



American Opto Plus LED Corp.
Case Mold Type LED Display
A1001LR G/W
C1001LR G/W

● **EDIT HISTORY**

Version A: Nov. 22, 2012
Preliminary Spec.

Manufacture	Examination	Approving



American Opto Plus LED Corp.

Case Mold Type LED Display

A1001LR G/W

C1001LR G/W

● FEATURES

- 1.0 inch (25.4 mm) Digit Height.
- Low current operation.
- Case mold type.
- Gray face, White segment.
- RoHS compliant, Pb Free.

● DESCRIPTION

The A1001LR G/W & C1001LR G/W is a 1.0 inch (25.4 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
A1001LR-GW	Common Anode
A1001LR-GW	Common Cathode

RoHS Compliance



Pb free.





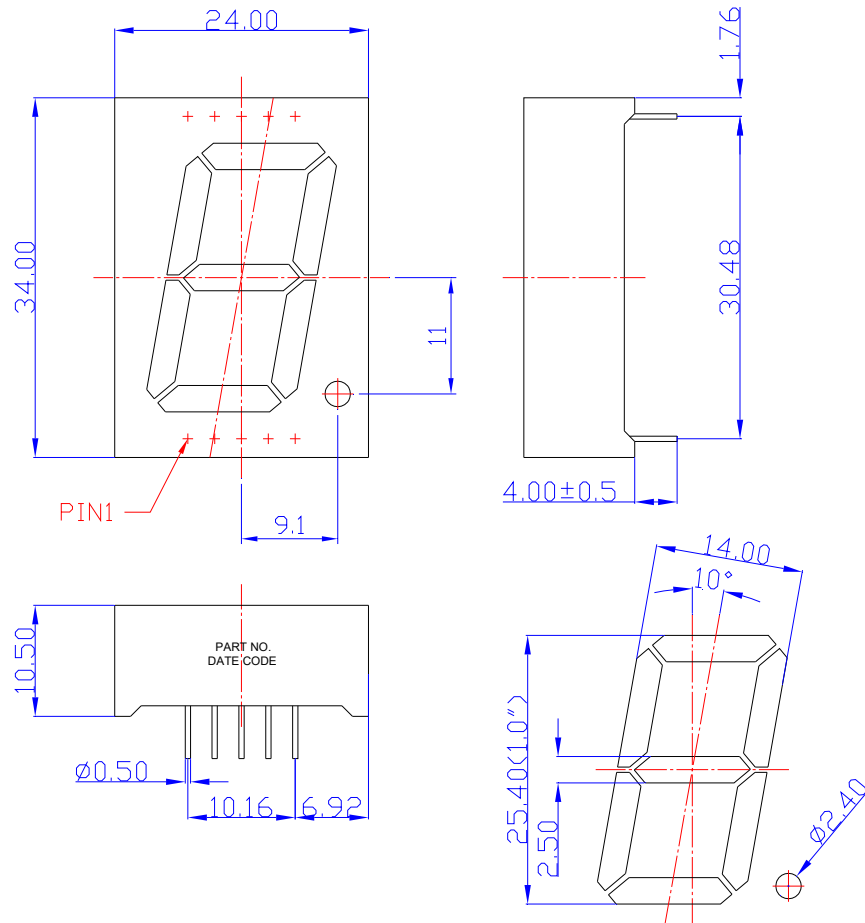
American Opto Plus LED Corp.

Case Mold Type LED Display

A1001LR G/W

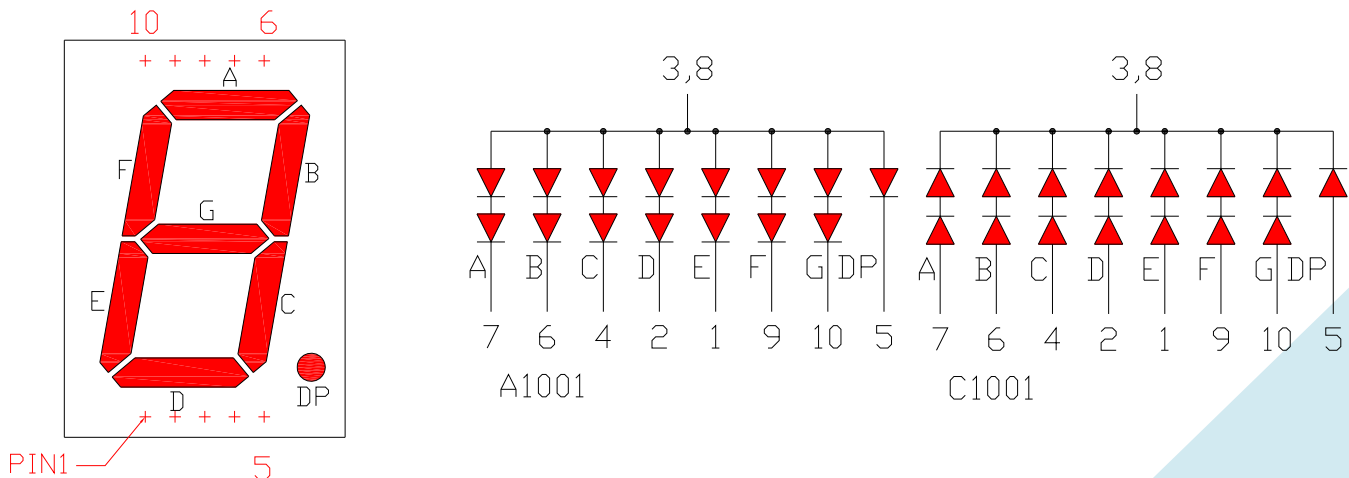
C1001LR G/W

● MECHANICAL DIMENSIONS



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

● TYPICAL INTERNAL EQUIVALENT CIRCUIT





American Opto Plus LED Corp.
Case Mold Type LED Display
A1001LR G/W
C1001LR G/W

● **LR: SUPER RED (AlGaInP/GaAs)**

ABSOLUTE MAXIMUM RATING AT $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Super Red	Unit
Power dissipation per dice	P_{AD}	70	mW
Derating liner from 25°C per dice	-	0.33	mA / $^{\circ}\text{C}$
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	$^{\circ}\text{C}$
Storage temperature	T_{STG}	-25 to +85	$^{\circ}\text{C}$

ELECTRICAL - OPTICAL CHARACTERISTICS AT $T_a=25^{\circ}\text{C}$

Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward voltage	V_F	$I_F=20\text{mA}$	-	2.0	2.6	V
Reverse current	I_R	$V_R=5\text{V}$	-	-	10	μA
Peak wavelength	λ_P	$I_F=20\text{mA}$	-	650	-	nm
Dominant wavelength	λ_D	$I_F=20\text{mA}$	-	639	-	nm
Luminous intensity	I_V	$I_F=20\text{mA}$	-	40	-	mcd
Spectral radiation bandwidth	$\Delta\lambda$	$I_F=20\text{mA}$	-	20	-	nm



American Opto Plus LED Corp.

Case Mold Type LED Display

A1001LR G/W

C1001LR G/W

● LR: SUPER RED (AlGaInP/GaAs)

