

# T-1 3/4 ( f5mm)PACKAGE HIGH POWER AllnGaP LED Lamps

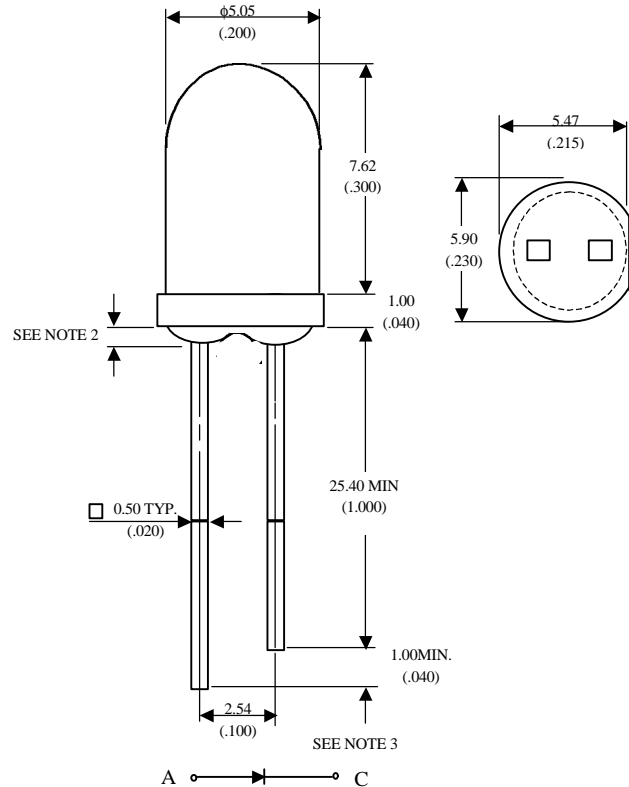
## MVL-5P4TUOL

### Description

The MVL-5P4TUOL , utilizes the latest transparent substrate Aluminum Indium Gallium Phosphide (AllnGaP) LED technology. This LED material has outstanding light output efficiency over a wide range of drive current. The package is T-1 3/4 (φ5mm) water clear standard type.

### Package Dimensions

Unit : mm ( inches )



### Features

- Ultra - brightness
- Low power consumption
- TTL compatible
- Reliable

Notes :

1. Tolerance is  $\pm 0.25$  mm (.010") unless otherwise noted.
2. Protruded resin under flange is 1.5 mm (.059") max.
3. Lead spacing is measured where the leads emerge from the package.

### Absolute Maximum Ratings

@  $T_A=25^\circ\text{C}$

Parameter	Symbol	Maximum Rating	Unit
Power Dissipation	$P_{ad}$	125	mW
Peak Forward Current (1/10 Duty Cycle 100μs pulse width )	$I_{pf}$	100	mA
Continuous Forward Current	$I_{af}$	50	mA
Reverse Voltage	$V_R$	5	V
Operating Temperature Range	$T_{opr}$	-40°C to +100°C	
Storage Temperature Range	$T_{stg}$	-40°C to +100°C	
Lead Soldering Temperature 1.6 mm from body for 5 seconds at 260°C			

## Optical-Electrical Characteristics

@  $T_A=25^\circ\text{C}$

Parameter	Test Conditions	Symbol	Min .	Typ .	Max .	Unit .
Radiometric Intensity	$I_F=20\text{mA}$	$I_e$	8.5	-	43.9	mW/sr
Luminous Intensity	$I_F=20\text{mA}$	$I_v$	1500	-	-	mcd
Forward Voltage	$I_F=20\text{mA}$	$V_F$	-	2.3	2.8	V
Reverse Current	$V_R=5\text{V}$	$I_R$	-	-	100	$\mu\text{A}$
Peak Wavelength	$I_F=20\text{mA}$	$\lambda_{\text{peak}}$	-	639	-	nm
Dominant Wavelength	$I_F=20\text{mA}$	$\lambda_d$	-	630	-	nm
Spectral Line Half Width	$I_F=20\text{mA}$	$\Delta\lambda$	-	23	-	nm
Viewing Angle	$I_F=20\text{mA}$	$2\theta_{1/2}$	-	30	-	deg.

