP C301LE G/W**

● **EDIT HISTORY**

Version A: May. 3, 2012

New color data sheet.

Version B: August. 30, 2012

Modify Luminous intensity

Version C: Oct. 3, 2012

Add Bin.

Version D: Nov.14, 2012

Add package dimensions.

Manufacture	Examination	Approving



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# American Opto Plus LED Corp.

## 0.30" Case Mold Type LED Display

### AOP A301LE G/W

### AOP C301LE G/W

## ● FEATURES

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

## ● DESCRIPTION

The A301LE G/W & C301LE G/W is a 0.30 inch (7.62 mm) height single 7-segment display. This device utilizes Super Bright Red LED chip which are made from AlGaInP on a transparent GaAs, substrate. The display has Gray face, White segment.

## ● DEVICE

PART NO Super Bright Red	DESCRIPTION
A301LE G/W	Common Anode
C301LE G/W	Common Cathode

**RoHS Compliance**



**Pb free.**

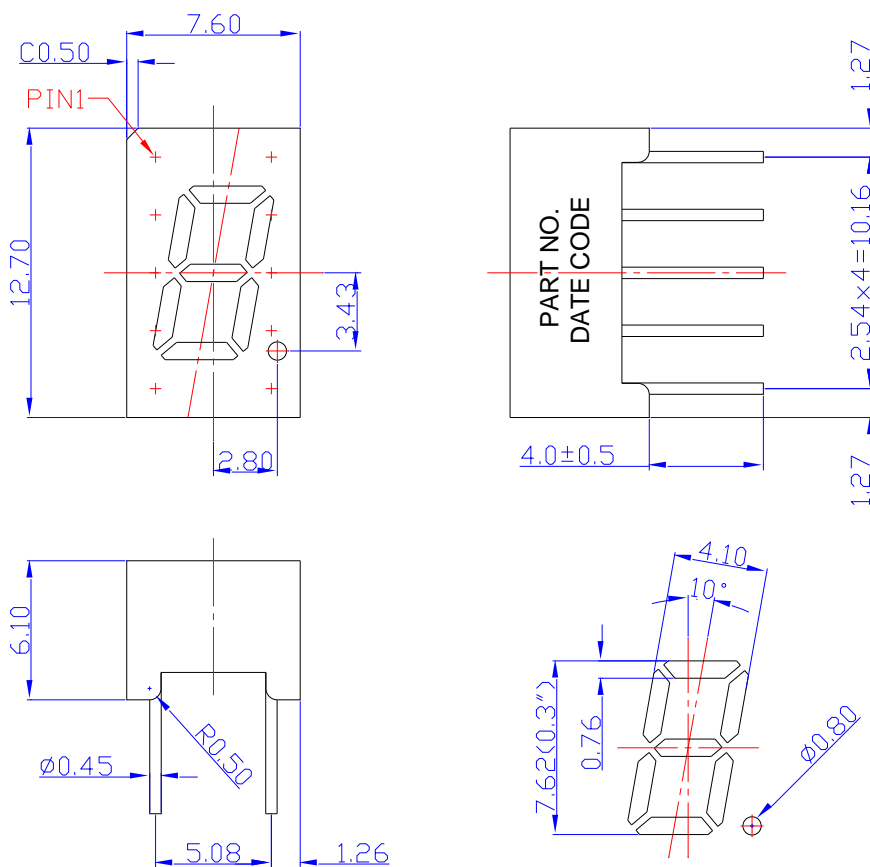




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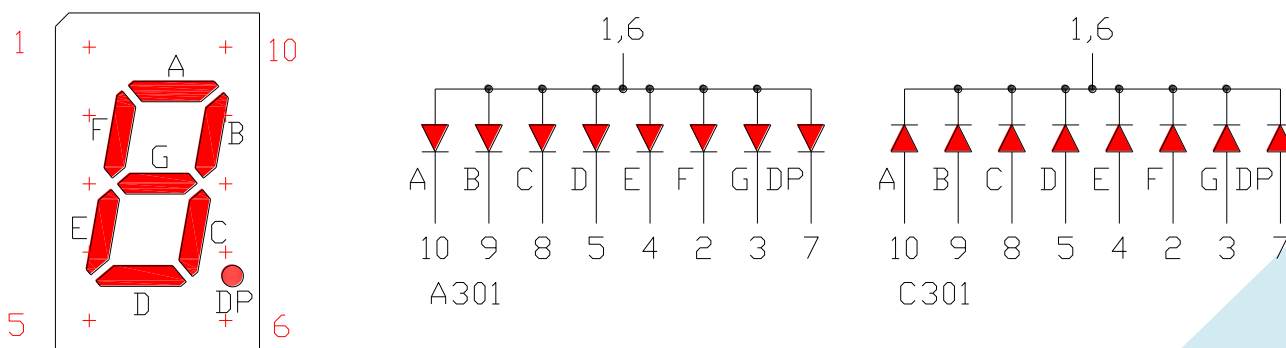
# American Opto Plus LED Corp. 0.30" Case Mold Type LED Display AOP A301LE G/W AOP C301LE G/W

## MECHANICAL DIMENSIONS



NOTES: All dimensions are in millimeters. Tolerances are  $\pm 0.25$  mm unless otherwise noted.

## TYPICAL INTERNAL EQUIVALENT CIRCUIT





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● **LE: SUPER BRIGHT RED (AlGaInP/GaAs)**

ABSOLUTE MAXIMUM RATING AT Ta=25°C

Parameter	Symbol	Super Bright Red	Unit
Power dissipation per dice	P <sub>AD</sub>	70	mW
