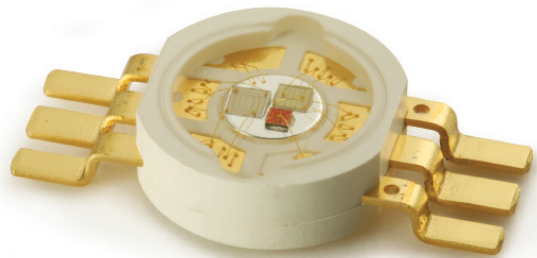


# Edixeon® RGB Series Datasheet



## Features :

- Three chips (colors) in one package
- Independent control of each color
- More energy efficient than incandescent and most halogen lamps
- Low voltage operation
- Instant light
- Long operating life
- IR reflow process compatible



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## General Information

### Introduction

Edixeon® RGB emitters are one of the highest flux LEDs in the world by Edison Opto. It is designed to satisfy applications of Solid-State lighting. It is designed to have three chips in one package. It has various colors for choice and can be independently controlled. More importantly, it can pass reflow process.

### Ordering Code Format

2 E x 1 x x M 1 0 0 0 0 0 x x x  
 X1 X2 X3 X4 X5 X6 X7 X8

X1	X2	X3	X4	X5
Type	Component	Series	Wattage	Color
2	Emitter	A1 R1	03 3W	M1 RTB

X6	X7	X8
Internal code	PCB Board	Serial Number
00	-	000 -

## Absolute Maximum Ratings

Parameter	Symbol	Value	Units
DC Forward Current	$I_F$	350	mA
Peak Pulsed Current; ( $t_p \leq 100\mu s$ , Duty cycle=0.25)	$I_{pulse}$	700	mA
LED Junction Temperature	$T_J$	120	°C
Operating Temperature	-	-30 ~ +110	°C
Storage Temperature	-	-40 ~ +120	°C
ESD Sensitivity	-	2,000	V
Soldering Temperature	-	260	°C

Notes:

1. Proper current derating must be observed to maintain junction temperature below the maximum at all time.
2. LEDs are not designed to be driven in reverse bias.
3. Allowable reflow cycles are 3 times for each LED.
4.  $t_p$  : Pulse width time

## Characteristics

Parameter	Symbol	Value	Units
Viewing Angle (Typ.)	$2\theta^{1/2}$	115	Degree
Forward voltage (350mA) (700mA)	$V_F$	R : 2.2 T/B : 3.4 R : 2.6 T/B : 3.8	V
Thermal resistance	-	R : 16 T : 13 B : 11	°C/W
$\Delta V_F / \Delta T$	$\Delta V_F / \Delta T$	-2	mV/°C
CCT / Wavelength	$\lambda_d$	620-630 515-535 450-475	nm
JEDEC Moisture Sensitivity	-	Level 2a <b>Floor Life</b> Conditions: $\leq 30^\circ C$ / 60% RH <b>Soak Requirements(Standard)</b> Time (hours): 120+1/-0 Conditions: $60^\circ C$ / 60% RH	-

Notes:

1. Wavelengths are stated as peak wavelength.
2. Edison maintains a tolerance of  $\pm 0.5nm$  for dominant wavelength,  $\pm 2nm$  for peak wavelength and  $\pm 5\%$  on CCT measurement.
3. Edison maintains a tolerance of 0.06V on forward voltage measurement.

## Luminous Flux Characteristic

Luminous Flux Characteristics at  $I_f=350\text{mA}$ ,  $T_j=25^\circ\text{C}$

Color	Group	Min. Luminous Flux(lm)	Max. Luminous Flux(lm)	Order Code
Red	R0	39.4	51.2	2ER103M100000002 2EA103M100000010
True Green	T0	66.5	86.5	
Blue	M0	13.8	17.9	
	N0	17.9	23.3	
Red	Q0	30.3	39.4	2ER103M100000001
True Green	T0	66.5	86.6	
Blue	M0	13.8	17.9	
	N0	17.9	23.3	
Red	Q0	30.3	39.4	2EA103M100000004 2EA103M100000005
True Green	T0	66.5	86.6	
Blue	N0	17.9	23.3	
	P0	23.3	30.3	

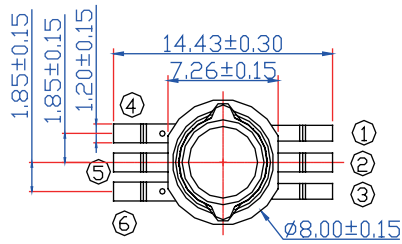
Notes:

1. Flux is measured with an accuracy of  $\pm 10\%$ .
2. All true green and blue emitters are built with InGaN.
3. All red emitters are built with AlGaInP.

