Kingbright

5.0mm x 6.0mm FULL COLOR LED LAMP

PRELIMINARY SPEC

Part Number: AAF5060PBESURVGA

BLUE
HYPER RED
GREEN

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

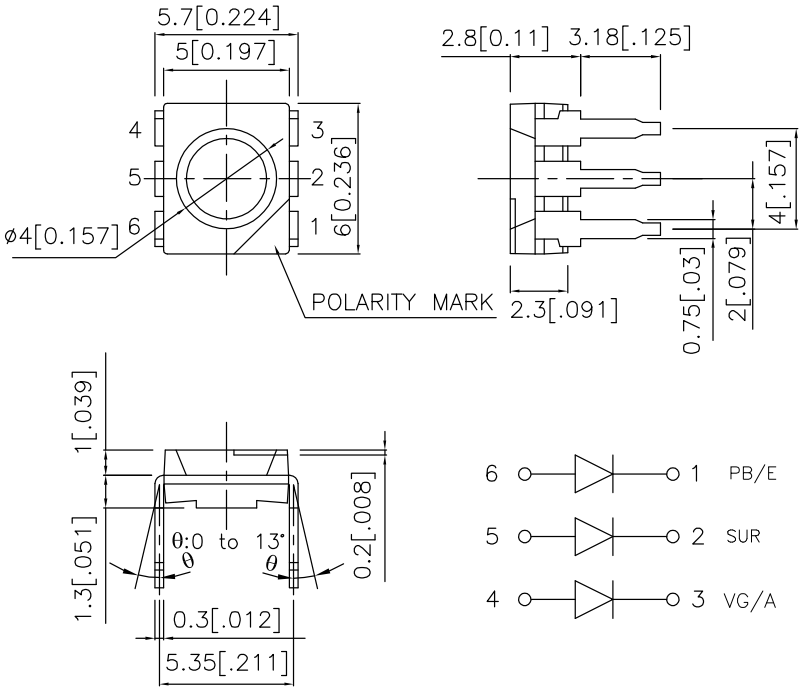
Features

- ●OUTSTANDING MATERIAL EFFICIENCY.
- ●RELIABLE AND RUGGED.
- ●WATER CLEAR LENS.
- ●LOW POWER CONSUMPTION.
- ●ONE BLUE, ONE RED AND ONE GREEN CHIPS IN ONE PACKAGE.
- ●CAN PRODUCE ANY COLOR IN VISIBLE SPECTRUM, INCLUDING WHITE LIGHT.
- ●MOISTURE SENSITIVITY LEVEL : LEVEL 4.
- ●RoHS COMPLIANT.

Description

The Blue source color devices are made with InGaN on SiC Light Emitting Diode.
The Hyper Red source color devices are made with DH InGaAlP on GaAs substrate Light Emitting Diode.
The Green source color devices are made with InGaN on G-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 package.
4. Specifications are subject to change without notice.

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @30mA *50mA		Viewing Angle [1]
			Min.	Typ.	2 θ 1/2
AAF5060PBESURVGA	BLUE (InGaN)	WATER CLEAR	110	250	100°
	HYPER RED (InGaAlP)		*380	*500	
	GREEN (InGaN)		180	350	

Notes:
1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2. *Luminous intensity with asterisk is measured at 50mA; Luminous intensity / luminous flux: +/-15%.

Electrical / Optical Characteristics at T_A=25°C

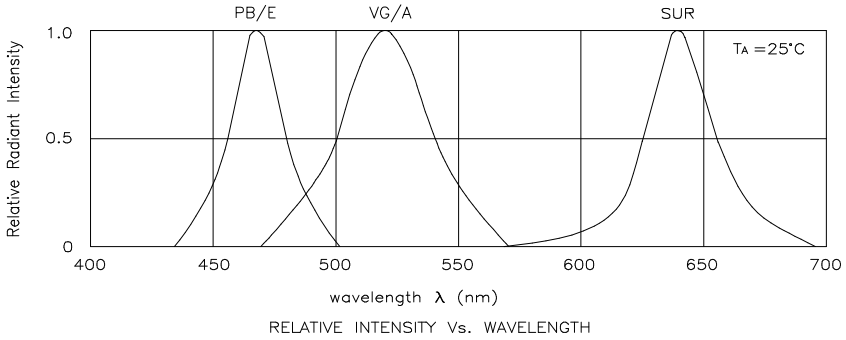
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Blue Hyper Red Green	465 640 520		nm	I_F=20mA
λD [1]	Dominant Wavelength	Blue Hyper Red Green	470 628 525		nm	I_F=20mA
Δλ1/2	Spectral Line Half-width	Blue Hyper Red Green	25 27 35		nm	I_F=20mA
C	Capacitance	Blue Hyper Red Green	110 45 100		pF	V_F=0V;f=1MHz
V_F [2]	Forward Voltage	Blue Hyper Red Green	3.7 1.9 3.2	4.3 2.5 4.0	V	I_F=20mA
I_R	Reverse Current	Blue Hyper Red Green		10 10 10	uA	V_R = 5V

Notes:
1.Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

Absolute Maximum Ratings at T_A=25°C

Parameter	Blue	Hyper Red	Green	Units
Power dissipation [1]	350			mW
DC Forward Current	30	50	50	mA
Peak Forward Current [2]	160	185	100	mA
Reverse Voltage	5	5	5	V
Operating / Storage Temperature	-40°C To +85°C			
Lead Solder Temperature [3]	260°C For 3 Seconds			
Lead Solder Temperature [4]	260°C For 5 Seconds			

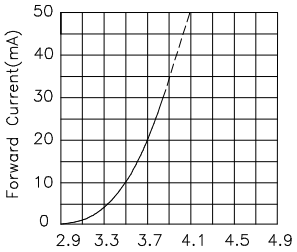
Notes:
1. Within 350mW at all chips are lightened.
2. 1/10 Duty Cycle, 0.1ms Pulse Width.
3. 2mm below package base.
4. 5mm below package base.



