



American Opto Plus LED Corp.

L783MED-110D

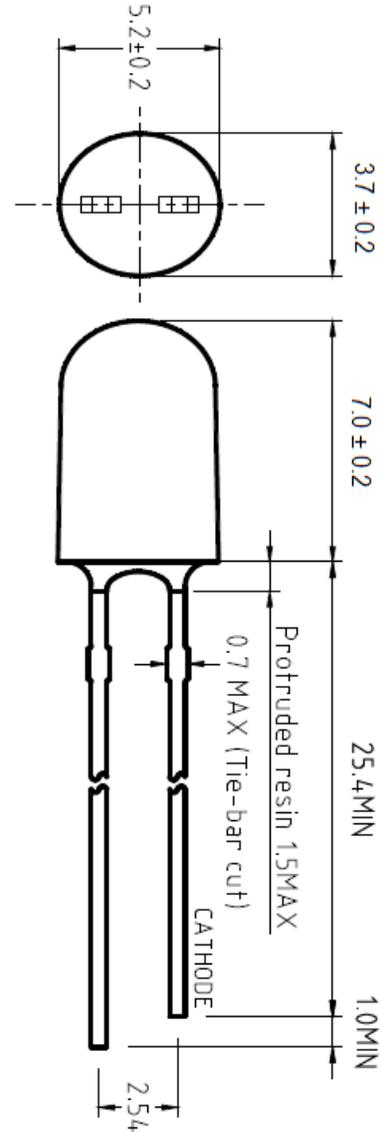
3.7 x 5.2 Oval Red LED Lamp

DESCRIPTION

- Oval Type
- 3.7 x 5.2 Oval Package
- Lens Color: Red Diffused
- Solder leads without standoffs

FEATURES

- Emitted Color: Red
- High Luminous Intensity
- Technology: AlInGaP
- Viewing Angle: 110/40°



Item	Materials
Resin	Epoxy Resin
Lead Frame	Ag Plating on SPCC

NOTES:

1. All dimensions are in millimeters.



Electrostatic Sensitive Devices

Part Number	Material	Lens Color	
		Emitted	Lens
L783MED-110D	AlInGaP	Red	Red Diffused



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ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

Parameter	Symbol	Ratings	Unit
DC Forward Current	I_F	50	mA
Peak Pulsed Forward Current	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_d	120	mW
Operating temperature range	T_{opr}	-30~+85	°C
Storage temperature range	T_{stg}	-40~+100	°C
Solder Dipping Temperature	T_{sld}	260°C for 5 sec	

OPTICAL-ELECTRICAL CHARACTERISTICS

(Ta=25°C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Current	I_R	$V_R=5V$	--	--	50	μA
Forward Voltage	V_F	$I_F=20mA$	--	2.1	2.4	V
Luminous Intensity	I_v		680	900	1900	mcd
Dominant Wavelength	λ_d		615	625	635	nm
Peak Wavelength	λ_p		--	635	--	nm
Spectral Half Width	$\Delta\lambda_{1/2}$		--	15	--	nm

*Note: I_{FP} = Pulse Width \leq 10ms, Duty Ratio \leq 1/10



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LUMINOUS INTENSITY BIN TABLE

$I_F=20mA$

Rank name	Min (mcd)	Max (mcd)
N	680	880
P	880	1150
Q	1150	1500
R	1500	1900

Tolerance for each bin limit is $\pm 15\%$.

COLOR BIN TABLE

$I_F=20mA$

Rank name	Min (mcd)	Max (mcd)
1	615	620
2	620	625
3	625	630
4	630	635

Tolerance for each bin limit is $\pm 1nm$.

Notes:

1. One delivery will include several color ranks and Iv ranks of products.
The quantity-ratio of the different ranks is decided by AOP.
2. Bin name typed on the label: IV RANK + Color Rank.
For example, **BIN P2 Means IV: 4200~5500mcd and Color: 620nm~625nm.**
3. AOP has the right to update the information without notice.
Please double confirm the spec details before placing an order.



