



# RGBP080806-PCTC7

## Multi-Wavelength SMD Type

### Features

- Top view 0808 package
- Wide viewing angle
- RGB individual control
- High reliability
- RoHS compliance

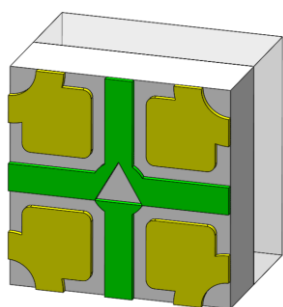
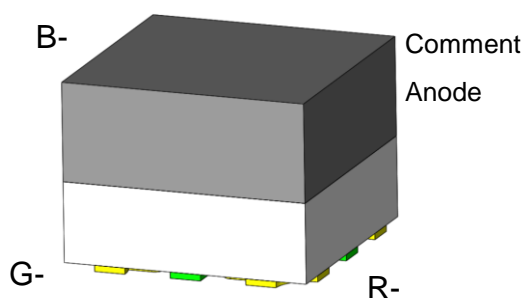
### Applications

- General lighting
- Indoor signage display applications
- Switch light
- Decorative and Entertainment lighting

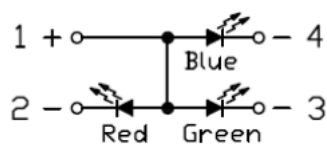
### Description

The RGBP080806-PCTC7 is a high brightness device designed for demanding applications in efficiency and reduced space. An ideal device in emphasizing visual effects, advertisement, decoration as well as general backlighting needs.

### Package Outline



### Schematic





# RGBP080806-PCTC7

## Multi-Wavelength SMD Type

### Absolute Maximum Rating at 25°C

Symbol	Parameters	Ratings		Units	Notes
I <sub>F</sub>	Continuous Forward Current	20		mA	
I <sub>FP</sub>	Peak Forward Current	50		mA	1
V <sub>R</sub>	Reverse Voltage	10		V	
T <sub>opr</sub>	Operating Temperature	-40 ~ +85		°C	
T <sub>stg</sub>	Storage Temperature	-40 ~ +110		°C	
T <sub>sol</sub>	Soldering Temperature	260		°C	2
P <sub>D</sub>	Power Dissipation at(or below) 25°C Free Air Temperature	R	50	mW	
		G	60		
		B	60		

### Electro-Optical Characteristics *TA = 25°C (unless otherwise specified)*

#### Optical Characteristics(Red)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I <sub>v</sub>	Luminous Intensity	I <sub>F</sub> =5mA	16.5	-	27.8	mcd	3
λ <sub>d</sub>	Dominant Wavelength	I <sub>F</sub> =5mA	-	622	-	nm	
θ <sub>1/2</sub>	Angle of Half Intensity	I <sub>F</sub> =5mA	-	±57.5	-	deg	4

#### Electrical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V <sub>F</sub>	Forward Voltage	I <sub>F</sub> =5mA	1.7	-	2.3	V	5
I <sub>R</sub>	Reverse Current	V <sub>R</sub> =10V	-	-	1	μA	



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## Multi-Wavelength SMD Type

### Optical Characteristics(Green)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I <sub>v</sub>	Luminous Intensity	I <sub>F</sub> =3mA	27.7	-	46.8	mcd	3
λ <sub>d</sub>	Dominant Wavelength	I <sub>F</sub> =3mA	-	530	-	nm	4
θ <sub>1/2</sub>	Angle of Half Intensity	I <sub>F</sub> =5mA	-	±57.5	-	deg	

### Electrical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V <sub>F</sub>	Forward Voltage	I <sub>F</sub> =3mA	2.5	-	3.5	V	5
I <sub>R</sub>	Reverse Current	V <sub>R</sub> =10V	-	-	1	μA	

