



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

L-154A4SURKPBVGKC    HYPER RED  
BLUE / GREEN

### PRELIMINARY SPEC

#### Features

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

#### Description

The Hyper Red source color devices are made with DH InGaAlP on GaAs substrate Light Emitting Diode.

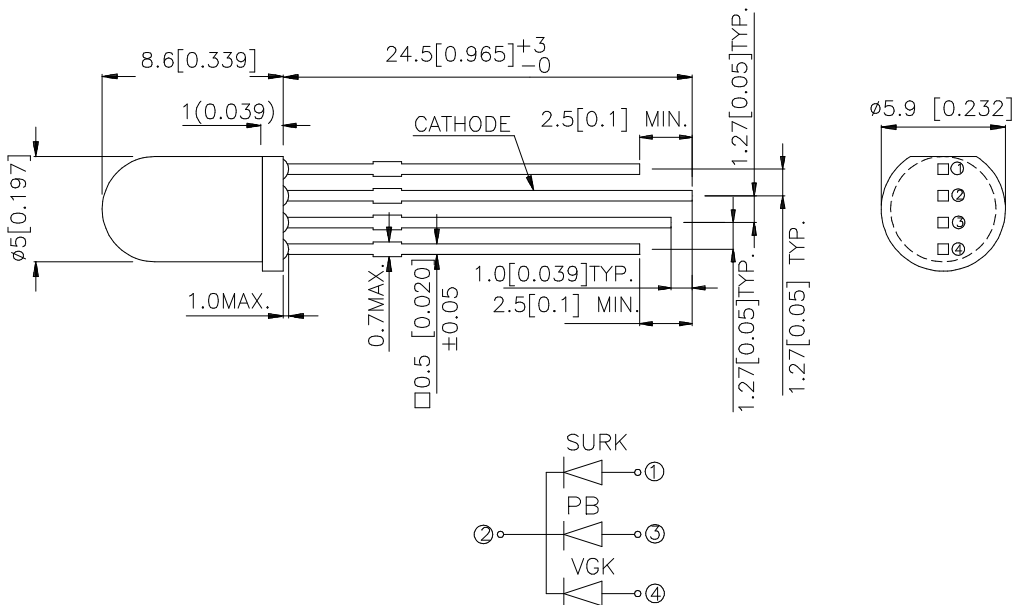
The Blue source color devices are made with InGaN on SiC Light Emitting Diode.

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  $\pm 0.25 (0.01)$  unless otherwise noted.
3. Lead spacing is measured where the lead emerge package.
4. Specifications are subject to change without notice.

## Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 20 mA		Viewing Angle
			Min.	Typ.	2θ1/2
L-154A4SURKPBVGKC	HYPER RED (InGaAlP)	WATER CLEAR	380	1000	50°
	BLUE (InGaN)		180	400	
	GREEN (InGaN)		180	400	

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<sub>A</sub>=25°C

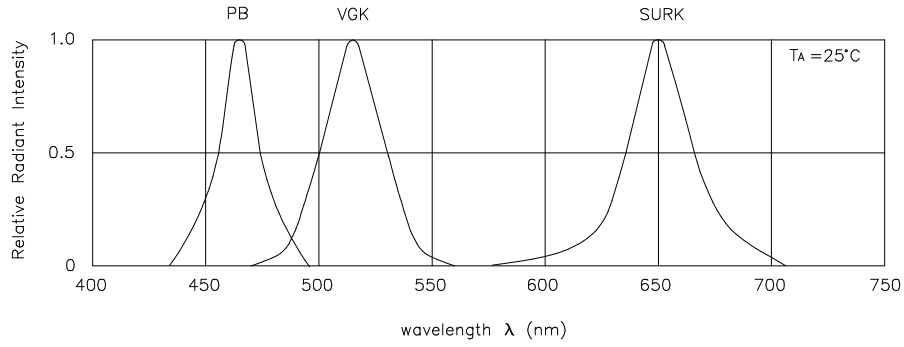
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ <sub>peak</sub>	Peak Wavelength	Hyper Red Blue Green	650 468 515		nm	I <sub>F</sub> =20mA
λ <sub>D</sub>	Dominate Wavelength	Hyper Red Blue Green	635 470 525		nm	I <sub>F</sub> =20mA
Δλ <sub>1/2</sub>	Spectral Line Half-width	Hyper Red Blue Green	28 25 30		nm	I <sub>F</sub> =20mA
C	Capacitance	Hyper Red Blue Green	35 65 45		pF	V <sub>F</sub> =0V;f=1MHz
V <sub>F</sub>	Forward Voltage	Hyper Red Blue Green	1.95 3.65 4.2	2.5 4.2 4.8	V	I <sub>F</sub> =20mA
I <sub>R</sub>	Reverse Current	All		10	μA	V <sub>R</sub> = 5V

