



**Opto Plus LED Corp.**  
**1.2” 5 x 7 Dot Matrix LED Display**  
**OPD-M35722LEYG-GW**  
**OPD-M35723LEYG-GW**

● **FEATURES**

- 1.2 inch (30.42 mm) Matrix Height.
- Stackable vertically and horizontally.
- 5x7 array with X-Y select.
- Wide viewing angle.
- Gray face, White dot.
- Case mold type.
- RoHS compliant, Pb Free.

● **DESCRIPTION**

The OPD-M35722LEYG-GW & OPD-M35723LE-GW is a 1.2 inch (30.42 mm) 5x7 dot matrix display.

This device utilizes Super Bright Red LED chip which are made from AlGaInP on a transparent GaAs, substrate and utilizes Super Bright Yellow Green LED chip which are made from AlGaInP on a transparent GaAs, substrate.

The display has Gray face, White dot.

● **DEVICE**

<b>PART NO</b> Super Bright Red & Super Bright Yellow Green	<b>DESCRIPTION</b>
OPD-M35722LEYG-GW	Anode Column Cathode Row
OPD-M35723LEYG-GW	Anode Row Cathode Column

**RoHS Compliance**

**Pb free.**





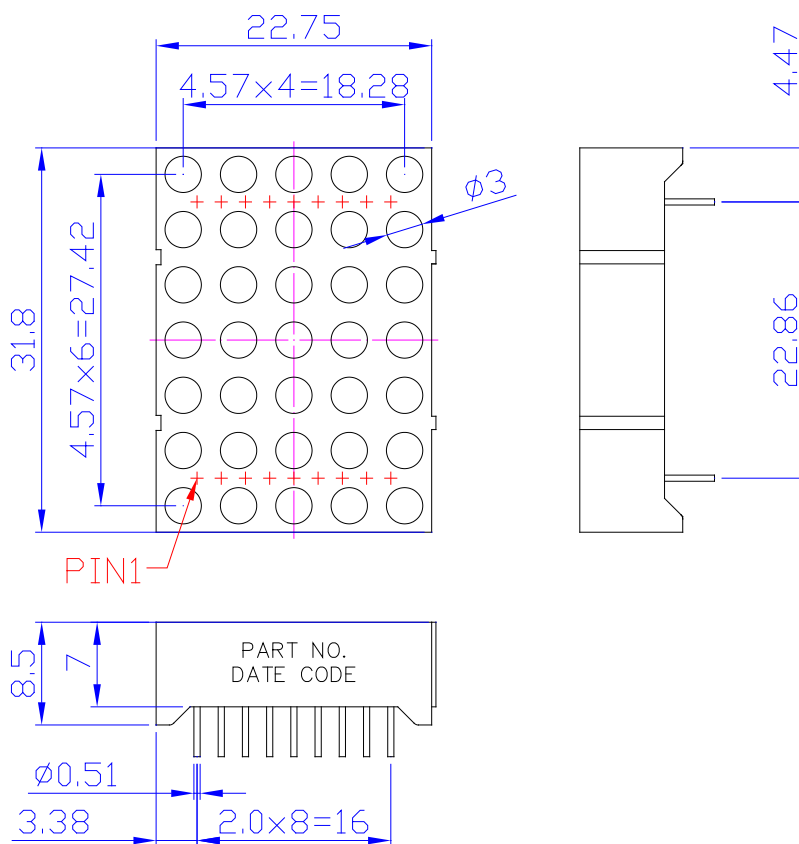
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## 1.2" 5 x 7 Dot Matrix LED Display

