Kingbright®

3.0x2.2mm SINGLE COLOR SURFACE MOUNT LED LAMPS

AA3022-4.5SF

Features

- ●3.0mm x 2.2mm SMT LED, 1.5mm THICKNESS.
- ●WHITE REFLECTOR TO MAXIMIZE REFLECTION OF LIGHT.
- ●ULTRA-COMPACT TYPE ASSURES SPACE SAVING.
- ●HIGH EFFICIENCY & LOW POWER CONSUMPTION.

Description

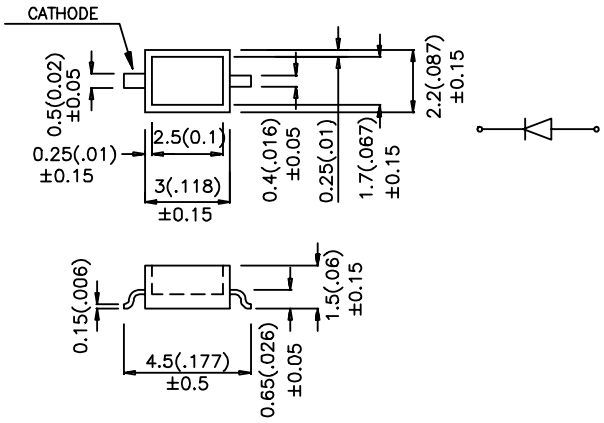
The Bright Red source color devices are made with Gallium Phosphide Red Light Emitting Diode.

The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

The Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.

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 lead emerge package.
4. Specifications are subjected to change without notice.

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Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 20 mA		Viewing Angle
			Min.	Typ.	2θ1/2
AA3022HT-4.5SF	BRIGHT RED (GaP)	RED TRANS.	1	2.5	90°
AA3022HC-4.5SF		WATER CLEAR	1	2.5	90°
AA3022IT-4.5SF	HIGH EFFICIENCY RED (GaAsP/GaP)	RED TRANS.	8	40	90°
AA3022EC-4.5SF		WATER CLEAR	8	40	90°
AA3022YT-4.5SF	YELLOW (GaAsP/GaP)	YELLOW TRANS.	5	20	90°
AA3022YC-4.5SF		WATER CLEAR	5	20	90°
AA3022SGT-4.5SF	SUPER BRIGHT GREEN (GaP)	GREEN TRANS.	8	30	90°
AA3022SGC-4.5SF		WATER CLEAR	8	30	90°

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

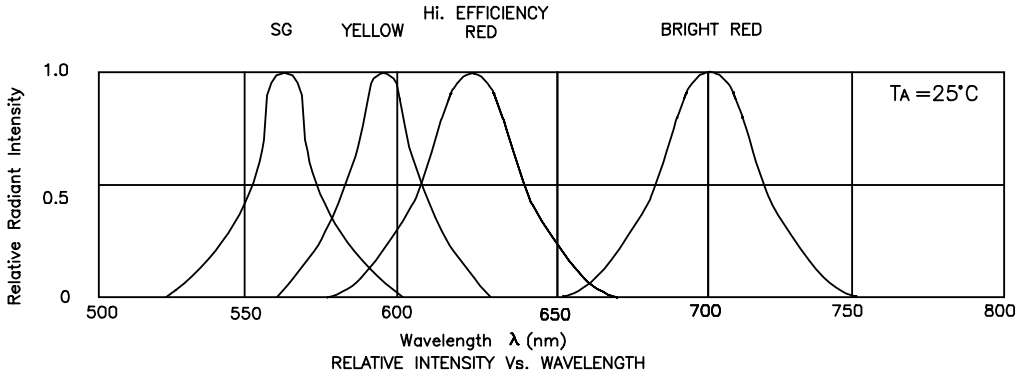
Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Bright Red High Efficiency Red Super Bright Green Yellow	700 625 565 590		nm	IF=20mA
Δλ1/2	Spectral Line Halfwidth	Bright Red High Efficiency Red Super Bright Green Yellow	45 45 30 35		nm	IF=20mA
C	Capacitance	Bright Red High Efficiency Red Super Bright Green Yellow	40 12 45 10		pF	VF=0V;f=1MHz
V_F	Forward Voltage	Bright Red High Efficiency Red Super Bright Green Yellow	2.0 2.0 2.2 2.1	2.5 2.5 2.5 2.5	V	IF=20mA
I_R	Reverse Current	All		10	uA	VR = 5V