## Absolute Maximum Ratings at T<sub>A</sub>=25°C

Parameter	Hyper Red	Blue	Green	Units
Power dissipation	170	102	105	mW
DC Forward Current	30	30	25	mA
Peak Forward Current [1]	185	160	130	mA
Reverse Voltage	5	5	5	V
Operating / Storage Temperature	-40°C To +85°C			
Lead Solder Temperature [2]	260°C For 5 Seconds			

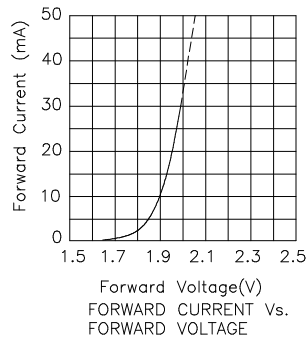
Notes:

- 1/10 Duty Cycle, 0.1ms Pulse Width.
- 2mm below package base.

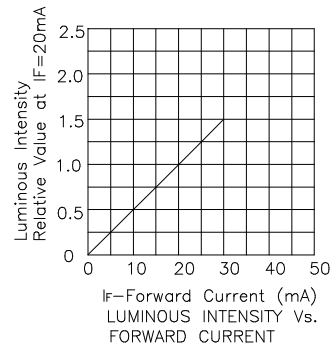


RELATIVE INTENSITY Vs. WAVELENGTH

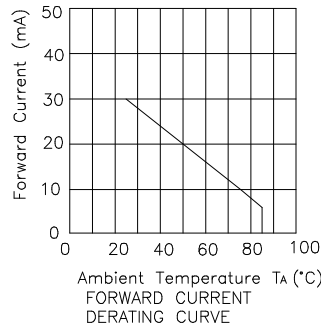
## L-154A4SURKPBVGKC Hyper Red



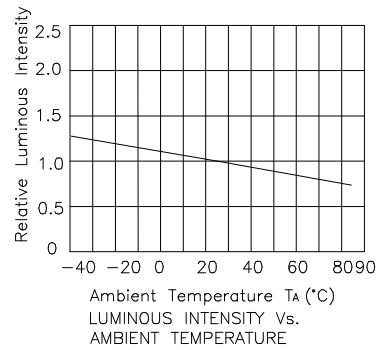
FORWARD CURRENT Vs. FORWARD VOLTAGE



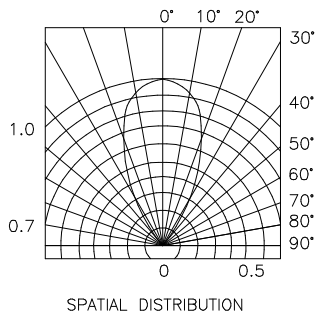
LUMINOUS INTENSITY Vs. FORWARD CURRENT



FORWARD CURRENT DERATING CURVE

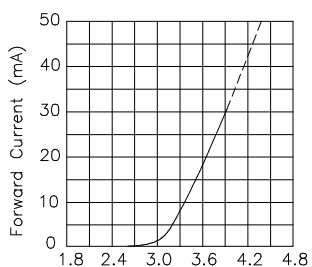


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

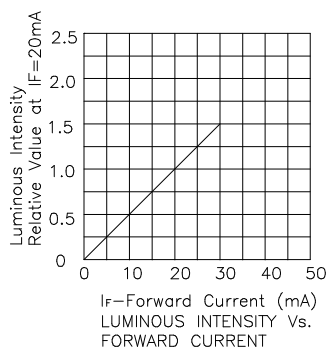


SPATIAL DISTRIBUTION