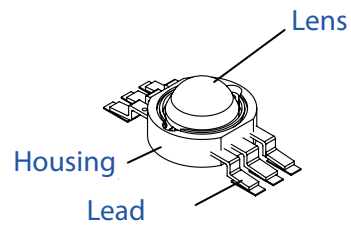
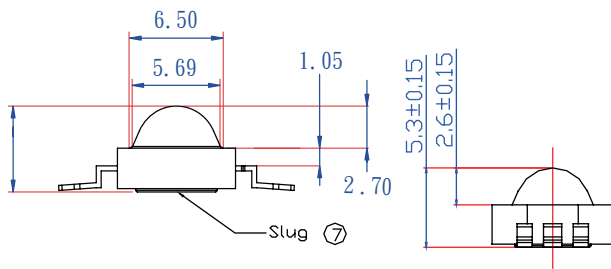
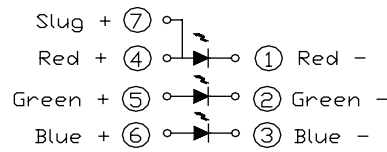
## Mechanical Dimensions

### Emitter Type Dimension

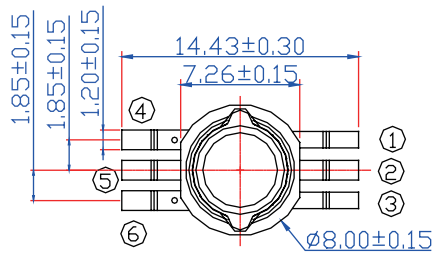
2ER103M100000001



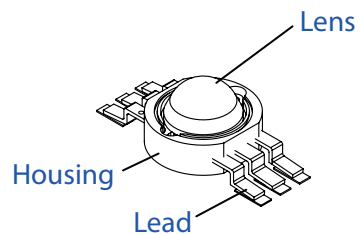
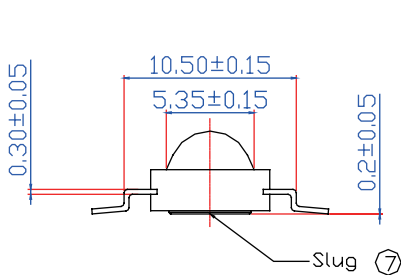
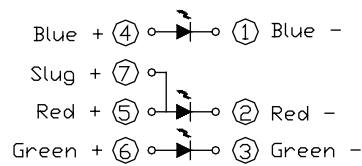
#### Circuit



2ER103M100000002&2EA103M100000005



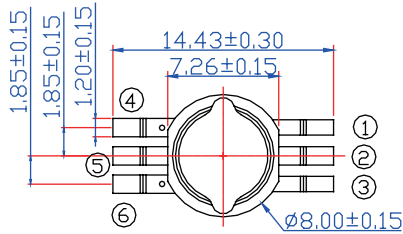
#### Circuit



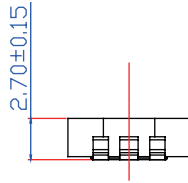
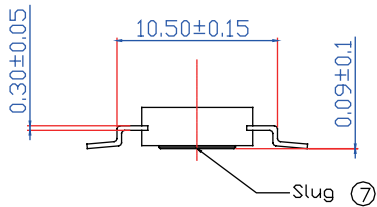
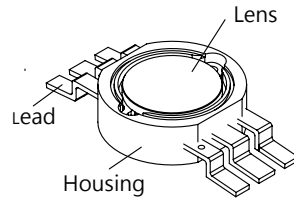
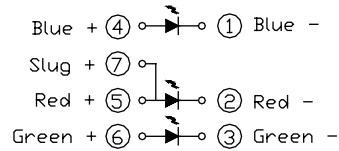
#### Notes:

1. All dimensions are in mm.
2. Lambertian and side emitting series slug has polarity as anode.
3. It is important that the slug can't contact aluminum surface. It is strongly recommended that there should coat a uniform electrically isolated heat dissipation film on the aluminum surface.