### Optical Characteristics(Blue)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I <sub>v</sub>	Luminous Intensity	I <sub>F</sub> =3mA	7.5	-	12.6	mcd	3
λ <sub>d</sub>	Dominant Wavelength	I <sub>F</sub> =3mA	-	470	-	nm	4
θ <sub>1/2</sub>	Angle of Half Intensity	I <sub>F</sub> =5mA	-	±57.5	-	deg	

### Electrical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V <sub>F</sub>	Forward Voltage	I <sub>F</sub> =3mA	2.5	-	3.5	V	5
I <sub>R</sub>	Reverse Current	V <sub>R</sub> =10V	-	-	1	μA	

#### Notes:

1. I<sub>FP</sub> Conditions--Pulse Width ≤ 100μs and Duty ≤ 10%.
2. Soldering time ≤ 10 seconds.
3. Bin Range of Luminous Intensity(Red)

Bin Code	Min	Max	Unit	Condition
E0	16.5	21.4	mcd	I <sub>F</sub> =5mA
F0	21.4	27.8		

#### Bin Range of Luminous Intensity(Green)

Bin Code	Min	Max	Unit	Condition
K0	27.7	36.0	mcd	I <sub>F</sub> =3mA
L0	36.0	46.8		



## RGBP080806-PCTC7

### Multi-Wavelength SMD Type

Bin Range of Luminous Intensity(Blue)

Bin Code	Min	Max	Unit	Condition
A0	7.5	9.7	mcd	I <sub>F</sub> =3mA
C0	9.7	12.6		

Tolerance of Luminous Intensity  $\pm 10\%$

4. Bin Range of Dominant Wavelength(Red)

Bin Code	Min	Max	Unit	Condition
R1	619.5	624.5	nm	I <sub>F</sub> =5mA

Bin Range of Dominant Wavelength (Green)

Bin Code	Min	Max	Unit	Condition
G2	525.5	529.0	nm	I <sub>F</sub> =3mA
G3	529.0	532.5		

Bin Range of Dominant Wavelength(Blue)

Bin Code	Min	Max	Unit	Condition
B1	466.5	470.0	nm	I <sub>F</sub> =3mA
B2	470.0	473.5		

