Kingbright

T-1 3/4 (5mm) FULL COLOR LED LAMP

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

L-154A4SURKPBVGW HYPER RED
BLUE
GREEN

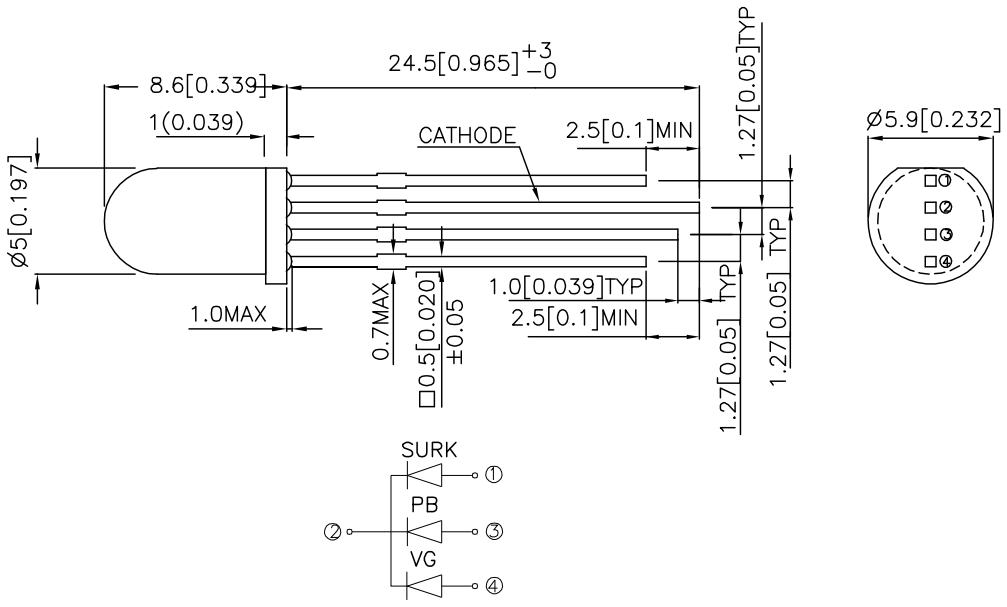
Features

- ●UNIFORM LIGHT OUTPUT.
- ●LOW POWER CONSUMPTION.
- ●I.C.COMPATIBLE.
- ●LONG LIFE-SOLID STATE RELIABILITY.
- ●RoHS COMPLIANT.

Description

The Hyper Red source color devices are made with DH InGaAlP on GaAs substrate Light Emitting Diode.
The Blue source color devices are made with InGaN on SiC Light Emitting Diode.
The Green source color devices are made with InGaN on SiC Light Emitting Diode.
Static electricity and surge damage the LEDS.
It is recommended to use a wrist band or
anti-electrostatic glove when handling the LEDs.
All devices, equipment and machinery must be electrically grounded.

Package Dimensions



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject to change without notice.

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 20mA		Viewing Angle
			Min.	Typ.	2θ1/2
L-154A4SURKPBVGW	HYPER RED (InGaAIP)	WHITE DIFFUSED	280	500	60°
	BLUE (InGaN)		70	300	
	GREEN (InGaN)		180	500	

Note:
1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

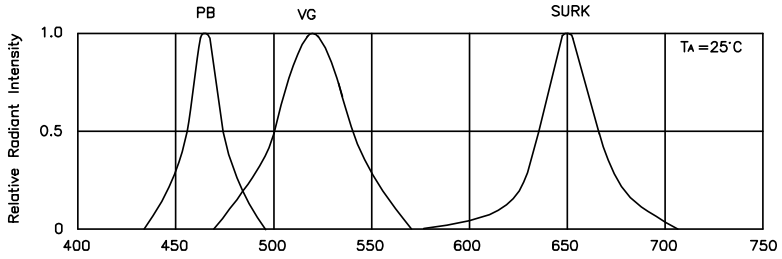
Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Hyper Red Blue Green	650 468 520		nm	I_F=20mA
λD	Dominant Wavelength	Hyper Red Blue Green	635 470 525		nm	I_F=20mA
Δλ1/2	Spectral Line Half-width	Hyper Red Blue Green	28 25 38		nm	I_F=20mA
C	Capacitance	Hyper Red Blue Green	35 65 45		pF	V_F=0V;f=1MHz
V_F	Forward Voltage	Hyper Red Blue Green	1.95 3.65 3.5	2.5 4.2 4.5	V	I_F=20mA
I_R	Reverse Current	All		10	uA	V_R= 5V

Absolute Maximum Ratings at T_A=25°C

Parameter	Hyper Red	Blue	Green	Units
Power dissipation	170	102	105	mW
DC Forward Current	30	30	30	mA
Peak Forward Current [1]	185	160	150	mA
Reverse Voltage	5			V
Operating/Storage Temperature	-40°C TO +85°C			
Lead Solder Temperature [2]	260°C For 3 Seconds			
Lead Solder Temperature [3]	260°C For 5 Seconds			

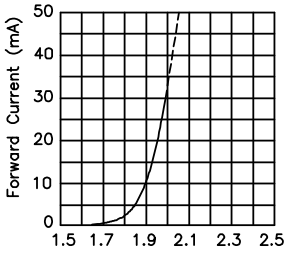
Notes:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 2mm below package base.
3. 5mm below package base.