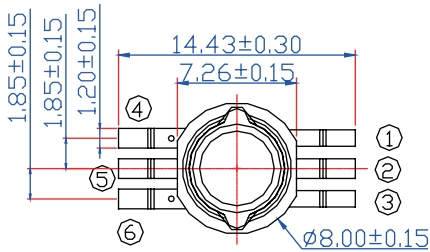
2EA103M100000004



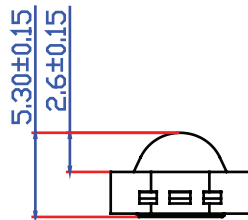
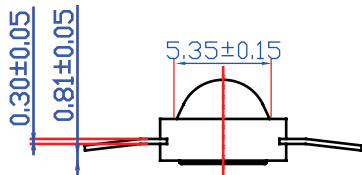
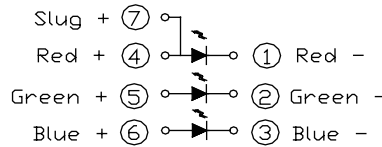
**Circuit**



2EA103M100000010



**Circuit**

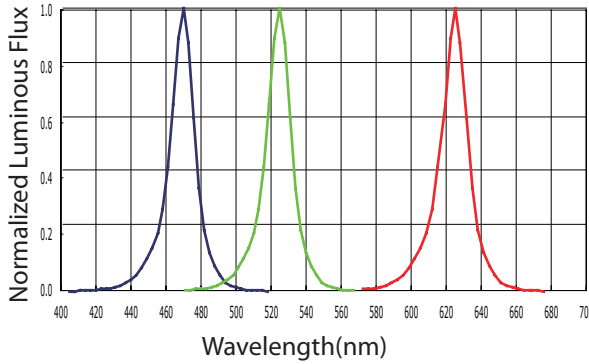


**Notes:**

1. All dimensions are in mm.
2. Lambertian and side emitting series slug has polarity as anode.
3. It is important that the slug can't contact aluminum surface. It is strongly recommended that there should coat a uniform electrically isolated heat dissipation film on the aluminum surface.

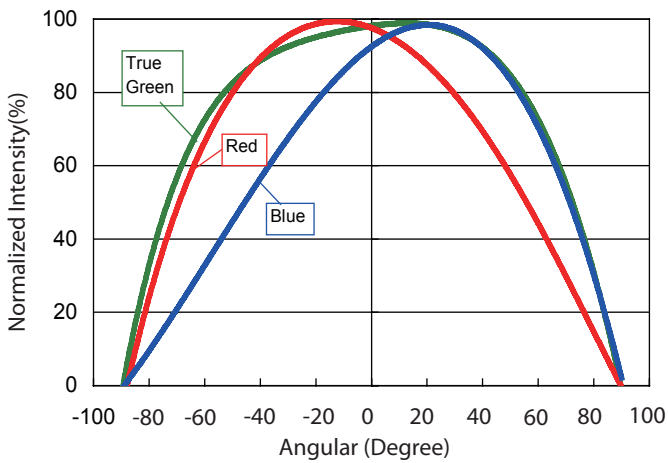
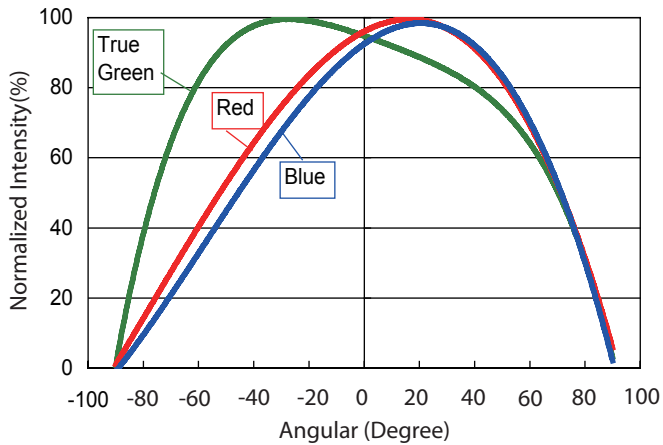
## Characteristic Curve