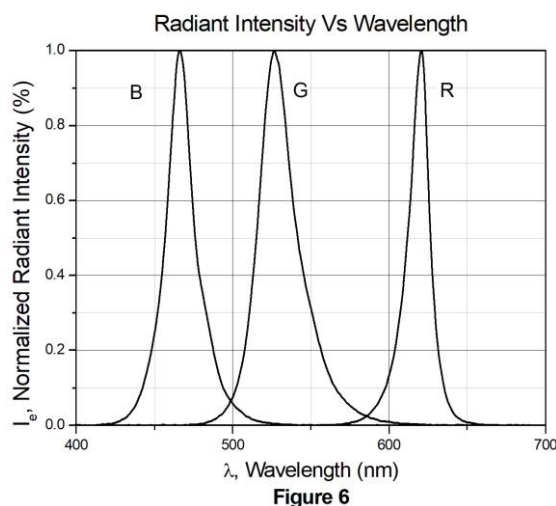
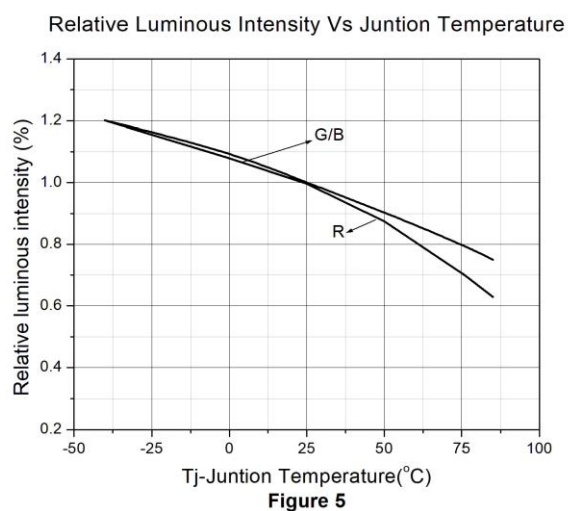
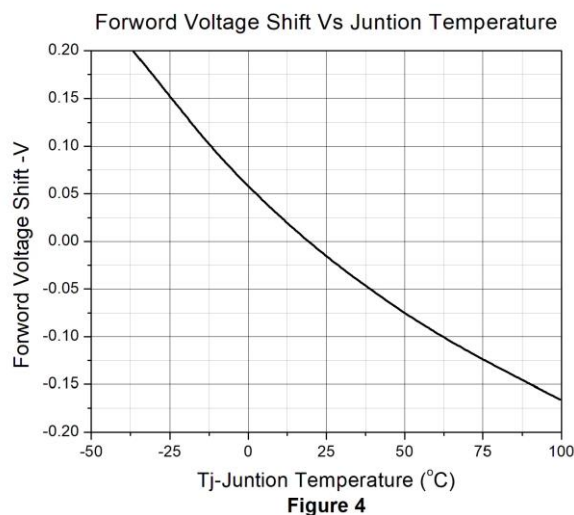
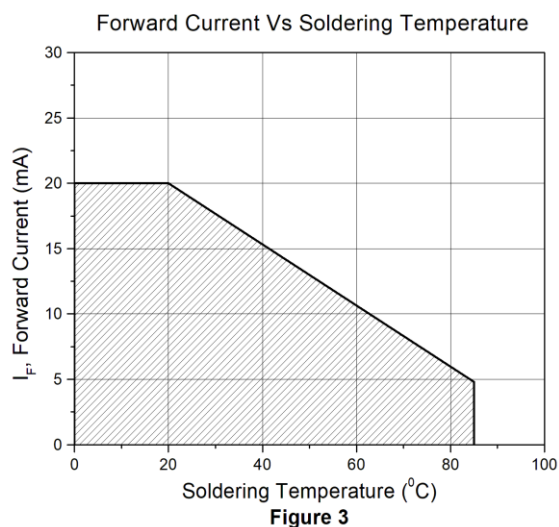
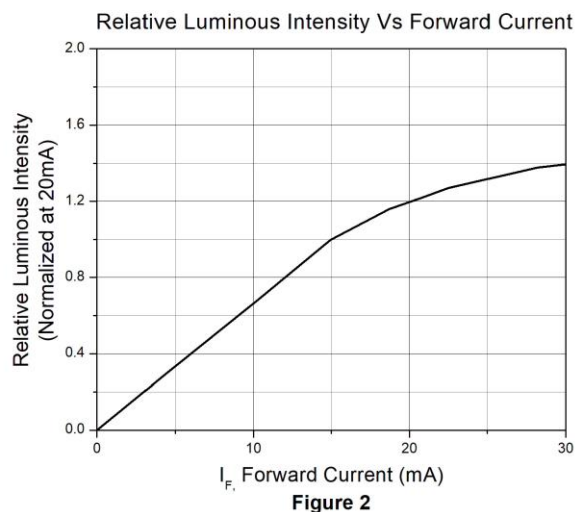
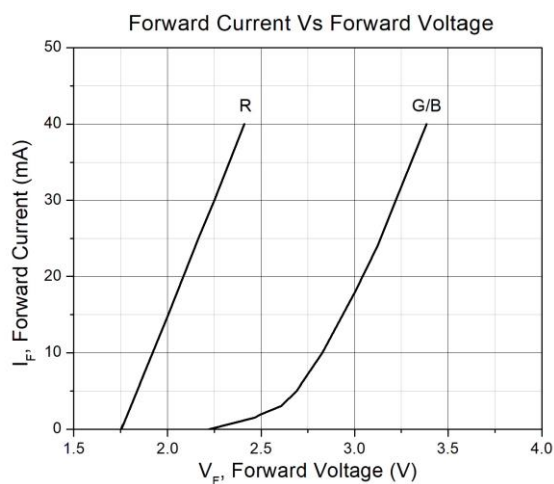
Tolerance of Dominant Wavelength:  $\pm 1\text{nm}$ .