Derating liner from 25°C per dice	-	0.33	mA / °C
Continuous forward current per dice	I <sub>AF</sub>	25	mA
Peak current per dice (duty cycle 1/10, 1kHz)	I <sub>PF</sub>	90	mA
Reverse voltage per dice	V <sub>R</sub>	5	V
Operating temperature	T <sub>OPR</sub>	-25 to +85	°C
Storage temperature	T <sub>STG</sub>	-25 to +85	°C

ELECTRICAL - OPTICAL CHARACTERISTICS AT Ta=25°C

Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	-	2.0	2.6	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> =5V	-	-	10	µA
Peak wavelength	λ <sub>P</sub>	I <sub>F</sub> =20mA	-	632	-	nm
Dominant wavelength	λ <sub>D</sub>	I <sub>F</sub> =20mA	619	624	629	nm
Luminous intensity	I <sub>v</sub>	I <sub>F</sub> =5mA	340	950	-	ucd
		I <sub>F</sub> =20mA	-	40	-	mcd
Spectral radiation bandwidth	Δλ	I <sub>F</sub> =20mA	-	20	-	nm



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● **LE: BIN CODE  $I_F = 5, 20\text{mA}$  (Unit :  $\mu\text{cd}$ )**

Super Bright Red	P	Q	R	S
5mA( $\mu\text{cd}$ )	340 ~ 950	951 ~ 1290	1291 ~ 1630	1631~2000
20mA(mcd)	11~20	21~30	31~40	41~50

● **LE: HUE GRADE ( $\lambda_D$  : nm /  $I_F = 20\text{mA}$ )**

1	2	
619 - 623	624 - 629	

● **AVAILABLE BIN / HUE TABLE**

P1	Q1	R1	S1
P2	Q2	R2	S2



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## 0.30" Case Mold Type LED Display

### AOP A301LE G/W

### AOP C301LE G/W

#### ● LE: SUPER BRIGHT RED (AlGaInP/GaAs) CURVE

Typical Electro-optical Characteristic Curves  
(25 °C Free Air Temperature Unless Otherwise Specified)