### Spectrum



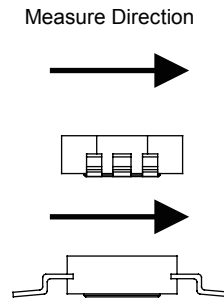
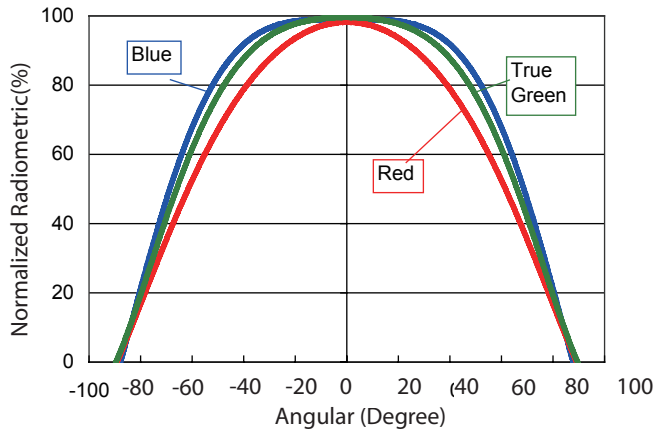
Color Spectrum for White series at  $T_j=25\text{ }^\circ\text{C}$

### Radiation Diagram



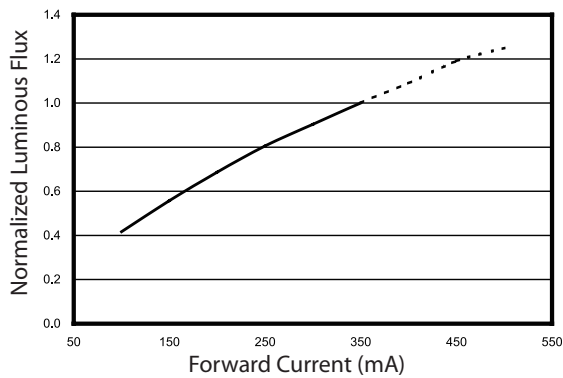
Lambertain angle at  $T_j=25\text{ }^\circ\text{C}$  for Edixeon® RGB series





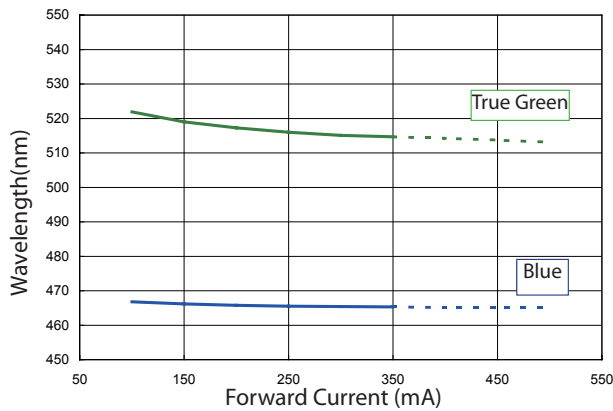
Lambertain angle at  $T_j=25^\circ\text{C}$  for Edixeon® RGB series (2EA103M100000004)

### Luminous Flux & Forward Current

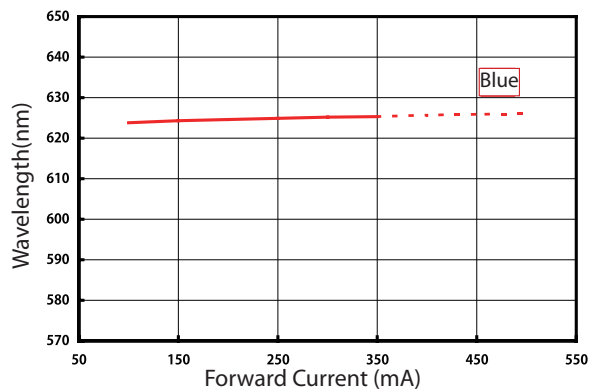


Forward current & relative luminous at  $T_j=25^\circ\text{C}$  for Edixeon® RGB series