# RGBP080806-PCTC7

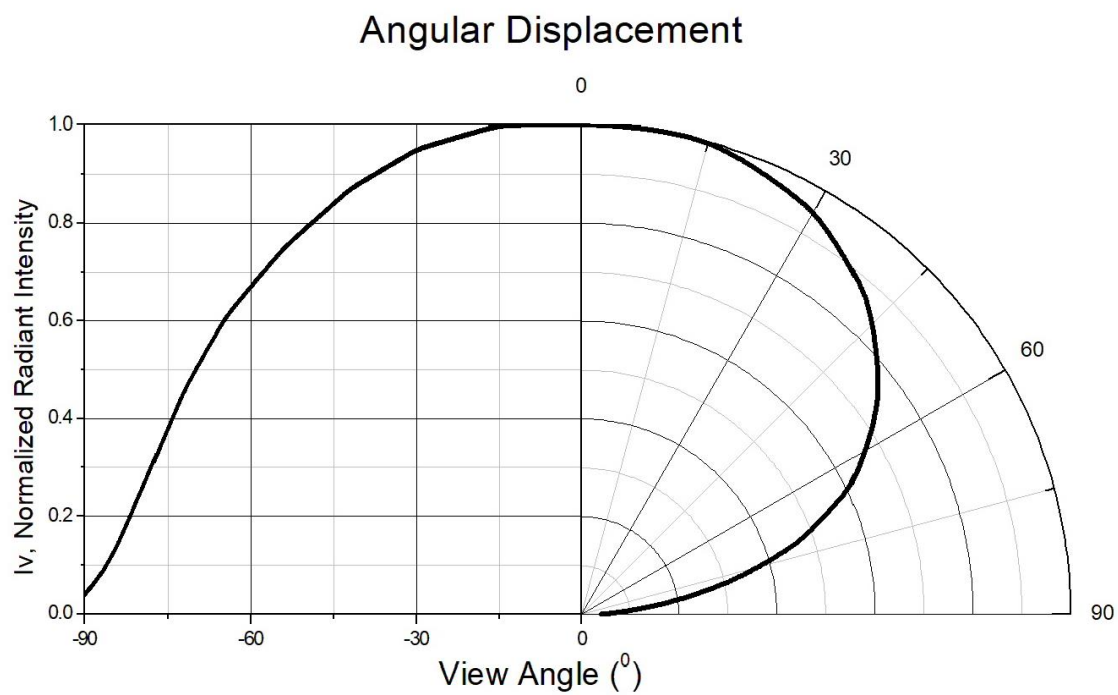
## Multi-Wavelength SMD Type

### Typical Characteristic Curves





## Typical Characteristic Curves

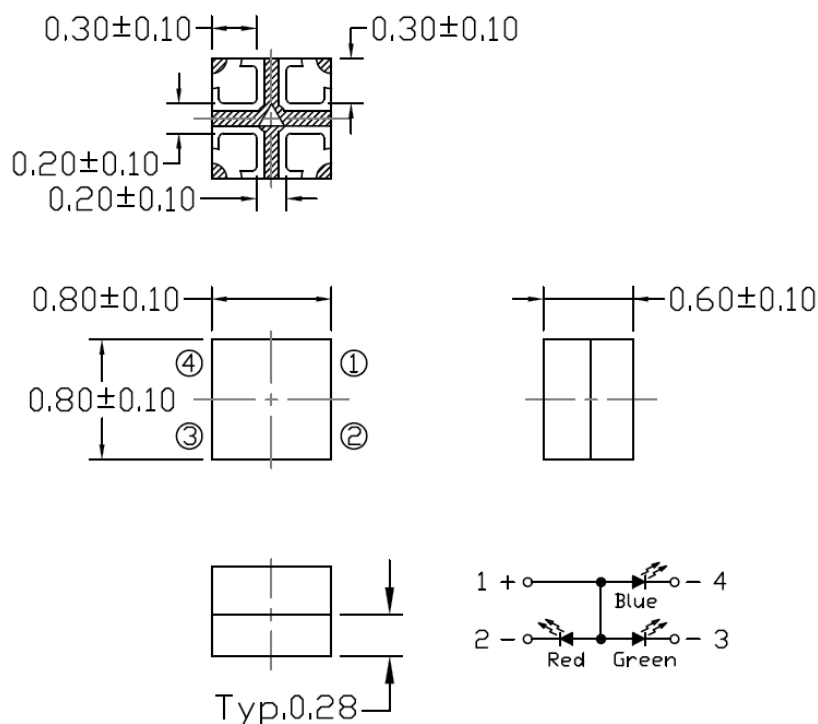


**Figure 7**



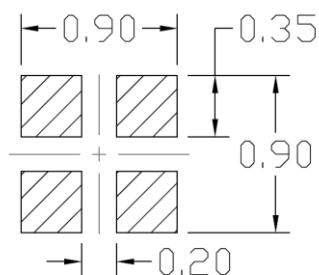
# RGBP080806-PCTC7 Multi-Wavelength SMD Type

## Package Dimension *All dimensions are in mm, unless otherwise stated*



Note: Tolerance unless mentioned is  $\pm 0.1$  mm.

## Recommended Soldering Mask *All dimensions are in mm, unless otherwise stated*



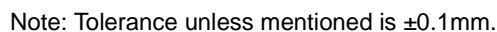
Note: Tolerance unless mentioned is  $\pm 0.1$  mm.

## Ordering Information

Part Number	Description	Quantity
RGBP080806-PCTC7	Tape & Reel	18,000 pcs



### Reel Dimension *All dimensions are in mm, unless otherwise stated*







## RGBP080806-PCTC7

### Multi-Wavelength SMD Type

#### Label Form Specification

CT Micro  
International Corporation

MSL-X  
MADE IN CHINA

CPN: XXXXXXXXXXXXXXXXXX  
|||||

Part no: XXXXXXXXXXXXXXXX  
|||||

Serial no: XXXXXXXX  
|||||

Lot no: XXXXXXXX  
|||||

Qty: XXXXXX      Date Code: YWWJ  
|||||      |||||

IV: XX      WD:XX      VF:XX  
|||||      |||||      |||||

QR Code

Pb  
RoHS

CPN : Customer Part Number  
Part no: CTM Production Number  
Serial no: Production Number  
Lot no: Lot number  
Q'ty: Packing Quantity  
Date Code: Manufacture Date  
IV : Bin Code of Luminous Intensity  
WD : Bin Code of Dominant Wavelength  
VF : Bin Code of Forward Voltage  
MADE IN CHINA: Production Place