Absolute Maximum Ratings at T_A=25°C

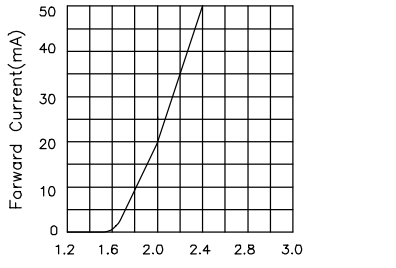
Parameter	Bright Red	High Efficiency Red	Super Bright Green	Yellow	Units
Power dissipation	120	105	105	105	mW
DC Forward Current	25	30	25	30	mA
Peak Forward Current [1]	150	150	150	150	mA
Reverse Voltage	5	5	5	5	V
Operating/Storage Temperature	-40°C To +85°C				

Note:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

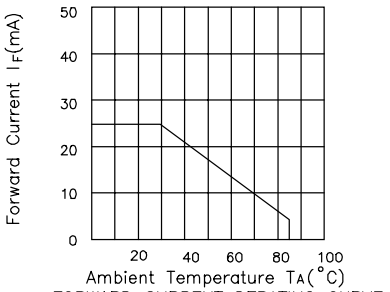


RELATIVE INTENSITY Vs. WAVELENGTH

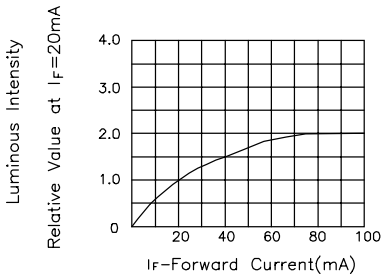
Bright Red AA3022HC-4.5SF,AA3022HT-4.5SF



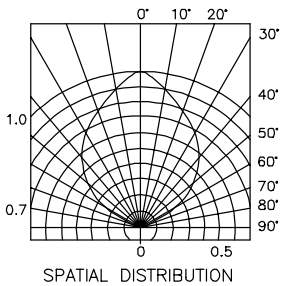
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

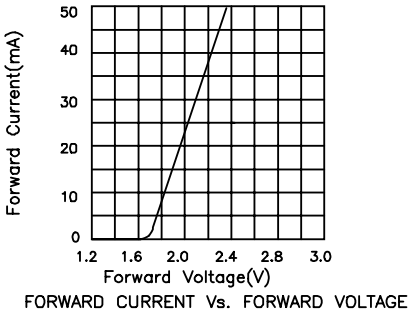


LUMINOUS INTENSITY Vs. FORWARD CURRENT

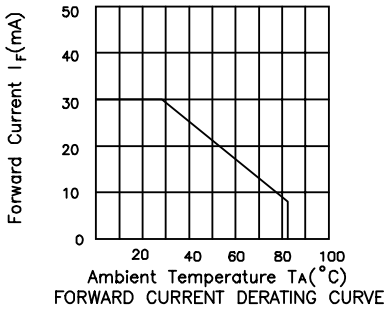


SPATIAL DISTRIBUTION

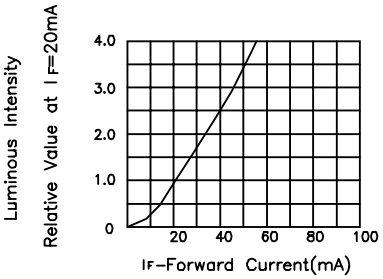
High Efficiency Red AA3022EC-4.5SF,AA3022IT-4.5SF