### Wavelength & Forward Current

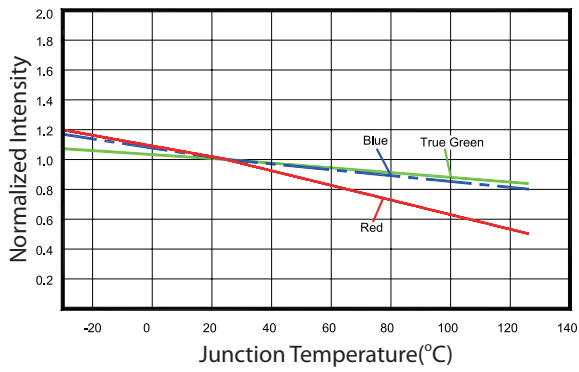


Wavelength & forward current for True Green and Blue color Edixeon® RGB series

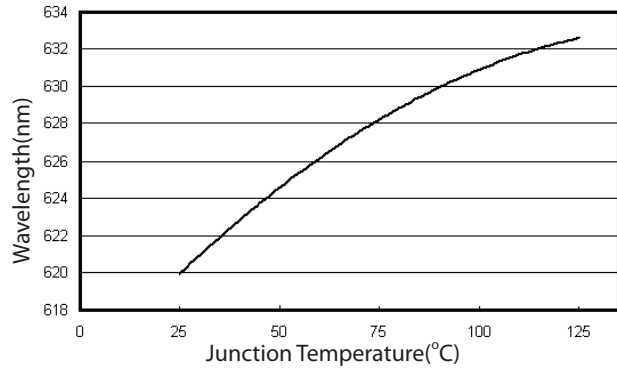


Wavelength & forward current for Red color Edixeon® RGB series

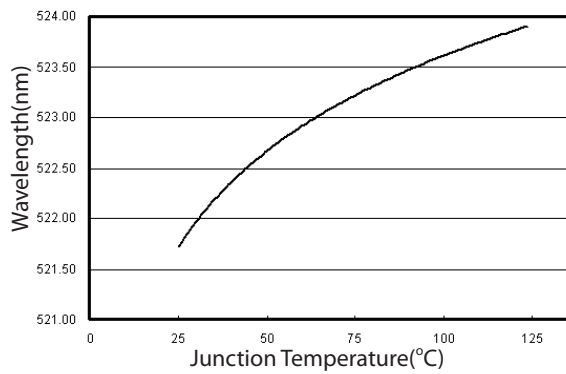
## Relative Intensity & Junction Temperature



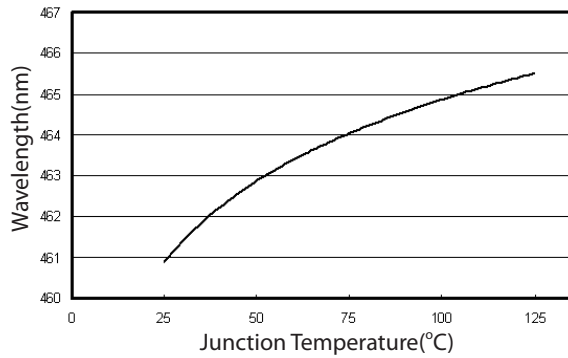
Junction temperature & power rate for Edixeon® RGB series