### OPD-M35722LEYG-GW

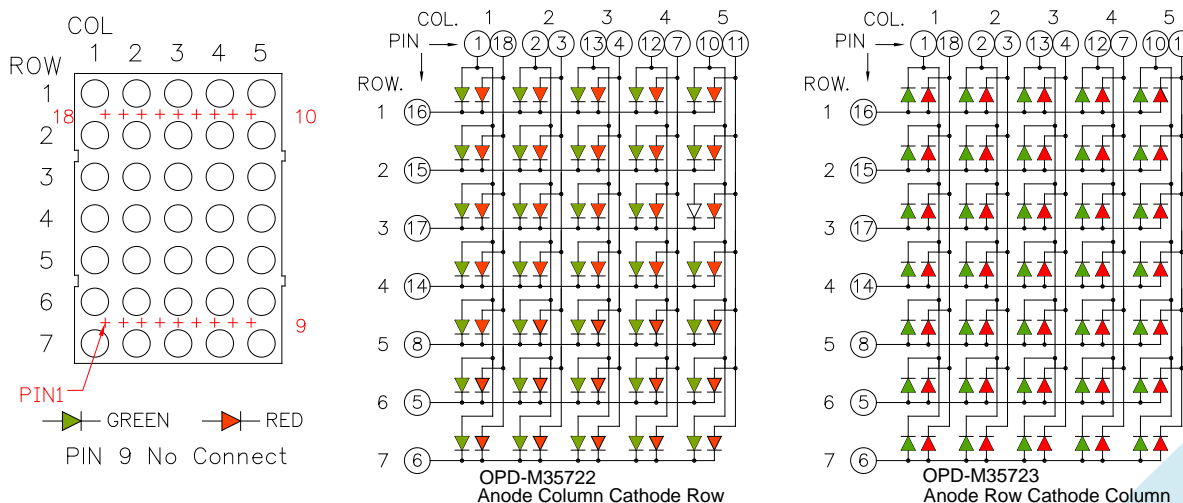
### OPD-M35723LEYG-GW

### ● 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  $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Super Bright Red	Unit
Power dissipation per dice	$P_{AD}$	70	mW
Derating liner from $25^{\circ}\text{C}$ 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	$\mu\text{A}$
Peak wavelength	$\lambda_P$	$I_F=20\text{mA}$	-	632	-	nm
Dominant wavelength	$\lambda_D$	$I_F=20\text{mA}$	-	625	-	nm
Luminous intensity	$I_V$	$I_F=20\text{mA}$	-	60	-	mcd
Spectral radiation bandwidth	$\Delta\lambda$	$I_F=20\text{mA}$	-	20	-	nm



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● **YG: SUPER BRIGHT YELLOW GREEN (AlGaInP/GaAs)**

ABSOLUTE MAXIMUM RATING AT Ta=25°C

Parameter	Symbol	Super Bright Yellow Green	Unit
Power dissipation per dice	P <sub>AD</sub>	85	mW
Derating liner from 25°C per dice	-	0.42	mA / °C
Continuous forward current per dice	I <sub>AF</sub>	30	mA
Peak current per dice (duty cycle 1/10, 1kHz)	I <sub>PF</sub>	120	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	-	2.1	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	-	573	-	nm
Dominant wavelength	λ <sub>D</sub>	I <sub>F</sub> =20mA	-	571	-	nm
Luminous intensity	I <sub>V</sub>	I <sub>F</sub> =20mA	-	25	-	mcd
Spectral radiation bandwidth	Δλ	I <sub>F</sub> =20mA	-	20	-	nm



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## 1.2" 5 x 7 Dot Matrix LED Display

### OPD-M3572LEYG-GW

### OPD-M35723LEYG-GW

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

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

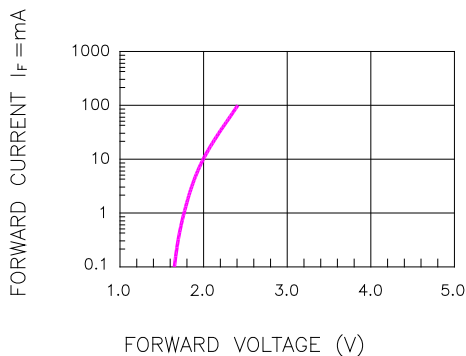


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

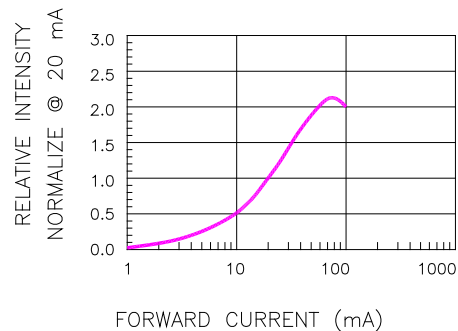


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

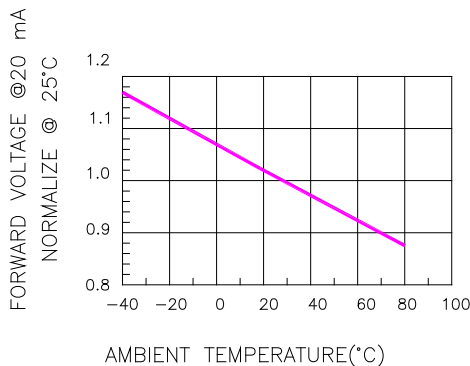


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

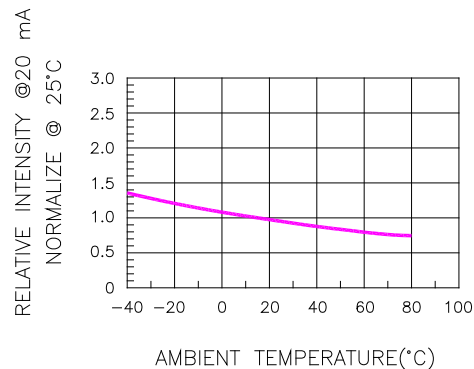


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

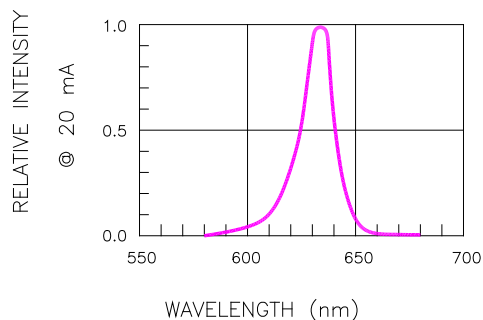


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

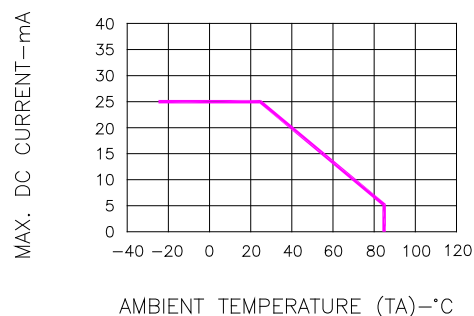


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE



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### OPD-M35723LEYG-GW

## ● YG: SUPER BRIGHT YELLOW GREEN (AlGaInP/GaAs) CURVE

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

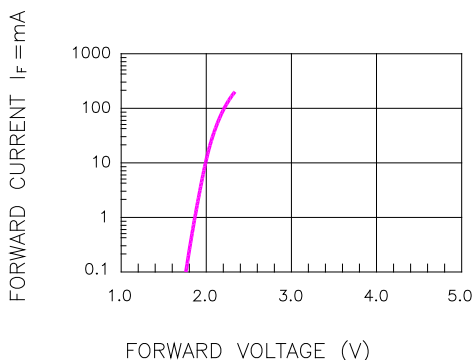


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

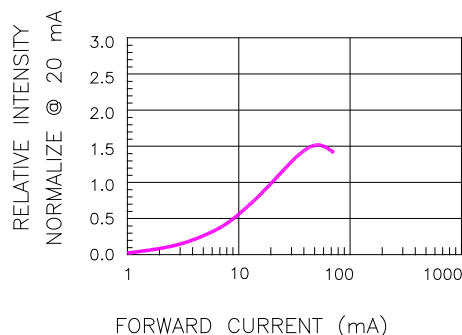


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

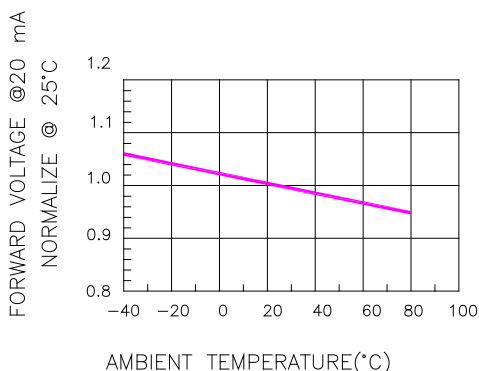


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

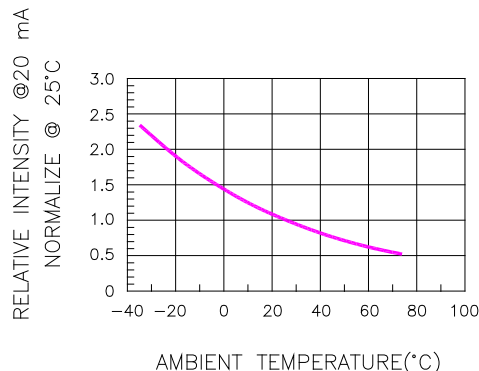


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

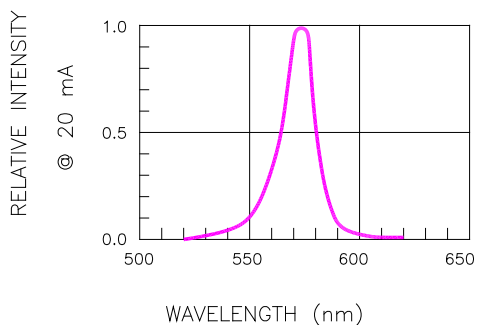


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

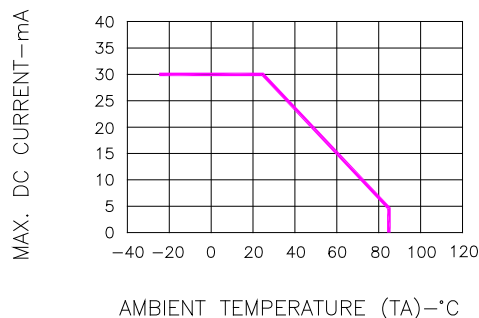
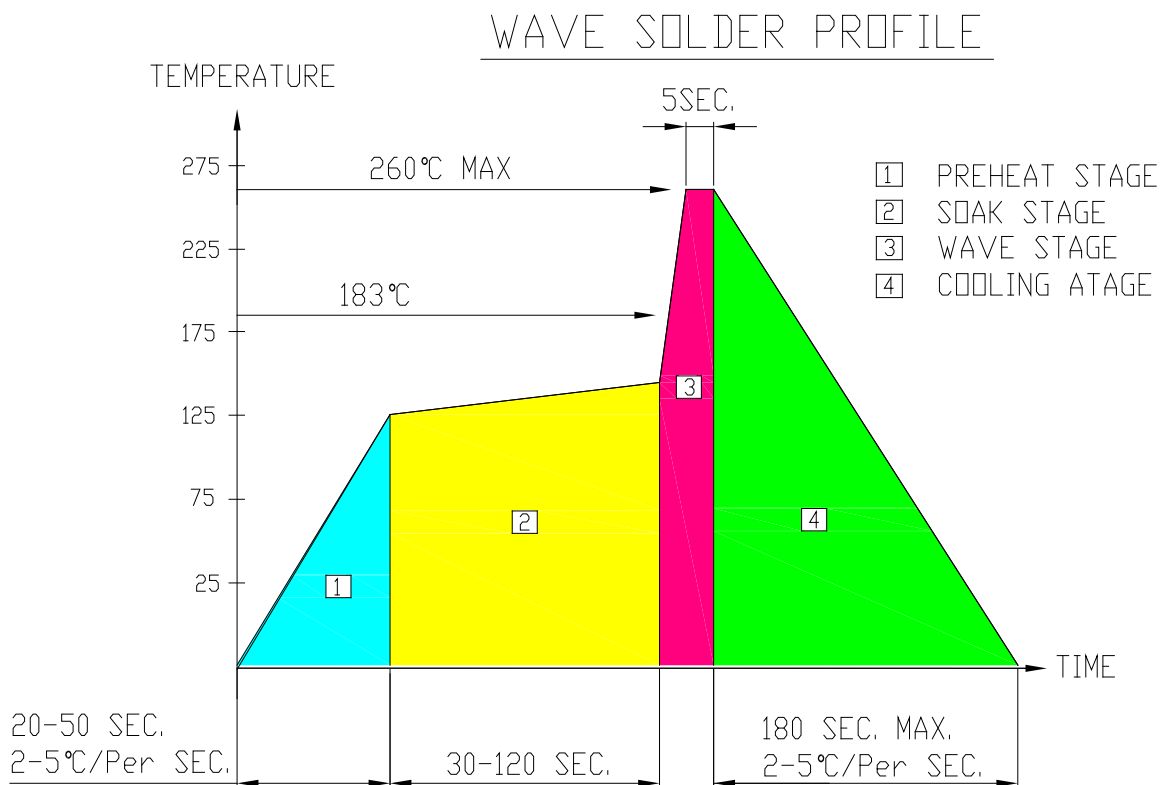


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE



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● **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.