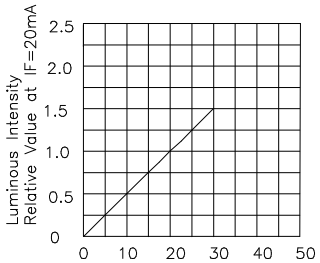
RELATIVE INTENSITY Vs. WAVELENGTH

AAF5060PBESURVGA

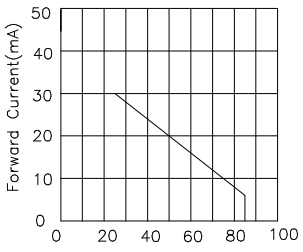
Blue



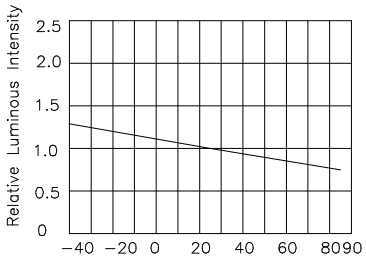
FORWARD CURRENT Vs.
FORWARD VOLTAGE



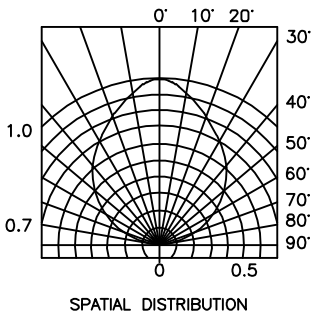
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE

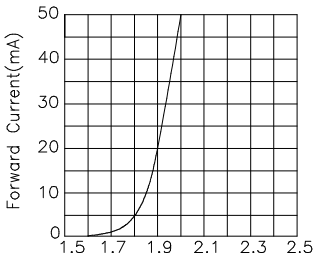


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

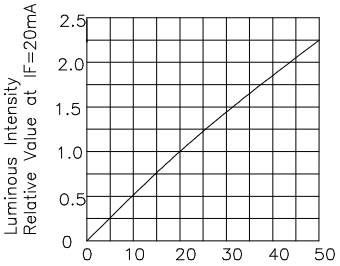


SPATIAL DISTRIBUTION

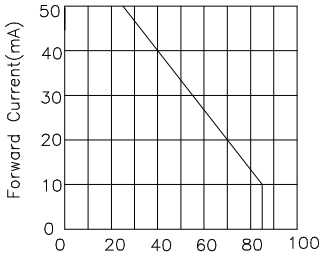
Hyper Red



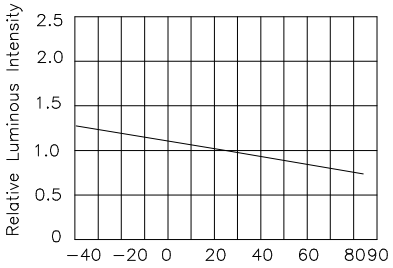
FORWARD CURRENT Vs.
FORWARD VOLTAGE



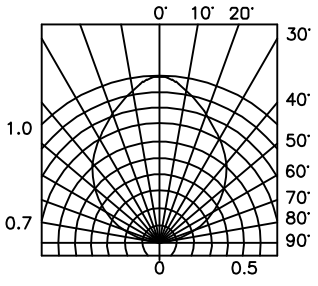
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE

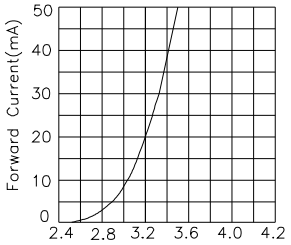


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

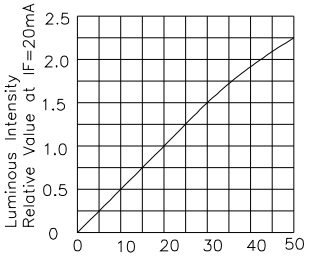


SPATIAL DISTRIBUTION

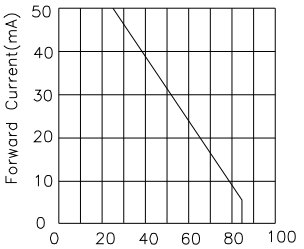
Green



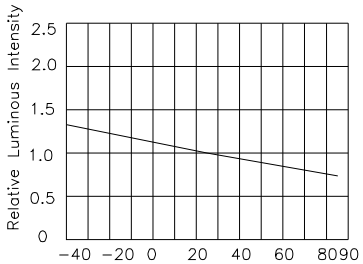
Forward Voltage(V)
FORWARD CURRENT Vs
FORWARD VOLTAGE



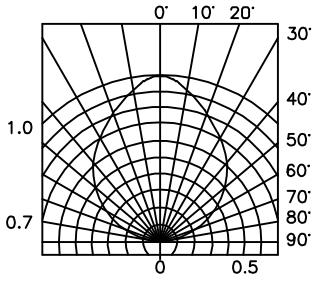
IF–Forward Current (mA)
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



Ambient Temperature TA (°C)
FORWARD CURRENT
DERATING CURVE



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



SPATIAL DISTRIBUTION

PACKING & LABEL SPECIFICATIONS **AAF5060PBESURVGA**