#### Storage Condition

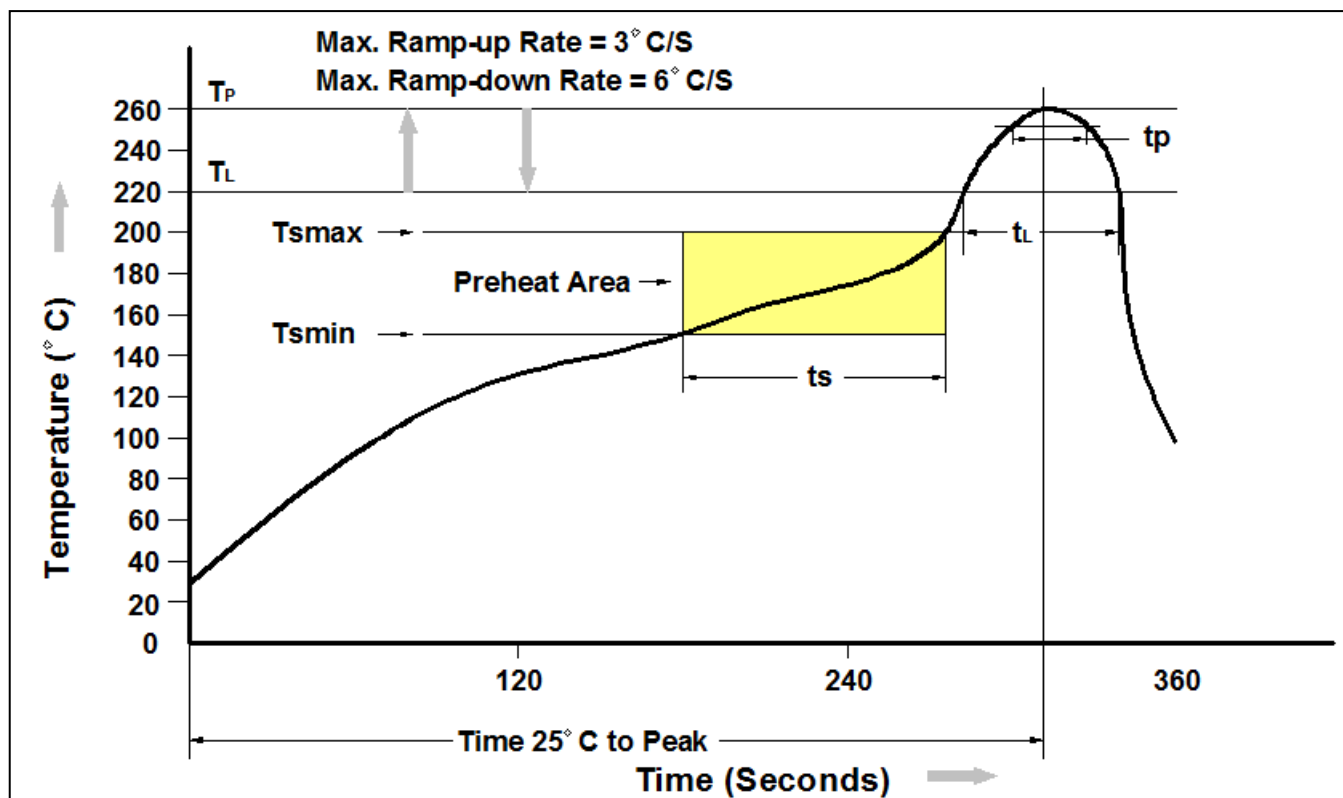
1. Do not open moisture proof bag before the products are ready to use.
2. The moisture barrier bag should be stored at 30°C and 90%R.H. max. before opening.  
Shelf life of non-opened bag is 12 months after the bag sealing date.
3. After opening the moisture barrier bag floor life is 1 year at 30°C/60%RH. max. Unused LEDs should be resealed into moisture barrier bag. (Refer to J-STD-020 Standard)
4. If the moisture absorbent material has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the J-STD-033 Standard conditions.



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## Multi-Wavelength SMD Type

### Reflow Profile



Profile Feature	Pb-Free Assembly Profile
Temperature Min. (Tsmin)	150°C
Temperature Max. (Tsmax)	200°C
Time (ts) from (Tsmin to Tsmax)	60-120 seconds
Ramp-up Rate (tL to tP)	3°C/second max.
Liquidous Temperature (TL)	217°C
Time (tL) Maintained Above (TL)	60 – 150 seconds
Peak Body Package Temperature	260°C +0°C / -5°C
Time (tP) within 5°C of 260°C	30 seconds
Ramp-down Rate (TP to TL)	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.



## RGBP080806-PCTC7

### Multi-Wavelength SMD Type

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