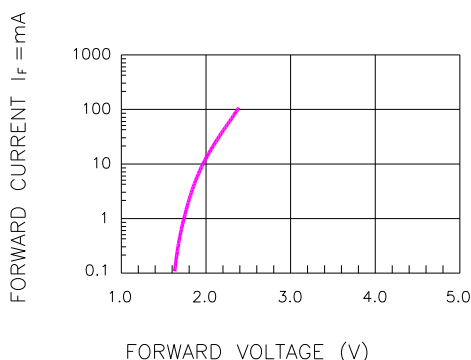


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

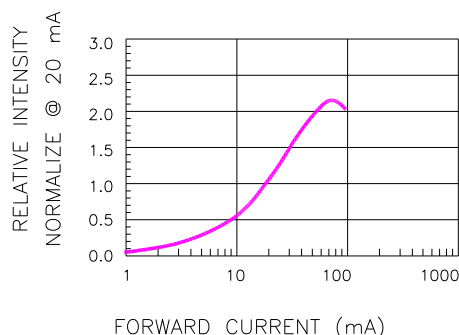


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

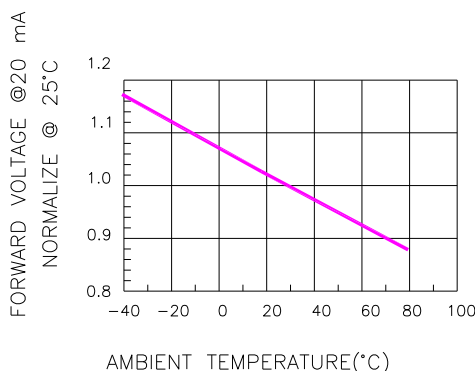


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

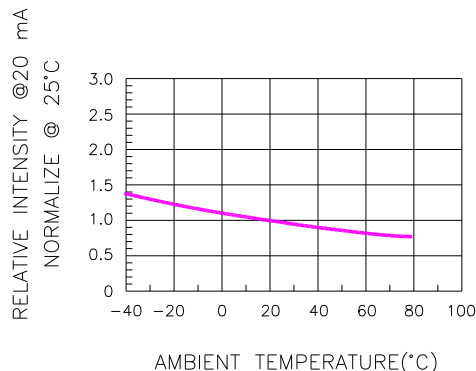


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

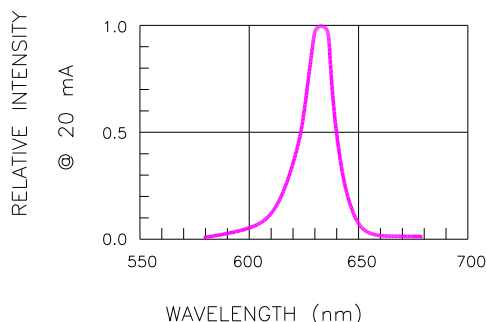


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

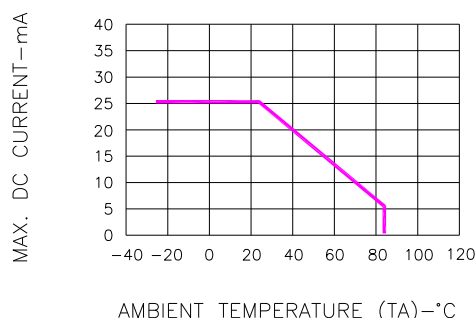


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE



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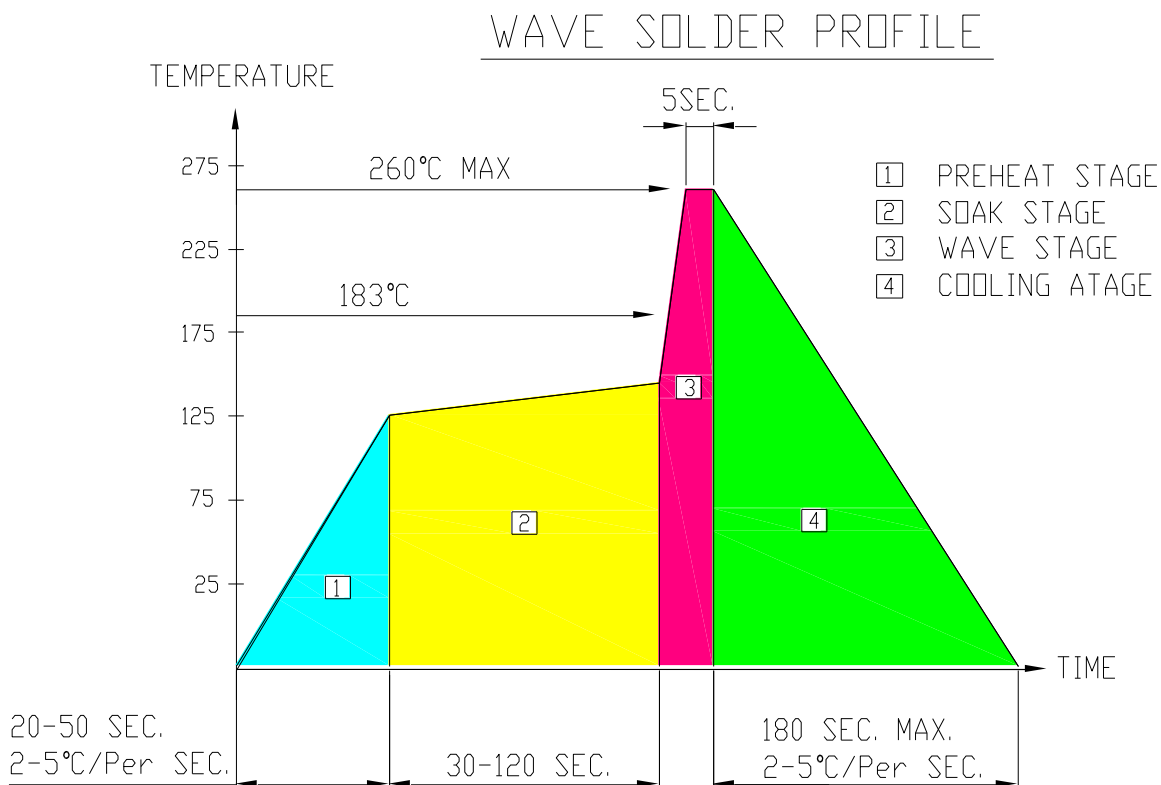
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## 0.30" Case Mold Type LED Display

