

T-1 3/4 ($\phi 5\text{mm}$) PACKAGE

HIGH POWER AlInGaP LED Lamps

MVL-5P4TUOL

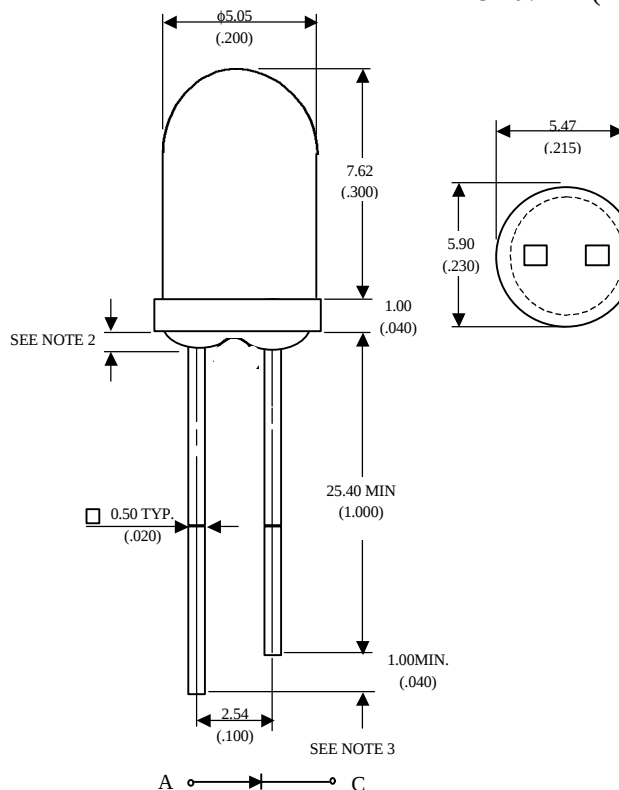
Description

The MVL-5P4TUOL , utilizes the latest transparent substrate Aluminum Indium Gallium Phosphide (AlInGaP) LED technology. This LED material has outstanding light output efficiency over a wide range of drive current.

The package is T-1 3/4 ($\phi 5\text{mm}$) water clear standard type.

Package Dimensions

Unit : mm (inches)



Features

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

Notes :

1. Tolerance is ± 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			

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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	μA
Peak Wavelength	$I_F=20\text{mA}$	λ_{peak}	-	639	-	nm
Dominant Wavelength	$I_F=20\text{mA}$	λ_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

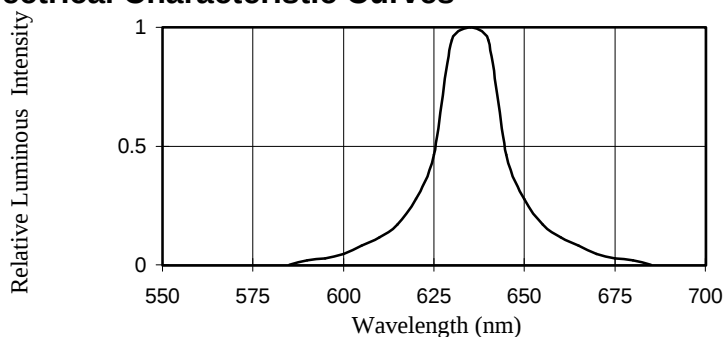


FIG.1 SPECTRAL DISTRIBUTION

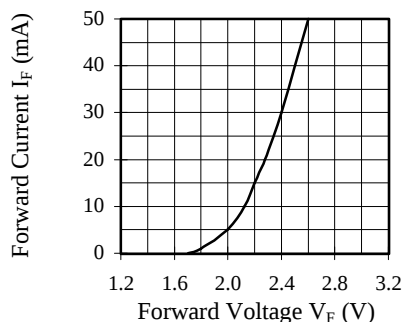


FIG.2 FORWARD CURRENT VS. FORWARD VOLTAGE

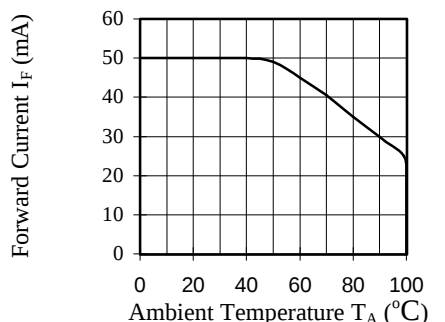


FIG.3 FORWARD CURRENT VS. AMBIENT TEMPERATURE

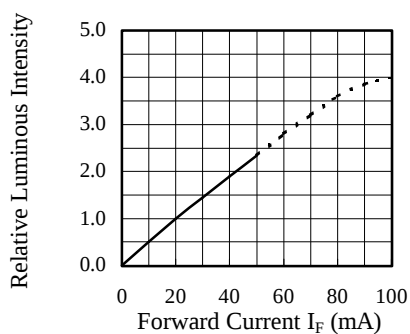


FIG.4 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

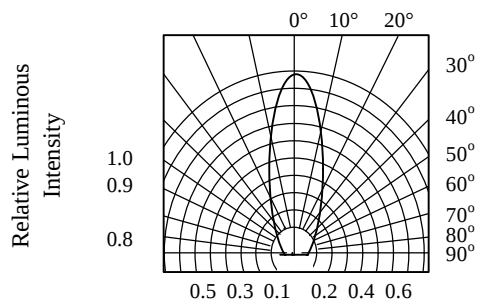


FIG.5 RADIATION DIAGRAM

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, λ_d is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.