## Typical Optical-Electrical Characteristic Curves

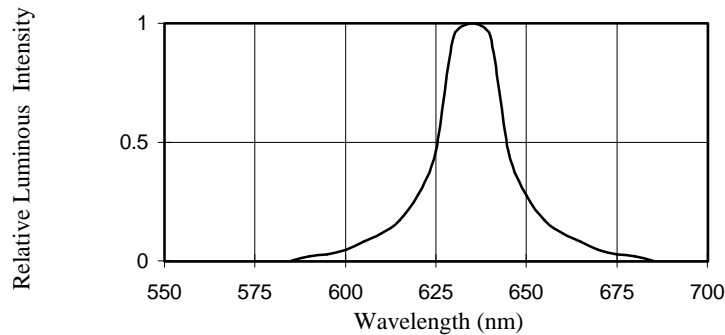


FIG.1 SPECTRAL DISTRIBUTION

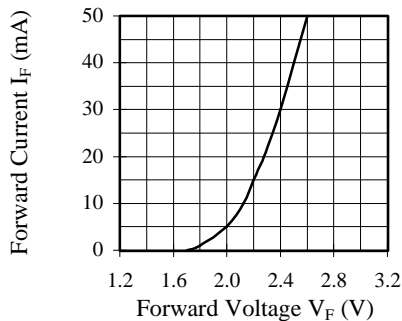


FIG.2 FORWARD CURRENT VS. FORWARD VOLTAGE

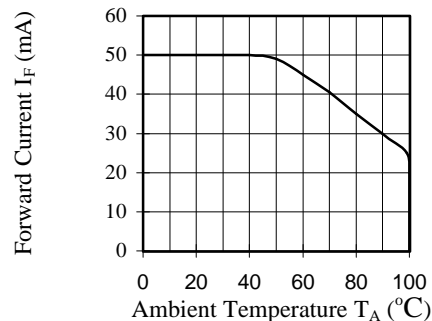


FIG.3 FORWARD CURRENT VS. AMBIENT TEMPERATURE

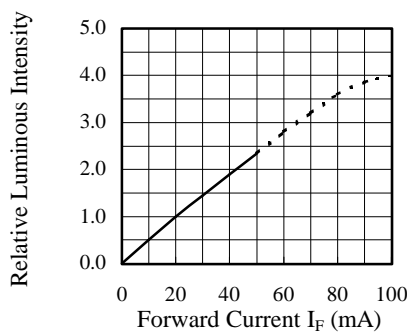


FIG.4 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

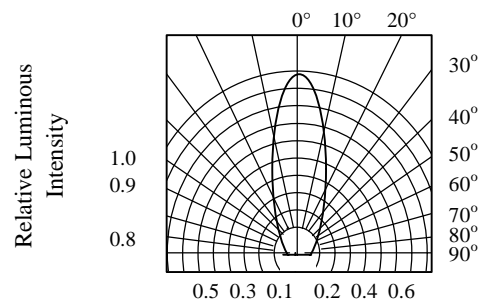


FIG.5 RADIATION DIAGRAM

## Radiometric Intensity

### Bin Limits (mW/sr at 20mA)

Bin	Min.	Max.
K	8.5	10.2
L	10.2	12.3
M	12.3	14.7
N	14.7	17.7
P	17.7	21.2
Q	21.2	25.4
R	25.4	30.5
S	30.5	36.6
T	36.6	43.9

Note: Tolerance for each bin will be  $\pm 15\%$

## Note:

1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2.  $\theta_{1/2}$  is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
3. Iv classification code is marked on each packing bag.
4. The dominant wavelength,  $\lambda_d$  is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.