American Opto Plus LED Corp.
Case Mold Type LED Display
AOP A391LR-D G/W
AOP C391LR-D G/W

EDIT HISTORY

Version A: Oct. 06, 2017

Preliminary Spec.

Manufacture	Examination	Approving

American Opto Plus LED Corp. 1206 E. Lexington Ave. , Pomona CA 91766 Tel: 909-465-0080 Fax: 909-465-0130 www.aopled.com

www.aopled.com

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Case Mold Type LED Display
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AOP C391LR-D G/W

FEATURES

- 0.39 inch (9.90 mm) Digit Height.
- Low current operation..
- Case mold type.
- Gray face, White segment.
- RoHS compliant, Pb Free.

DESCRIPTION

The A391LR-D G/W & C391LR-D G/W is a 0.39 inch (9.90 mm) height single 7-segment display.

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

DEVICE

PART NO Super Red	DESCRIPTION
A391LR-D G/W	Common Anode
C391LR-D G/W	Common Cathode

RoHS Compliance **Pb free.**

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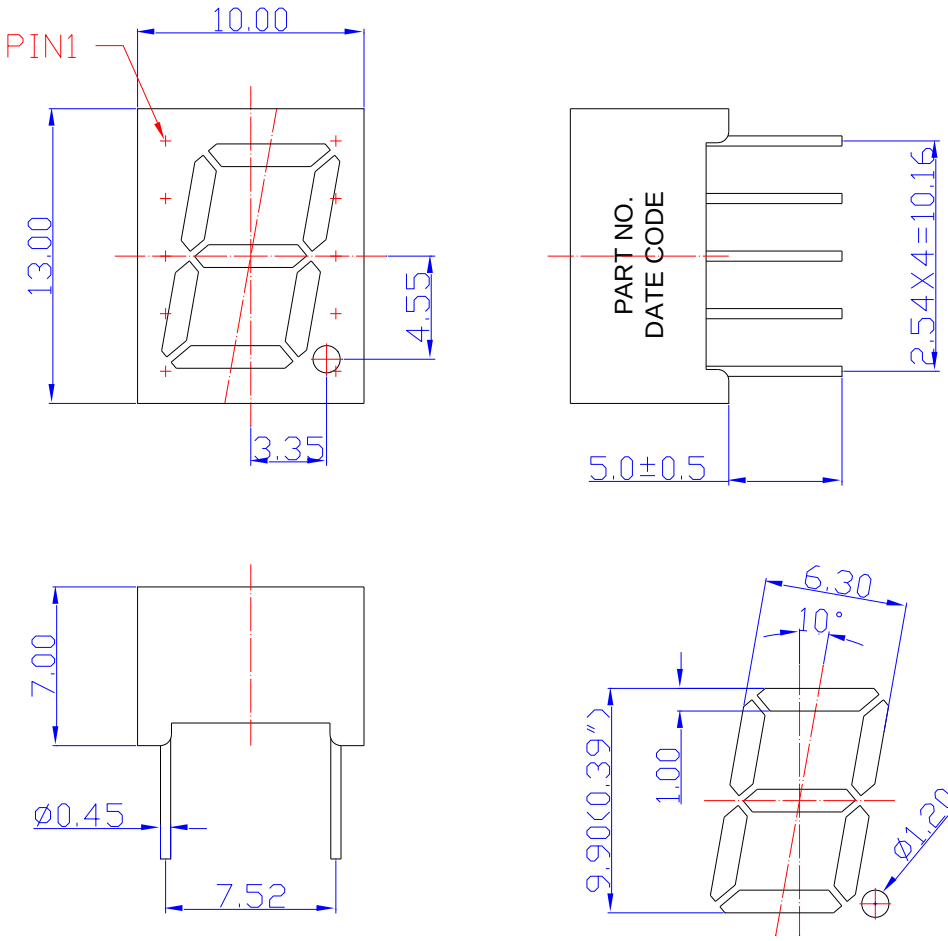
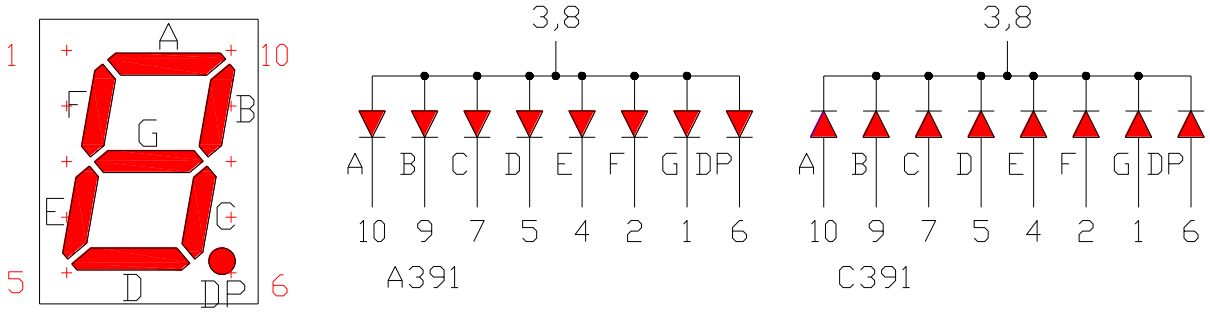
MECHANICAL DIMENSIONS