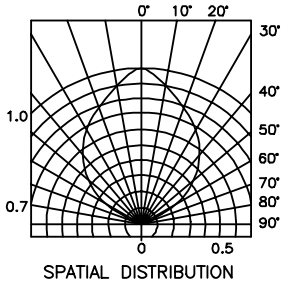


FORWARD CURRENT Vs. FORWARD VOLTAGE



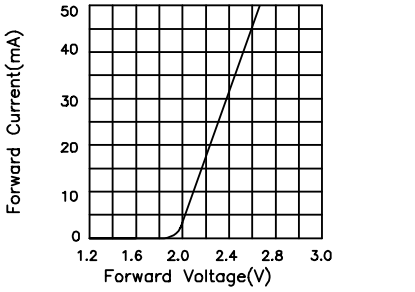
FORWARD CURRENT DERATING CURVE



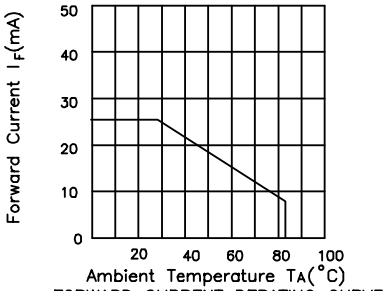


SPATIAL DISTRIBUTION

Super Bright Green AA3022SGC-4.5SF,AA3022SGT-4.5SF



FORWARD CURRENT Vs. FORWARD VOLTAGE



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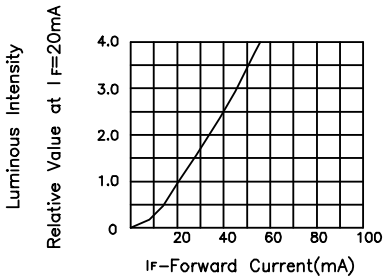
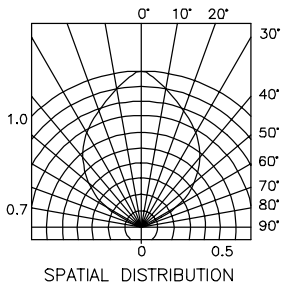
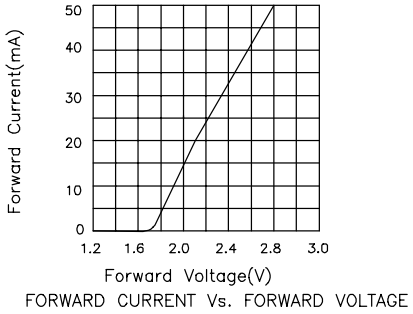


LUMINOUS INTENSITY Vs. FORWARD CURRENT

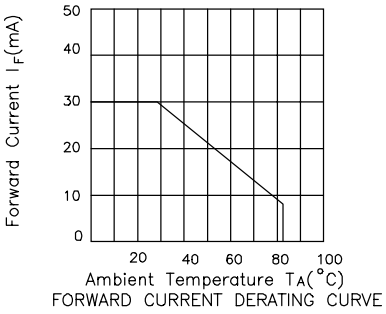


SPATIAL DISTRIBUTION

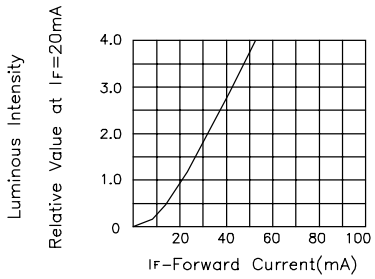
Yellow AA3022YC-4.5SF,AA3022YT-4.5SF



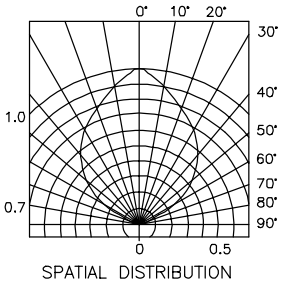
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

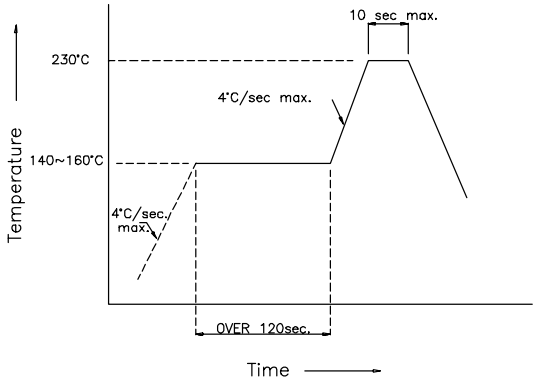


LUMINOUS INTENSITY Vs. FORWARD CURRENT

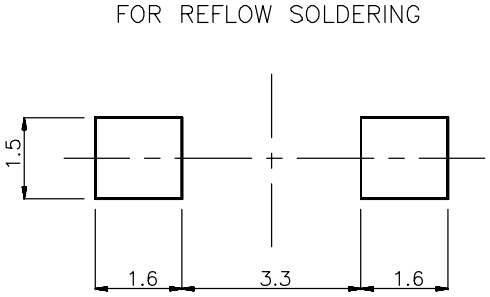


SPATIAL DISTRIBUTION

AA3022-4.5SF SERIES SMT Reflow Soldering Instructions



AA3022-4.5SF SERIES Recommended Soldering Pattern(Units : mm)



AA3022-4.5SF SERIES SERIES Tape Specifications
(Units : mm)