Wavelength characteristic for Edixeon® RGB Red chip



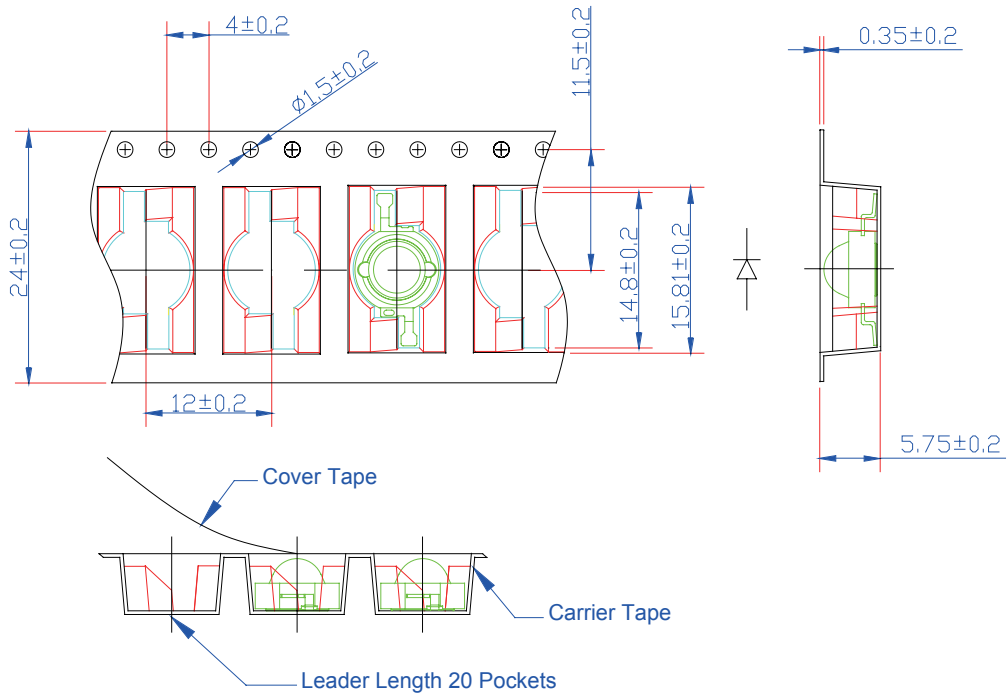
Wavelength characteristic for Edixeon® RGB True Green chip



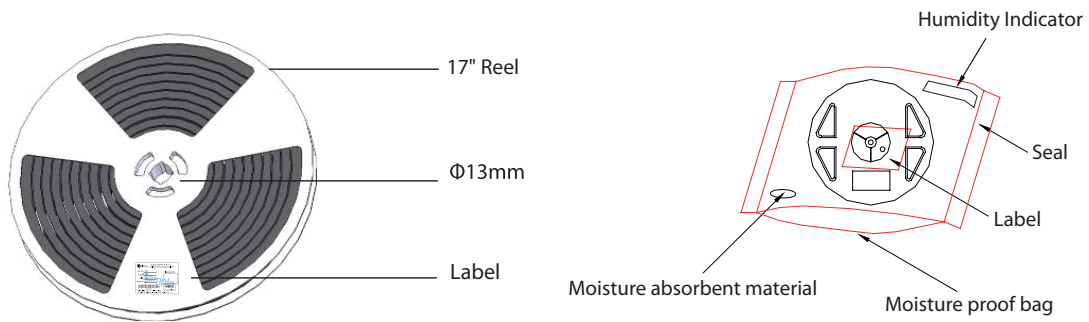
Wavelength characteristic for Edixeon® RGB Blue chip

## Product Packaging Information

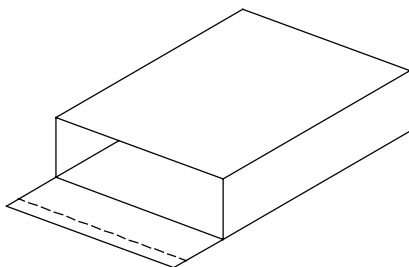
### Tape and Reel Dimension



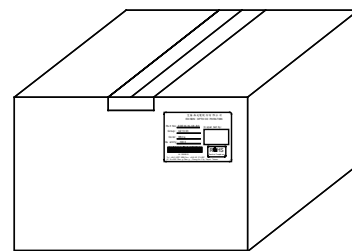
### Edixeon Emitter



1000pcs LEDs inside



2 bags in 1 box



5 boxes in 1 carton

Note : 445\*410\*415 (Tolerance :  $\pm 5$ mm)

## Revision History

Versions	Description	Release Date
1	Establish order code information	2012/12/05
2	Update the Luminous Flux Characteristic	2013/01/30

## About Edison Opto

Edison Opto is a leading manufacturer of high power LED and a solution provider experienced in LDMS. LDMS is an integrated program derived from the four essential technologies in LED lighting applications- Thermal Management, Electrical Scheme, Mechanical Refinement, Optical Optimization, to provide customer with various LED components and modules. More Information about the company and our products can be found at [www.edison-opto.com](http://www.edison-opto.com)

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