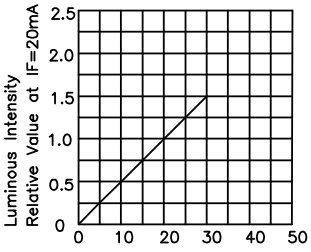
RELATIVE INTENSITY Vs. WAVELENGTH

L-154A4SURKPBVGW

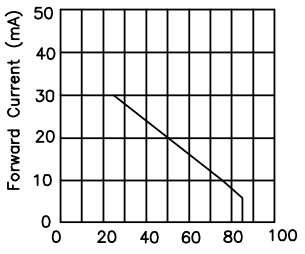
Hyper Red



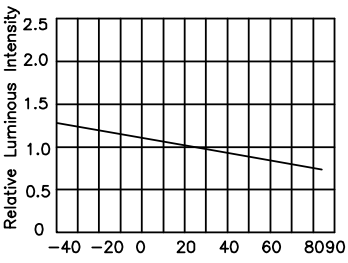
FORWARD CURRENT Vs.
FORWARD VOLTAGE



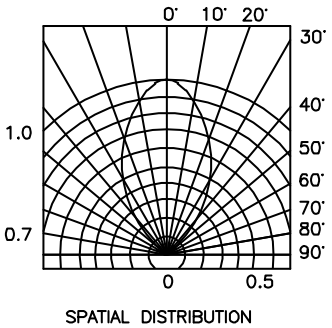
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE

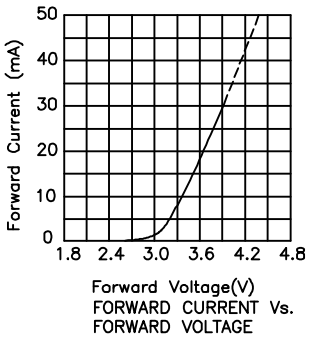


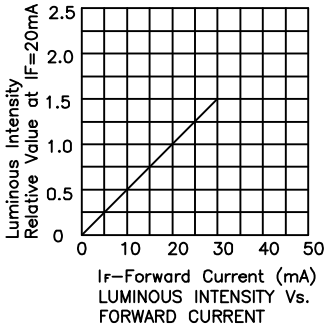
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

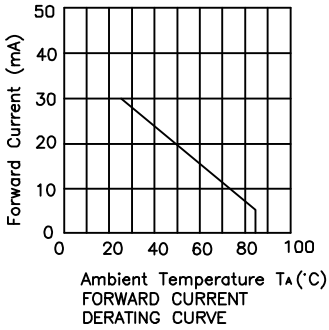


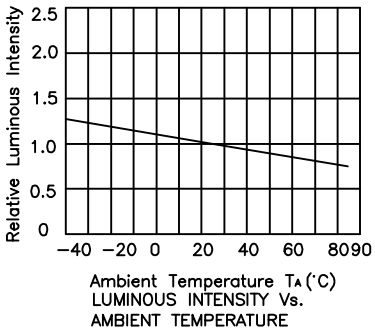
SPATIAL DISTRIBUTION

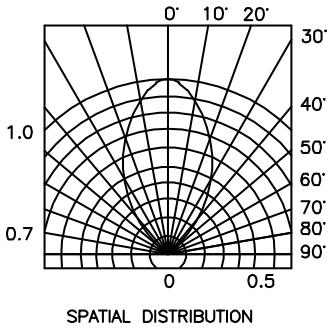
Blue





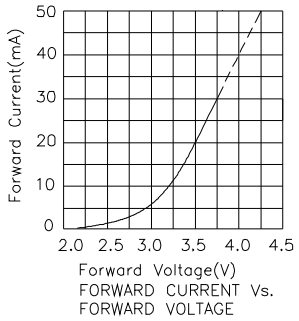




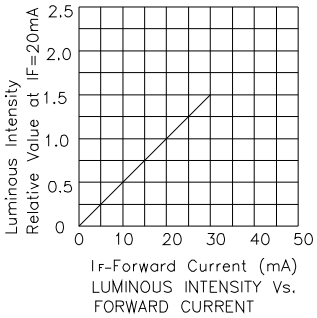


SPATIAL DISTRIBUTION

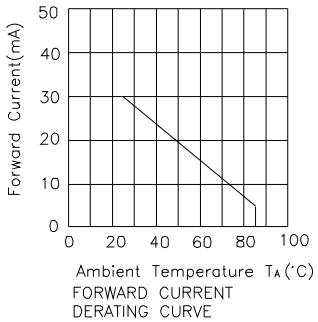
Green



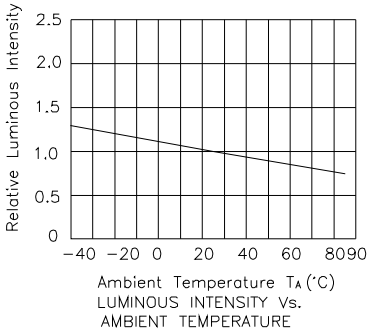
FORWARD CURRENT Vs.
FORWARD VOLTAGE



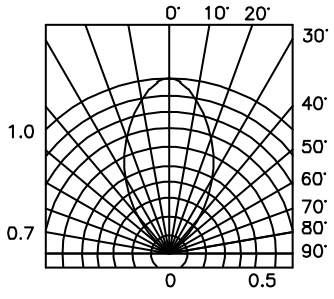
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE



LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION

Remarks:
If special sorting is required (e.g. binning based on forward voltage, luminous intensity, or wavelength), the typical accuracy of the sorting process is as follows:
1. Wavelength: +/-1nm
2. Luminous Intensity: +/-15%
3. Forward Voltage: +/-0.1V
Note: Accuracy may depend on the sorting parameters.