### AOP A301LE G/W

### AOP C301LE G/W

## ● RECOMMEND SOLDERING PROFILE



## ● SOLDERING IRON

Basic spec is  $\leq 4$  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  $\leq 4$  sec under 245°C.



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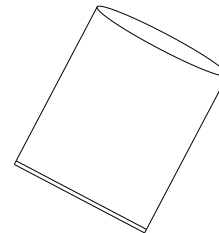
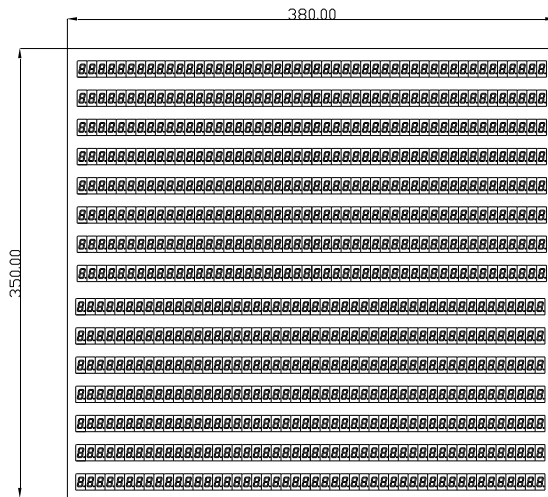
## 0.30" Case Mold Type LED Display

### AOP A301LE G/W

### AOP C301LE G/W

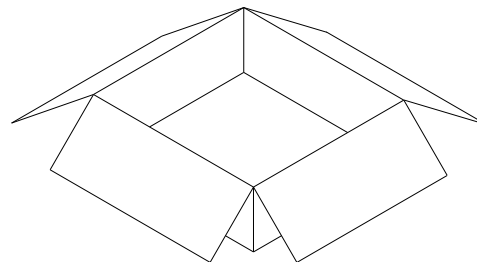
### ● PACKAGE DIMENSIONS

720 PCS / 1 White Polyform ( 48 X 15 PCS )



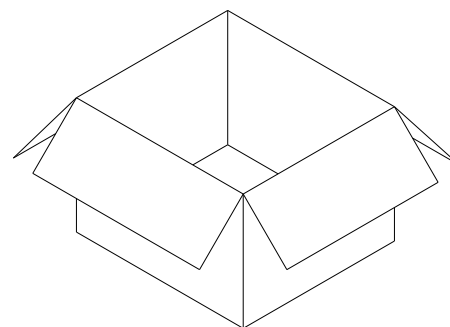
ESD BAG SIZE : 650 x 550 mm

6 White Polyform / 1BAG  
4320 PCS /1Inner Carton



INNER BOX SIZE : 394 x 370 x 138 mm

8640 PCS / 2 Inner Carton / 1 Outer Carton



OUTER BOX SIZE : 430 x 390 x 300 mm