American Opto Plus LED Corp.
0.36” Case mold Type LED Display
AOP A364LE-L1 G/W
AOP C364LE-L1 G/W

EDIT HISTORY

Version A: Dec. 30, 2008

New color data sheet.

Version B: Feb. 12, 2009

Add Bin & Hue.

Version C: Mar. 18, 2009

Modify pin diameter from 0.50mm to 0.45mm.

Manufacture	Examination	Approving

www.aopled.com

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FEATURES

- 0.36 inch (9.2 mm) Digit Height.
- Excellent character appearance.
- Case mold type.
- Wide viewing angle.
- Gray face, White segment.
- RoHS compliant, Pb Free.

DESCRIPTION

The A364LE-L1 G/W & C364LE-L1 G/W is a 0.36 inch (9.2mm) height quaternary digits display.

This device utilizes Super Bright Red LED chip which are made from AlGaInP on a transparent GaAs substrate. The display has Gray face and White segment.

DEVICE

PART NO Super Bright Red	DESCRIPTION
A364LE-L1 G/W	Common Anode
C364LE-L1 G/W	Common Cathode

RoHS Compliance **Pb free.**

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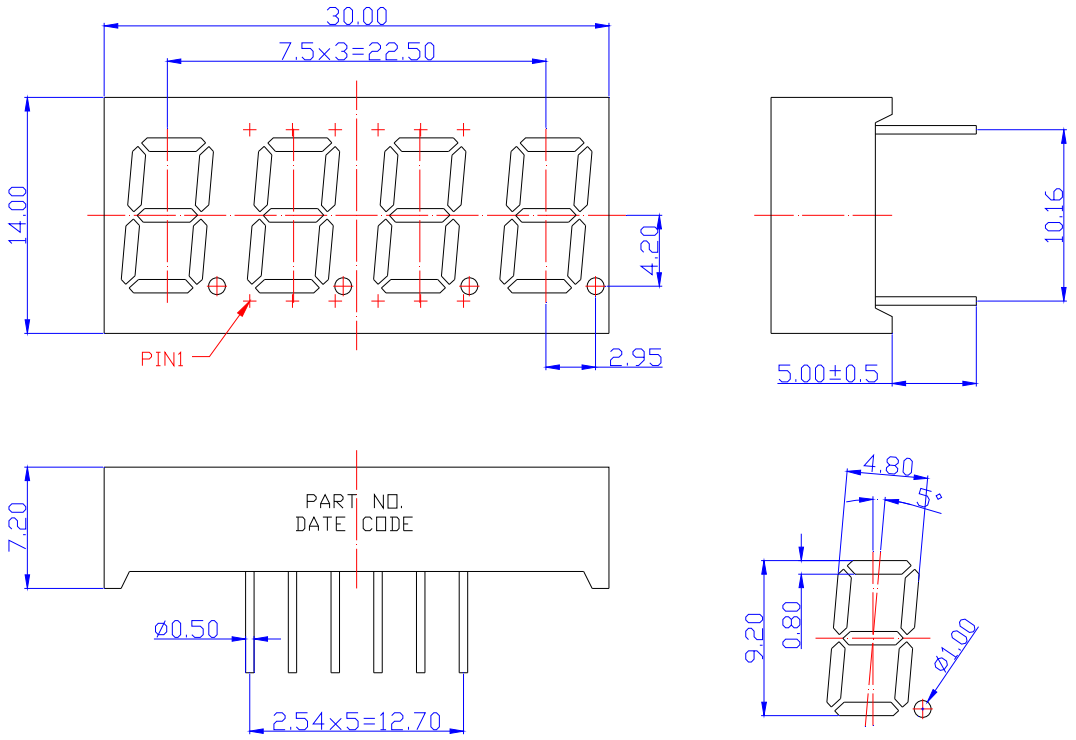
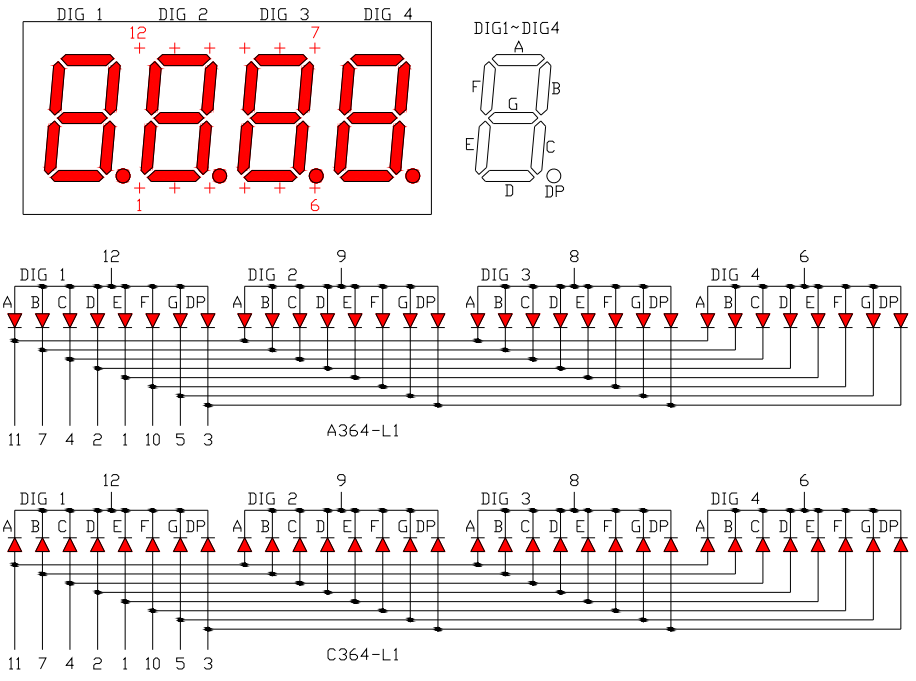
MECHANICAL DIMENSIONS