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

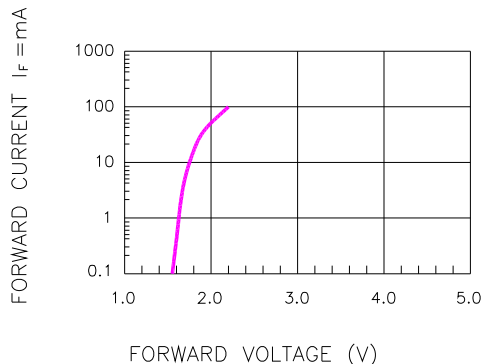


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

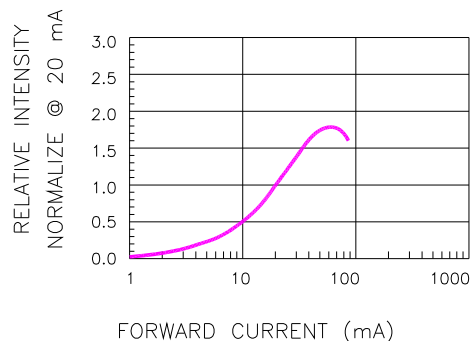


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

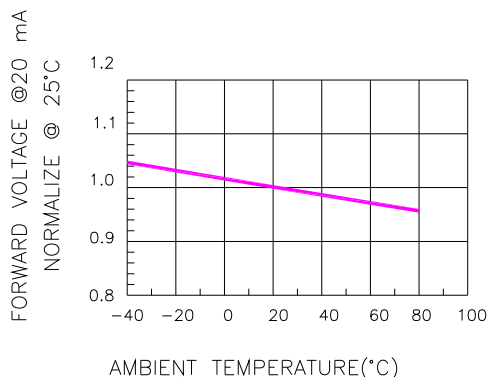


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

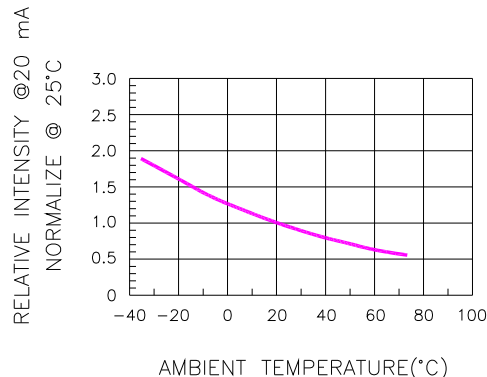


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

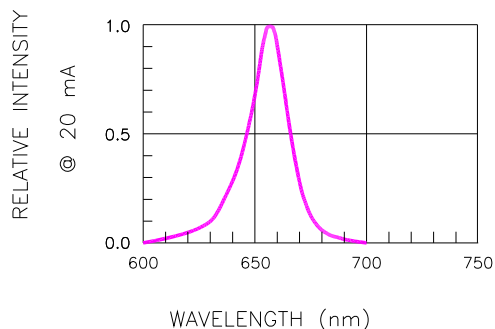


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

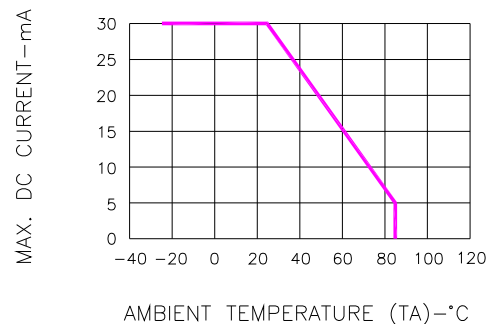


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE



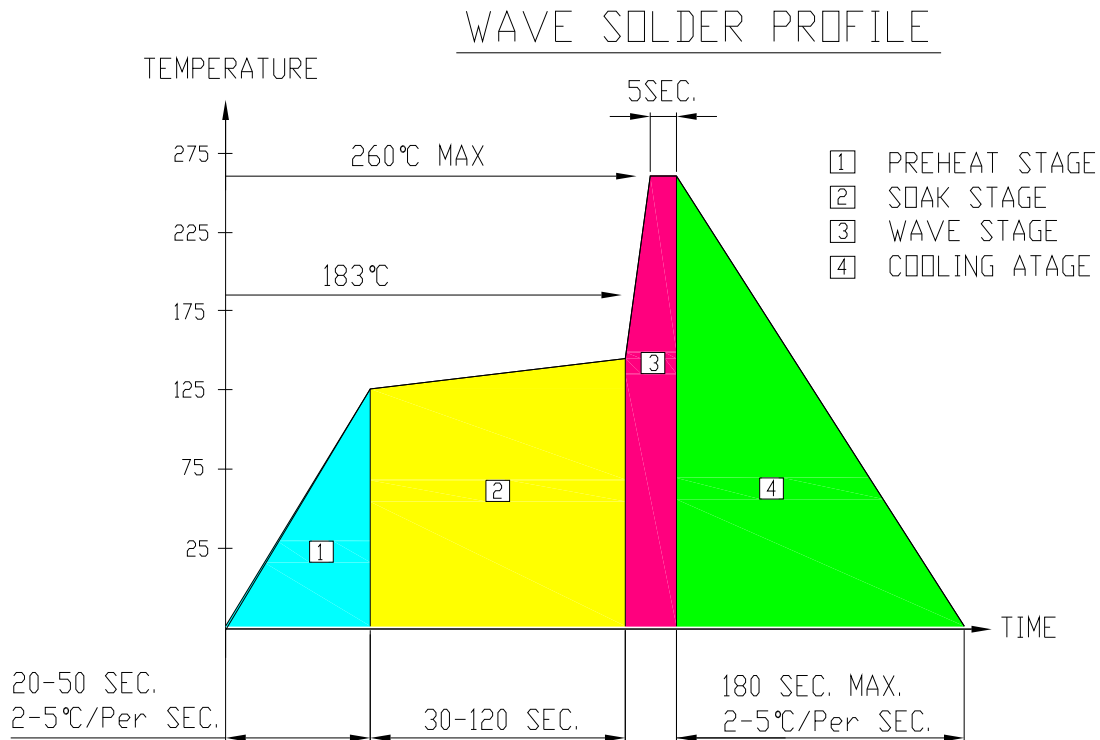
American Opto Plus LED Corp.

Case Mold Type LED Display

A1001LR G/W

C1001LR G/W

● 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.