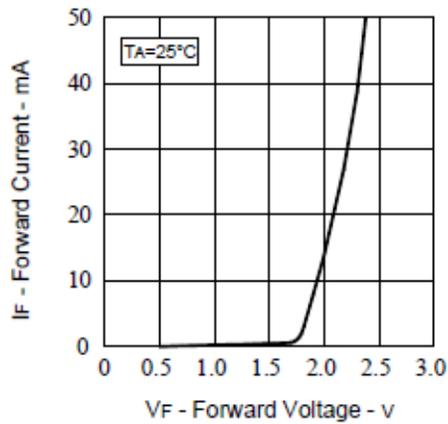
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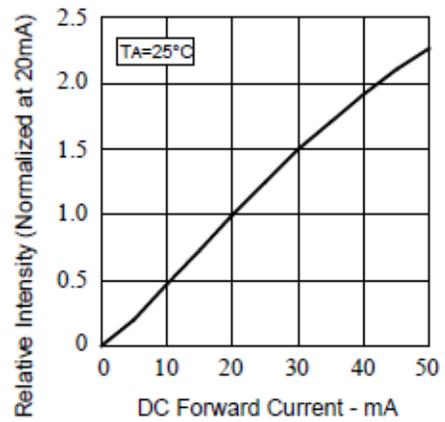
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TYPICAL ELECTRICAL-OPTICAL CHARACTERISTIC CURVES

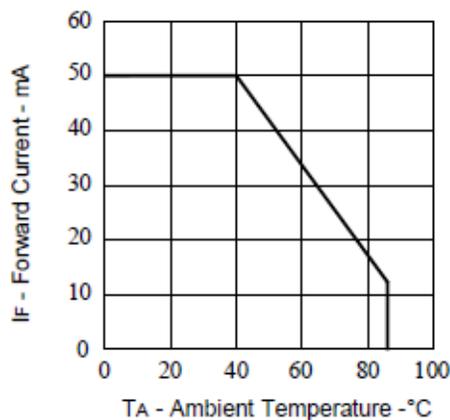
Forward Current vs. Forward Voltage



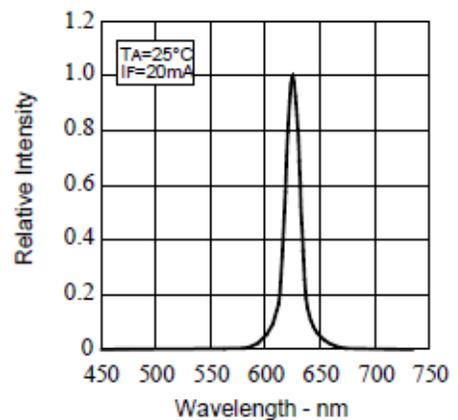
Relative Intensity vs. Forward Current



Forward Current vs. Ambient Temperature



Relative Intensity vs. Wavelength





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SOLDERING CONDITIONS – LAMP TYPE LED

- Solder the LED no closer than 3mm from the base of the epoxy bulb. Soldering beyond the base of the tie bar is recommended.
- Recommended soldering conditions.

Dip Soldering

Pre-Heat	100°C Max.
Pre-Heat Time	60 sec. Max.
Solder Bath Temperature	260°C Max.
Dipping Time	5 sec. Max.
Dipping Position	No lower than 3mm from the base of the epoxy bulb.

Hand Soldering

	3Ø Series	Others (Including Lead-Free Solder)
Temperature	300°C Max.	350°C Max.
Soldering time	3 sec. Max.	3 sec. Max.
Position	No closer than 3mm from the base of the epoxy bulb.	No closer than 3mm from the base of the epoxy bulb.

- Do not apply any stress to the lead, particularly when heated
- The LEDs must not be repositioned after soldering
- After soldering the LEDs, the epoxy bulb should be protected from mechanical shock or vibration until the LEDs return to room temperature.
- Direct soldering onto a PC board should be avoided. Mechanical stress to the resin may be caused by the PC board warping or from the clinching and cutting of the leadframes. When it is absolutely necessary, the LEDs may be mounted in this fashion, but the User will assume responsibility for any problems. Direct soldering should only be done after testing has confirmed that no damage, such as wire bond failure or resin deterioration, will occur. AOP's LEDs should not be soldered directly to double sided PC boards because the heat will deteriorate the epoxy resin.
- When it is necessary to clamp the LEDs to prevent soldering failure, it is important to minimize the mechanical stress on the LEDs.
- Cut the LED leadframes at room temperature. Cutting the leadframes at high temperatures may cause LED failure.