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

TYPICAL INTERNAL EQUIVALENT CIRCUIT



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

ABSOLUTE MAXIMUM RATING AT Ta=25ºC

Parameter	Symbol	Super Bright Red Orange	Unit
Power dissipation per dice	P_{AD}	70	mW
Derating Liner from 25°C per dice	-	0.28	mA/°C
Continuous forward current per dice	I_{AF}	25	mA
Peak current per dice (duty cycle 1/10, 1kHz)	I_{PF}	90	mA
Reverse voltage per dice	V_R	5	V
Operating temperature	T_{OPR}	-25 to +85	°C
Storage temperature	T_{STG}	-25 to +85	°C

ELECTRICAL - OPTICAL CHARACTERISTICS AT Ta=25ºC

Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	I_F =20mA	1.8	2.0	2.3	V
Reverse Current	I_R	V_R =5V	-	-	10	μA
Peak Wavelength	λ_P	I_F =20mA	-	632	-	nm
Dominant Wavelength	λ_d	I_F =20mA	619	624	629	nm
Average Luminous Intensity	I_V	I_F =1mA	911	1530	2500	μcd
Spectrum Radiation Bandwidth	$\Delta\lambda$	I_F =20mA	-	15	-	nm
Luminous Intensity Matching Rate	I_{V-m}	I_F =20mA	-	1.5 : 1	-	-

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LE: BIN GRADE (Unit : µcd / I_F =1mA)

Super Bright Red Orange	O	P	Q
	911 ~ 1184	1185 ~ 1540	1541 ~ 2000

LE: HUE GRADE (λD : nm / I_F =20mA)

1	2	
619 - 623	624 - 629	

AVAILABLE BIN / HUE TABLE

O1	P1	Q1
O2	P2	Q2

LE: SUPER BRIGHT RED ORANGE (AlGaInP/GaAs) CURVE

Typical Electro-optical Characteristic Curves

(25 ℃ Free Air Temperature Unless Otherwise Specified)

