OptoSupply
Light It Up

3.5x2.8x1.9mm Red & Green & Blue SMD LED

OSTBPCS2C2B

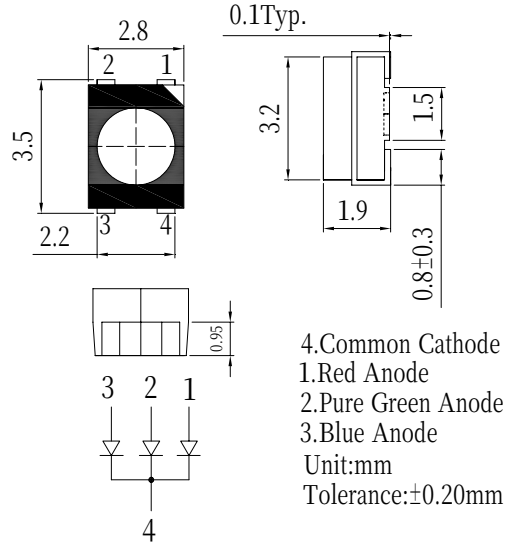
▪Features

- High Luminous PLCC4 Top SMD LEDs
- 3.5x2.8x1.9mm Standard Directivity
- Superior Weather-resistance
- UV Resistant Epoxy
- Higher Contrast by a black surface(RGB-Displays)
- White Diffused Type

▪Applications

- Indoor display(e.g. graphic displays)
- LED Chips can be controlled separately
- Full Color Displays, RGB-Displays
- Other Lighting

▪Outline Dimension



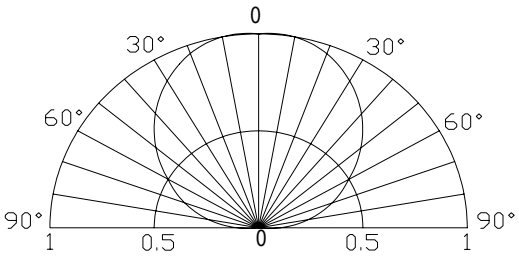
4.Common Cathode
1.Red Anode
2.Pure Green Anode
3.Blue Anode
Unit:mm
Tolerance:±0.20mm

▪Absolute Maximum Rating (Ta=25℃)

Item	Symbol	Value		Unit
		Red	G/B	
DC Forward Current	I_F	30	30	mA
Pulse Forward Current*	I_{FP}	100	100	mA
Reverse Voltage	V_R	5	5	V
Power Dissipation	P_D	78	108	mW
Operating Temperature	Topr	-30 ~ +85		℃
Storage Temperature	Tstg	-40~ +100		℃
Lead Soldering Temperature	Tsol	260℃/5sec		-

*Pulse width Max.10ms Duty ratio max 1/10

▪Directivity



▪Electrical -Optical Characteristics (Ta=25℃)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
DC Forward Voltage	V_F (Red)	I_F=20mA	1.8	2.1	2.6	V
	V_F (G/B)	I_F=20mA	2.9	3.1	3.6	V
Reverse Current	I_R	V_R=5V	-	-	10	μA
Domi. Wavelength*	λ_D(Red)	I_F=20mA	620	625	630	nm
	λ_D(Green)	I_F=20mA	520	525	530	nm
	λ_D(Blue)	I_F=20mA	465	470	475	nm
Luminous Intensity*	Iv(Red)	I_F=20mA	330	450	-	mcd
	Iv(Green)	I_F=20mA	500	700	-	mcd
	Iv(Blue)	I_F=20mA	150	250	-	mcd
50% Power Angle	$2\theta_{1/2}$	I_F=20mA	-	120	-	deg

*1 Tolerance of dominant wavelength is ±1nm
*2 Tolerance of luminous intensity is ±15%

LED & Application Technologies

ATTENTION
OBSERVE PRECAUTIONS
ELECTROSTATIC
SENSITIVE DEVICES

▪Ranks Combination

Rank (I_F=20mA)	Red				Blue / Green		
	333	444	555	666	88T-999	AAA	BBB
DC Forward Voltage(v)	1.8-2.0	2.0-2.2	2.2-2.4	2.4-2.6	2.9-3.2	3.2-3.4	3.4-3.6

Luminous Intensity (mcd) I_F=20mA

Color	Rank	Luminous Intensity (mcd)
Red	I	330-500
	J	500-750
Green	J	500-750
	K	750-1120
Blue	G	150-220
	H	220-330

Domi. Wavelength* I_F=20mA

Color	Rank	Domi. Wavelength* (nm)
Red	R511	620-625
	R522	625-630
Green	G51A	520-522.5
	G51B	522.5-525
	G52A	525-527.5
	G52B	527.5-530
Blue	B41A	465-467.5
	B41B	467.5-470
	B51A	470-472.5
	B51B	472.5-475

Precautions in Use for Surface Mount Diode

■ Storage

· Storage Conditions

Before opening the package:

The LEDs should be kept at 30°C or less and 60%RH or less. The LEDs should be used within a year. When storing the LEDs, moisture proof packaging with absorbent material (silica gel) is recommended.

· After opening the package:

Soldering should be done right after opening the package (within 24hrs).

Keeping of a fraction, sealing and Temperature: 5~40℃ Humidity: Less than 30%.

If the package has been opened more than 1 week or the color of desiccant changes, components should be dried for 10-12hrs, at 60±3℃.

· Optosupply LED electrode sections are comprised of a silver plated copper alloy. The silver surface may be affected by environments which contain corrosive gases and so on. Please avoid conditions which may cause the LED to corrode, tarnish or discolor. This corrosion or discoloration may cause difficulty during soldering operations. It is recommended that the User use the LEDs as soon as possible.

· Please avoid rapid transitions in ambient temperature, especially in high humidity environments where condensation can occur.

■ Soldering Heat Reliability (DIP):

IR Reflow soldering Profile

· Reflow soldering should not be done more than two times.

· When soldering, do not put stress on the LEDs during heating.

· After soldering, do not warp the circuit board.

· Repairing should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used. It should be confirmed beforehand whether the **characteristics of the LEDs will or will not be damaged by repairing.**

Soldering
Average ramp-up rate = 3ºC/sec. max.
Preheat temperature: 130º~185ºC
Preheat time = 120 sec. max.
Ramp-down rate = 6ºC/sec. max.
Peak temperature = 230ºC max.
Time within 3ºC of actual peak temperature = 25 sec. max.
Duration above 200ºC is 40 sec. max.

