



# American Opto Plus LED Corp.

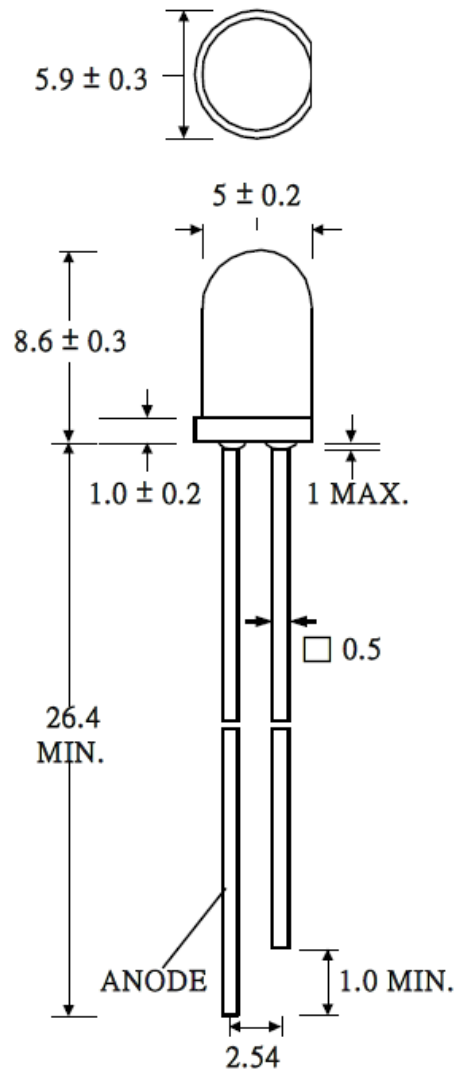
## L513LED

3mm Red LED Lamp

### DESCRIPTION

- Without Flange
- Solder leads without stand-off

### PACKAGE DIMENSION



Chip material	Color Emitted	Lens Color	View Angle
AlGaInP	Super Red	Red Diffused	50°

#### Note

1. All dimensions are in millimeter
2. Lead spacing is measured where the lead emerge from the package



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### ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

	Symbol	Max. Ratings	Unit
Power Dissipation	$P_d$	60	mW
Peak Forward Current (1/10 duty cycle @ 1kHz)	$I_{fp}$	100	mA
Reverse Voltage	$V_R$	5	V
Operating temperature range	$T_{opr}$	-40~+85	°C
Storage temperature range	$T_{stg}$	-40~+85	°C
Soldering Temperature	$T_{sol}$	260°C for 3 sec Max (1.6mm from body)	

### OPTICAL-ELECTRICAL CHARACTERISTICS

(Ta=25°C)

	Symbol	Test Condition	Min	Typ	Max	Unit
Luminous Intensity	$I_v$	$I_F = 20mA$	800	1200	--	mcd
Forward Voltage	$V_F$		--	2.0	2.4	V
Viewing angle	$2\theta_{1/2}$		--	50	--	Deg
Peak Wavelength	$\lambda_P$		--	630	--	nm
Dominant Wavelength	$\lambda_D$		--	625	--	nm
Spectrum Radiation Bandwidth	$\Delta\lambda$		--	20	--	nm
Reverse Current	$I_R$	$V_R = 5V$	--	--	10	$\mu A$

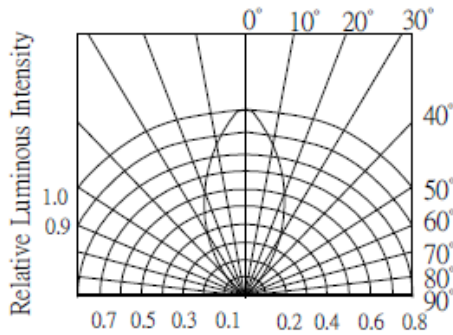


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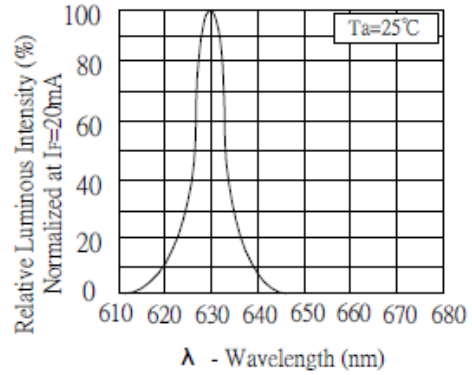
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### 3mm Red LED Lamp

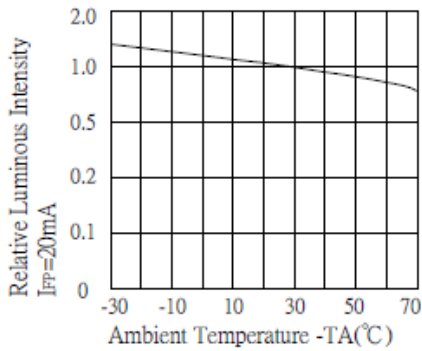
#### TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES



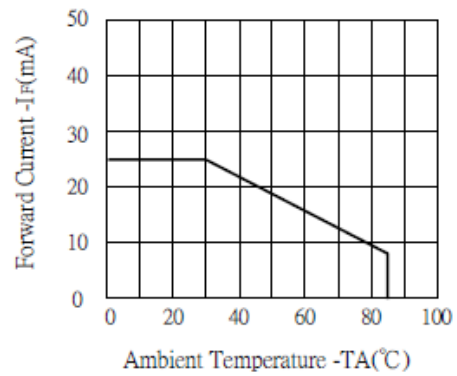
**RADIATION DIAGRAM**



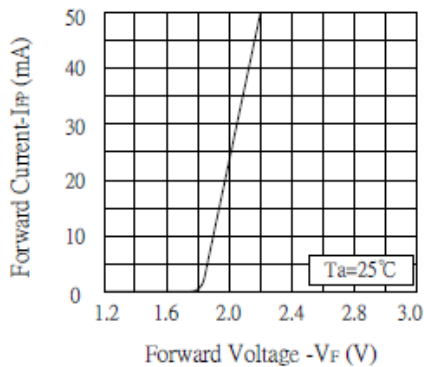
**RELATIVE LUMINOUS INTENSITY Vs. WAVELENGTH**



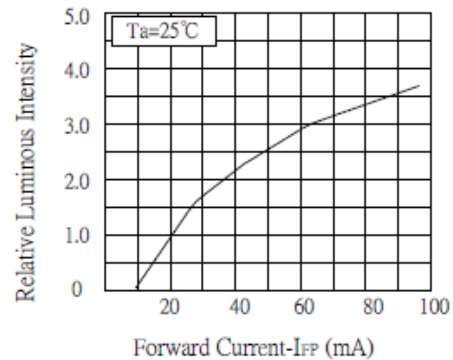
**LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE**



**MAX FORWARD CURRENT Vs. AMBIENT TEMPERATURE**



**FORWARD CURRENT Vs. FORWARD VOLTAGE**



**LUMINOUS INTENSITY Vs. FORWARD CURRENT**