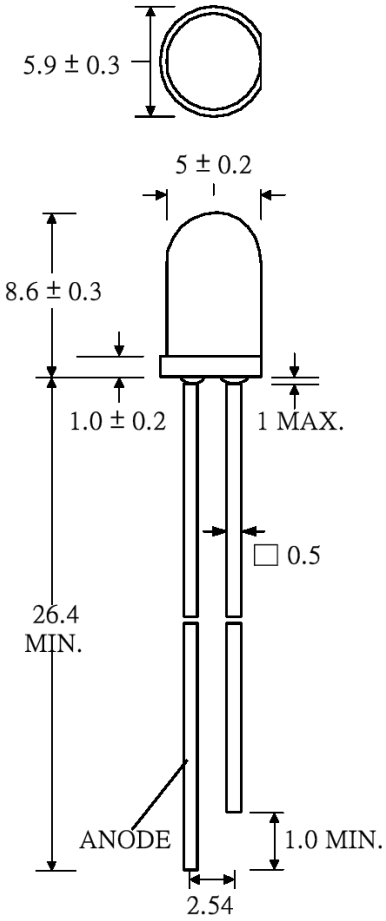
American Opto Plus LED
L-513MEC-36D

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



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

FEATURES

- Emitted color: Super Red
- High luminous intensity
- Technology: AlGaInP
- Dominant wavelength λ_p = 630nm
- Viewing angle: 36°

SELECTION GUIDE

Chip Material	Chip Emitted	Lens Color	Viewing Angle
AlGaInP	Super Red	Water Clear	36°

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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	λ_P	I_F = 20mA		630		deg.
Dominant Wavelength	λ_D	I_F = 20mA		629		deg.
Spectrum Radiation Bandwidth	$\Delta\lambda$	I_F = 20mA		20		nm

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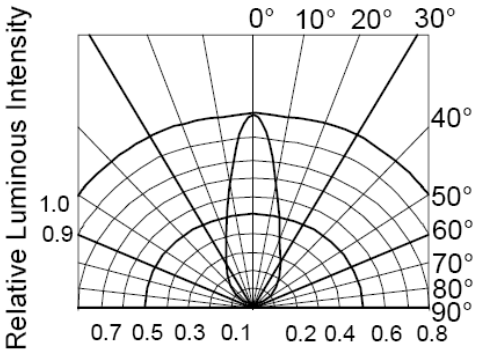
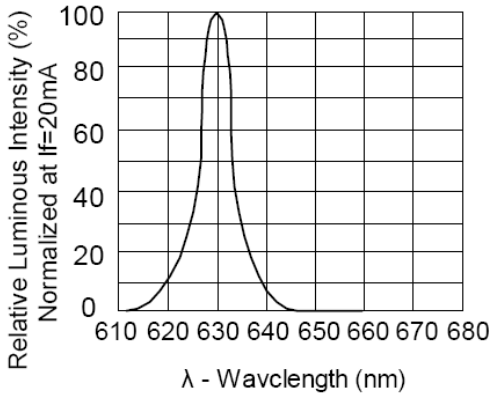
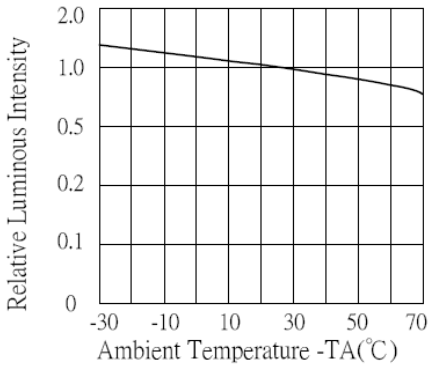
TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES



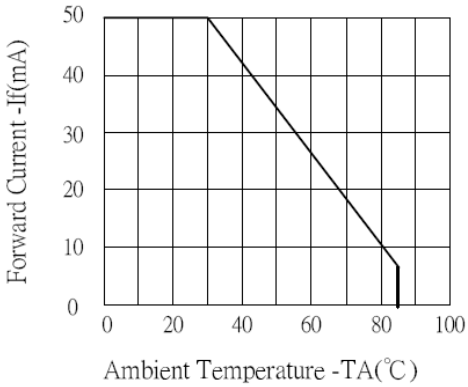
RADIATION DIAGRAM



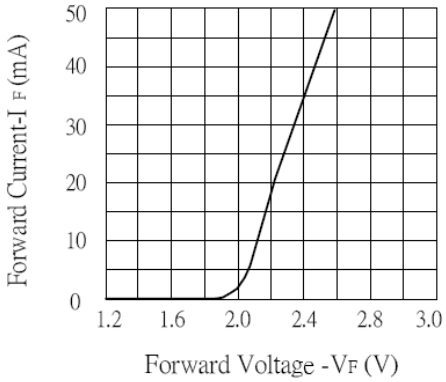
RELATIVE LUMINOUS INTENSITY Vs. WAVELENGTH



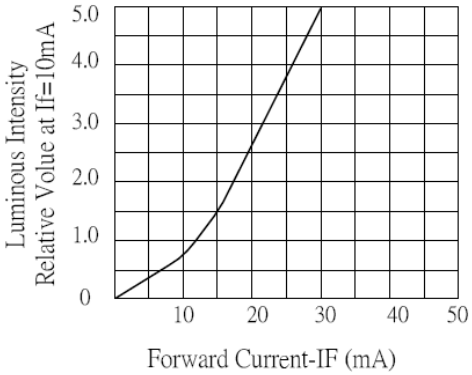
LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE



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		λ_D	
Parameter	Luminous Intensity		Forward Voltage		Dominant Wavelength	
Condition	I_F = 20mA		I_F = 20mA		I_F = 20mA	
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 = ± 15%

V_F: Tolerance of minimum and maximum = ± 0.05v

Wavelength: Tolerance of minimum and maximum = ± 2nm