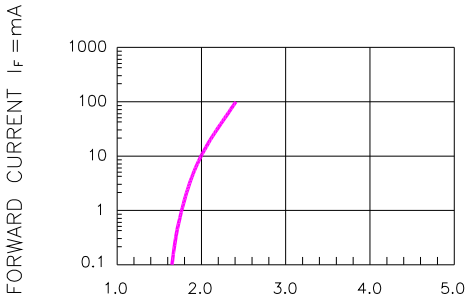


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

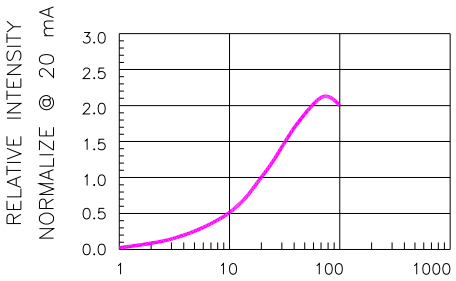


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

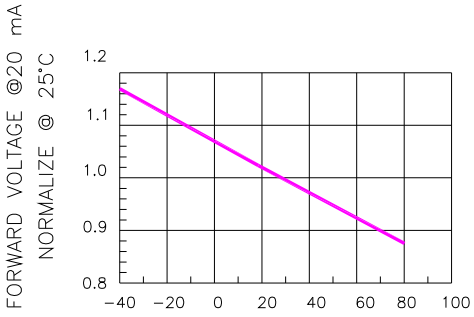


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

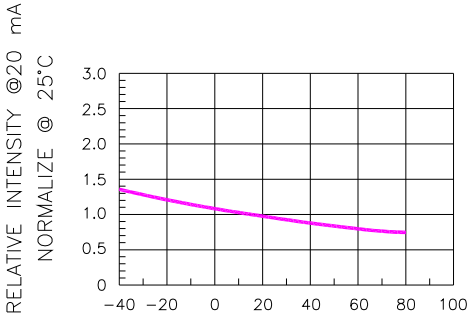


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

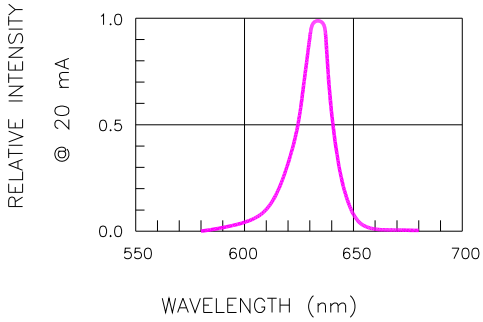


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

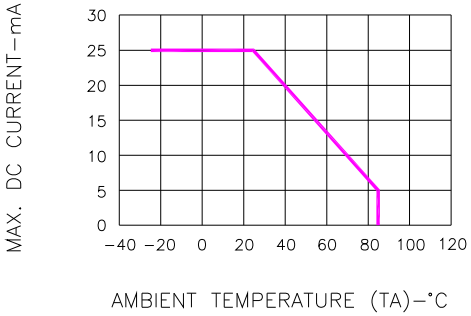
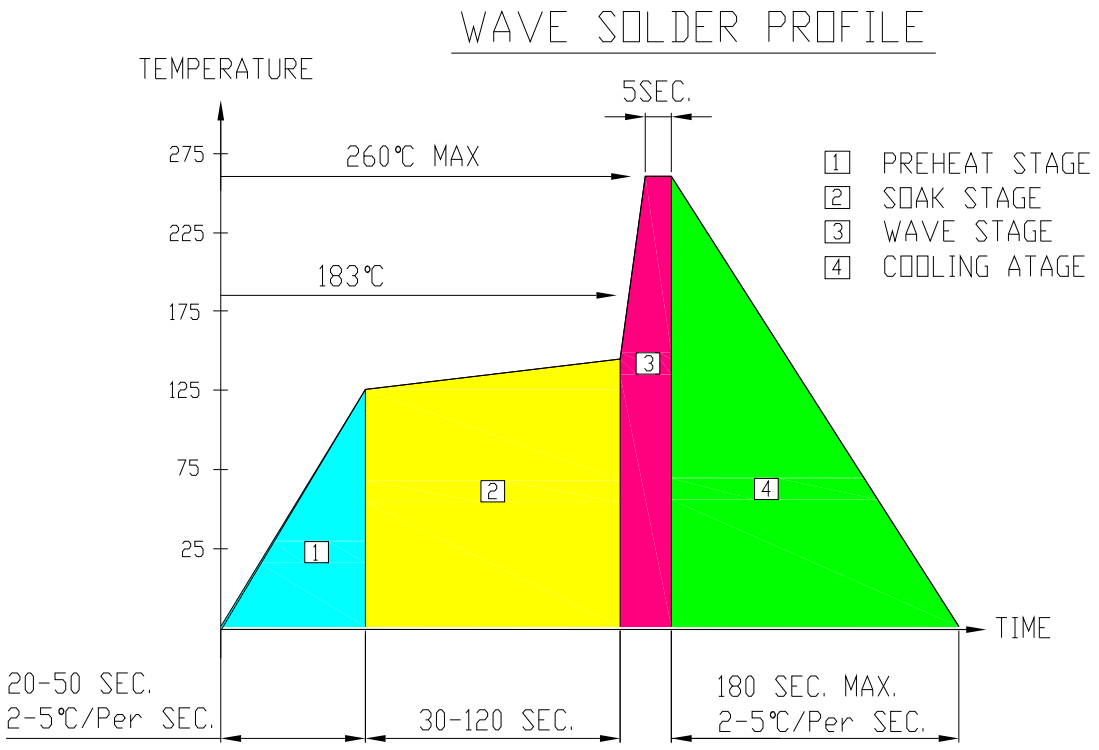


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

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℃.
The head of soldering iron cannot touch copper foil.