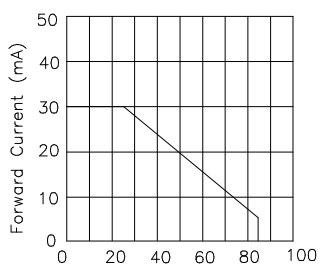
## Blue



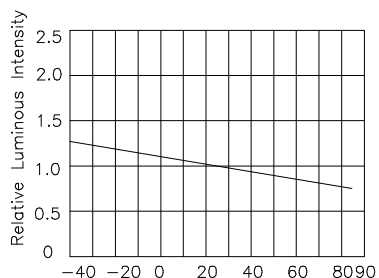
Forward Voltage(V)  
FORWARD CURRENT vs.  
FORWARD VOLTAGE



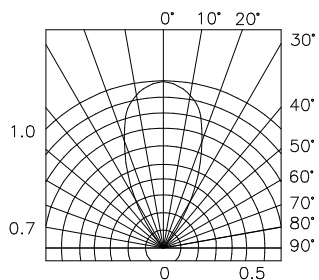
If-Forward Current (mA)  
LUMINOUS INTENSITY vs.  
FORWARD CURRENT



Ambient Temperature  $T_A$  (°C)  
FORWARD CURRENT  
DERATING CURVE

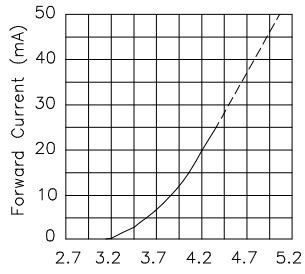


Ambient Temperature  $T_A$  (°C)  
LUMINOUS INTENSITY vs.  
AMBIENT TEMPERATURE

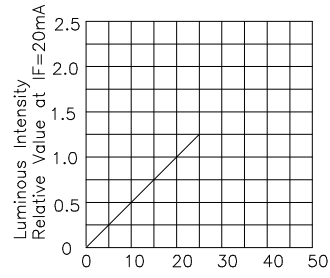


SPATIAL DISTRIBUTION

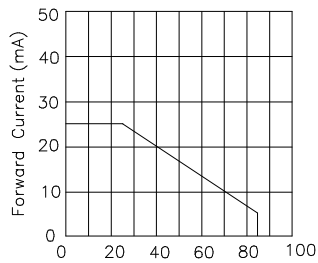
## Green



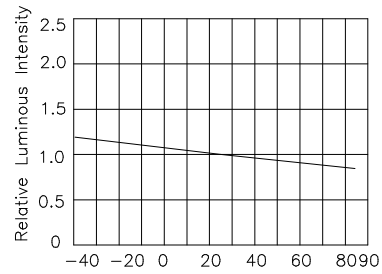
Forward Voltage(V)  
FORWARD CURRENT Vs.  
FORWARD VOLTAGE



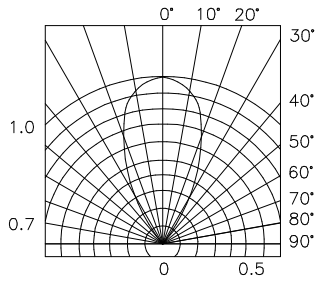
If-Forward Current (mA)  
LUMINOUS INTENSITY Vs.  
FORWARD CURRENT



Ambient Temperature Ta (°C)  
FORWARD CURRENT  
DERATING CURVE



Ambient Temperature Ta (°C)  
LUMINOUS INTENSITY Vs.  
AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION