



# American Opto Plus LED

## L-513MEC-36D

5mm Dia LED LAMP - WATER CLEAR

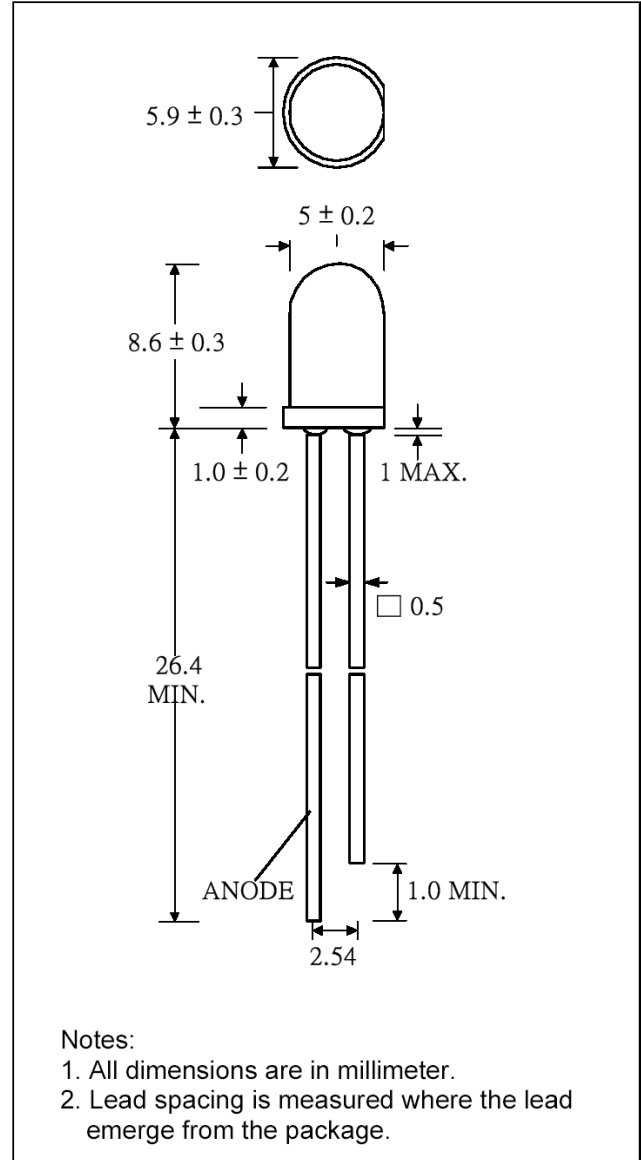
- ◆ 5.0mm DIA LED LAMP
- ◆ I.C. COMPATIBLE
- ◆ LOW POWER CONSUMPTION
- ◆ HIGH LUMINOUS INTENSITY

### DESCRIPTION

- Super bright LED Lamp
- Round type
- T1-3/4 (5mm) diameter
- Lens color: Water clear
- With flange
- Solder leads without stand-off

### FEATURES

- Emitted color: Super Red
- High luminous intensity
- Technology: AlGaInP
- Dominant wavelength  $\lambda_p = 630\text{nm}$
- Viewing angle:  $36^\circ$



### SELECTION GUIDE

Chip Material	Chip Emitted	Lens Color	Viewing Angle
AlGaInP	Super Red	Water Clear	$36^\circ$



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**ABSOLUTE MAXIMUM RATINGS**

(Ta=25°C)

Parameter	Symbol	Max Rating	Unit
Power Dissipation	$P_D$	120	mW
Pulse Forward Current (1/10 Duty Cycle @1KHz )	$I_{PF}$	100	mA
Continuous Forward Current	$I_F$	50	mA
Reverse Voltage	$V_R$	5.0	V
Operating Temperature Range	$T_{OPR}$	-40~+85	°C
Storage Temperature Range	$T_{STG}$	-40~+85	°C

Solder temperature 1.6 mm from body for 5 seconds at 260°C

**OPTICAL-ELECTRICAL CHARACTERISTICS**

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Luminous Intensity	$I_v$	$I_F = 20mA$	6000	9000		mcd
Forward Voltage	$V_F$	$I_F = 20mA$		2.0	2.4	V
Reverse Current	$I_R$	$V_R = 5V$			10	uA
Viewing Angle	2θ1/2	$I_F = 20mA$		30		deg.
Peak Wavelength	$\lambda_P$	$I_F = 20mA$		630		deg.
Dominant Wavelength	$\lambda_D$	$I_F = 20mA$		629		deg.
Spectrum Radiation Bandwidth	$\Delta\lambda$	$I_F = 20mA$		20		nm



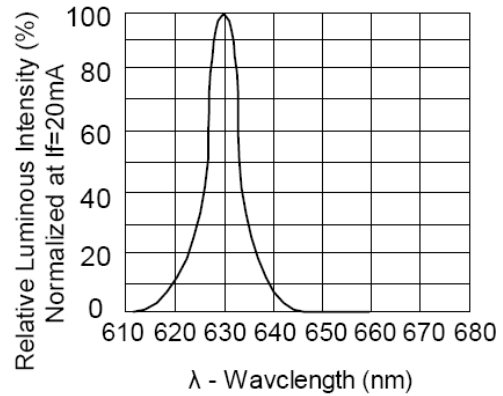
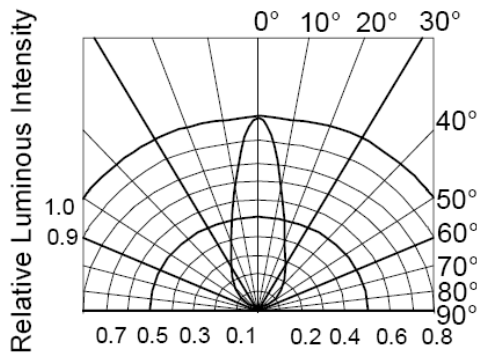
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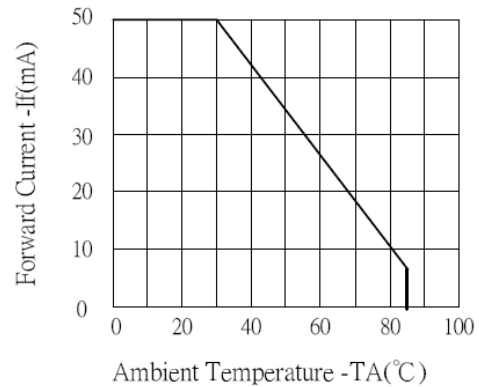
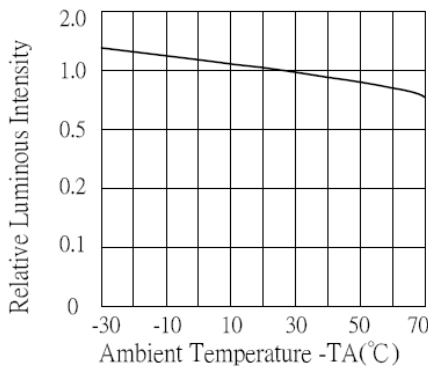
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### TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES



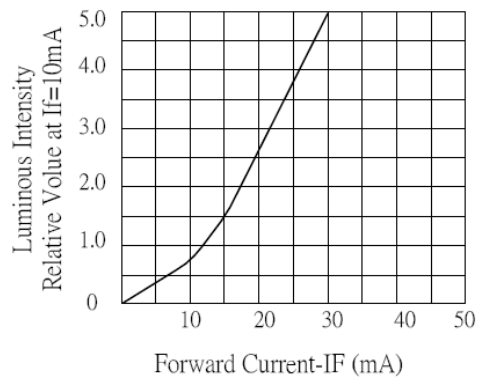
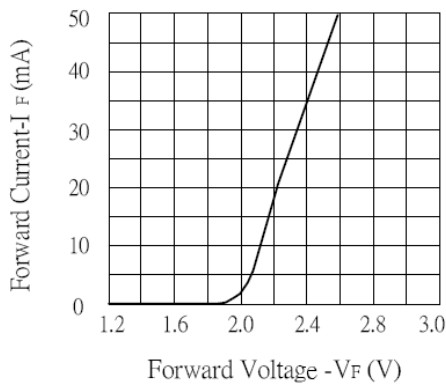
#### RADIATION DIAGRAM

#### RELATIVE LUMINOUS INTENSITY Vs. WAVELENGTH



#### LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

#### FORWARD CURRENT Vs. AMBIENT TEMPERATURE



#### FORWARD CURRENT Vs. FORWARD VOLTAGE

#### LUMINOUS INTENSITY Vs. FORWARD CURRENT



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**ELECTRICAL CHARACTERISTICS**

(Ta=25°C)

Symbol	$I_V$		$V_F$		$\lambda_D$	
Parameter	Luminous Intensity		Forward Voltage		Dominant Wavelength	
Condition	$I_F = 20\text{mA}$		$I_F = 20\text{mA}$		$I_F = 20\text{mA}$	
Unit	mcd		v		nm	
Binning	Grade	Range	Grade	Range	Grade	Range
	Bin 1	7800 – 10140	T	1.7 – 1.9	B	620 – 625
	Bin 3	10140 – 13200	U	1.9 – 2.1	C	625 – 630
			V	2.1 – 2.3		
			W	2.3 – 2.5		

Intensity: Tolerance of minimum and maximum =  $\pm 15\%$

$V_F$ : Tolerance of minimum and maximum =  $\pm 0.05\text{v}$

Wavelength: Tolerance of minimum and maximum =  $\pm 2\text{nm}$