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

TYPICAL INTERNAL EQUIVALENT CIRCUIT



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LR: SUPER RED (AlGaInP/GaAs)

ABSOLUTE MAXIMUM RATING AT Ta=25ºC

Parameter	Symbol	Super Red	Unit
Power dissipation per dice	P_{AD}	70	mW
Derating liner from 25°C per dice	-	0.33	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	-	2.0	2.6	V
Reverse current	I_R	V_R =5V	-	-	10	μA
Peak wavelength	λ_P	I_F =20mA	-	650	-	nm
Dominant wavelength	λ_D	I_F =20mA	-	639	-	nm
Luminous intensity	I_V	I_F =10mA	-	10	-	mcd
Spectral radiation bandwidth	$\Delta\lambda$	I_F =20mA	-	20	-	nm

● LR: SUPER RED (AlGaInP/GaAs)

Typical Electro-optical Characteristic Curves

(25 ℃ Free Air Temperature Unless Otherwise Specified)

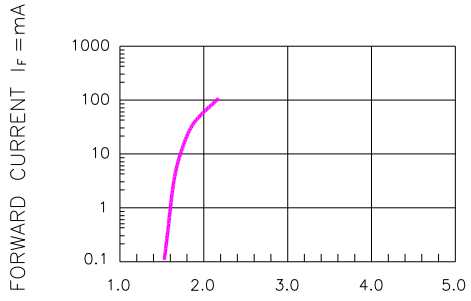


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

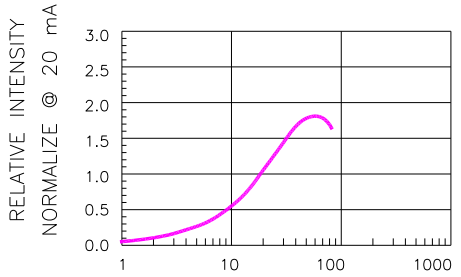


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

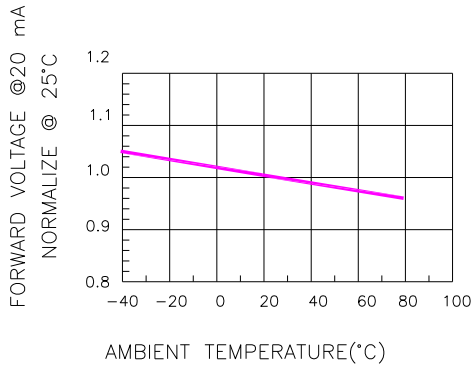


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

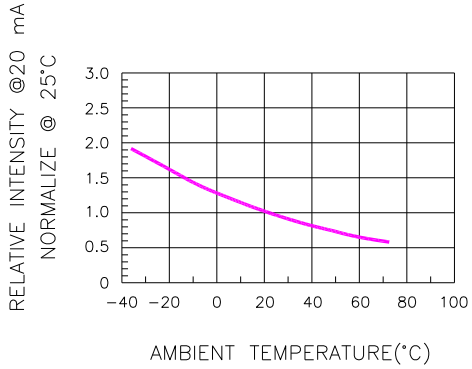


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

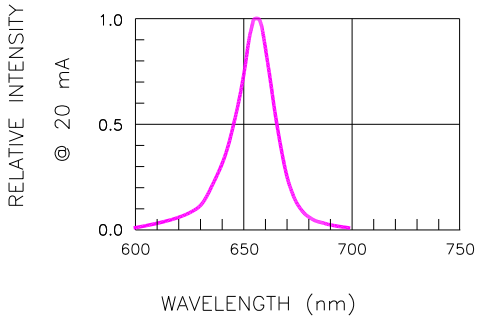


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

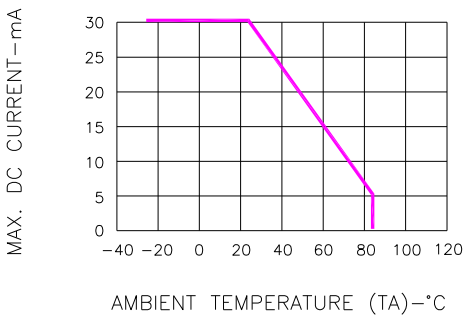
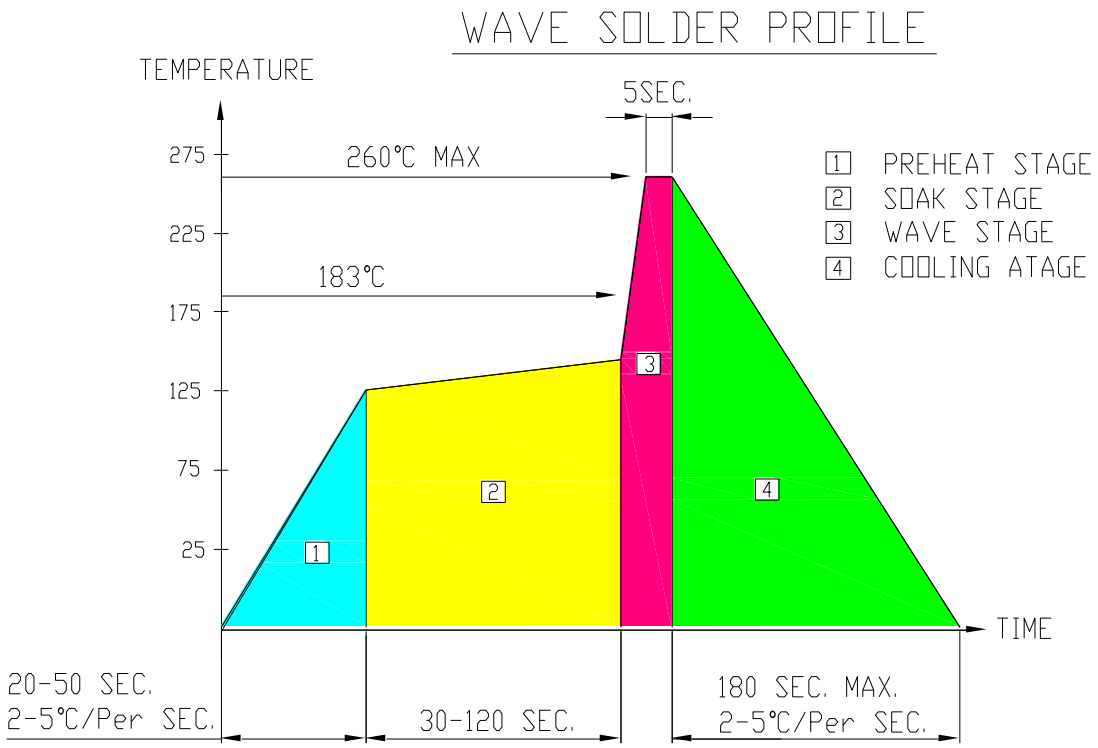


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

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.
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