



# BRGC450810-ASC5

## Multi-Wavelength SMD Type

### Features

- Side view 4508 package
- Wide viewing angle
- Compatible with automatic placement equipment
- High reliability
- RoHS compliance

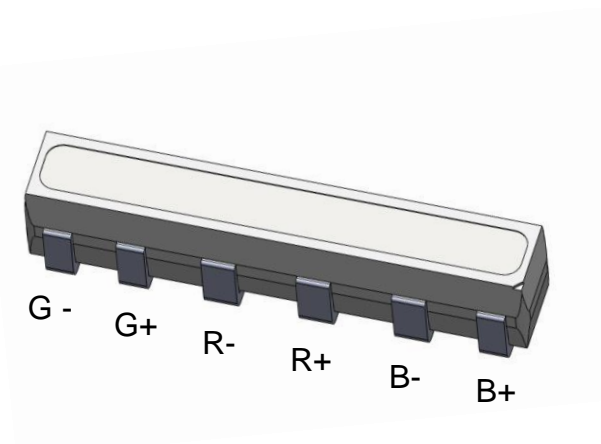
### Applications

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

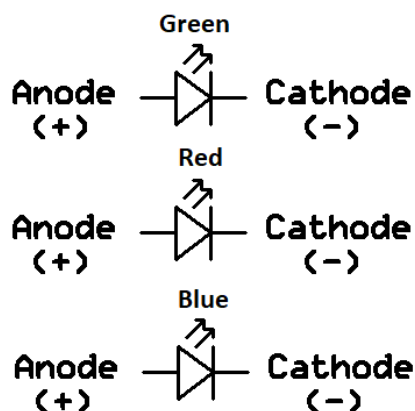
### Description

The BRGC450810-ASC5 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





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### Absolute Maximum Rating at 25°C

Symbol	Parameters		Ratings	Units	Notes
I <sub>F</sub>	Continuous Forward Current	B	25	mA	
		R	25		
		G	25		
I <sub>FP</sub>	Peak Forward Current	B	60	mA	1
		R	60		
		G	60		
V <sub>R</sub>	Reverse Voltage		5	V	
T <sub>opr</sub>	Operating Temperature		-40 ~ +85	°C	
T <sub>stg</sub>	Storage Temperature		-40 ~ +100	°C	
T <sub>sol</sub>	Soldering Temperature		260	°C	2
P <sub>D</sub>	Power Dissipation at(or below) 25°C Free Air Temperature	B	95	mW	
		R	60		
		G	95		

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

#### Optical Characteristics (Blue)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I <sub>v</sub>	Luminous Intensity	I <sub>F</sub> =20mA	400	500	600	mcd	
λ <sub>d</sub>	Dominant Wavelength	I <sub>F</sub> =20mA	465	469	472	nm	
θ <sub>1/2</sub>	Angle of Half Intensity	I <sub>F</sub> =20mA	-	±60	-	deg	

#### Electrical Characteristics (Blue)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V <sub>F</sub>	Forward Voltage	I <sub>F</sub> =20mA	2.8	3.0	3.2	V	
I <sub>R</sub>	Reverse Current	V <sub>R</sub> =5V	-	-	1	μA	



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#### Optical Characteristics (Red)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I <sub>v</sub>	Luminous Intensity	I <sub>F</sub> =20mA	400	600	800	mcd	
λ <sub>d</sub>	Dominant Wavelength	I <sub>F</sub> =20mA	620	622	625	nm	
θ <sub>1/2</sub>	Angle of Half Intensity	I <sub>F</sub> =20mA	-	±60	-	deg	

#### Electrical Characteristics (Red)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V <sub>F</sub>	Forward Voltage	I <sub>F</sub> =20mA	1.8	2.0	2.2	V	
I <sub>R</sub>	Reverse Current	V <sub>R</sub> =5V	-	-	1	μA	

#### Optical Characteristics (Green)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I <sub>v</sub>	Luminous Intensity	I <sub>F</sub> =20mA	1000	1300	1500	mcd	
λ <sub>d</sub>	Dominant Wavelength	I <sub>F</sub> =20mA	517	520	523	nm	
θ <sub>1/2</sub>	Angle of Half Intensity	I <sub>F</sub> =20mA	-	±60	-	deg	

#### Electrical Characteristics (Green)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V <sub>F</sub>	Forward Voltage	I <sub>F</sub> =20mA	2.8	3.0	3.2	V	
I <sub>R</sub>	Reverse Current	V <sub>R</sub> =5V	-	-	1	μA	

#### Notes:

I<sub>FP</sub> Conditions--Pulse Width ≤ 100μs and Duty ≤ 10%.

Soldering time ≤ 10 seconds.

Tolerance of Luminous Intensity ±10%.

Tolerance of Dominant Wavelength: ±1nm.

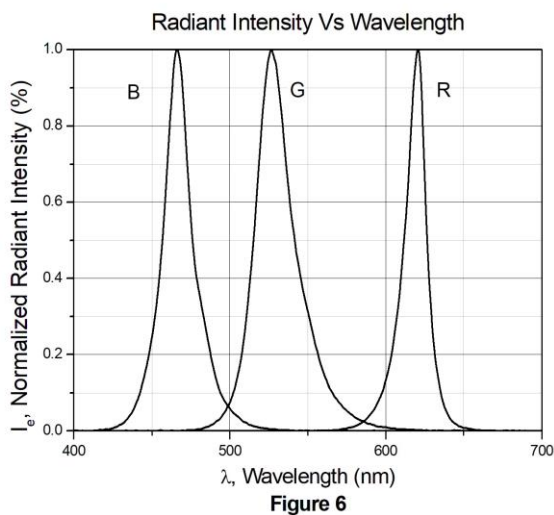
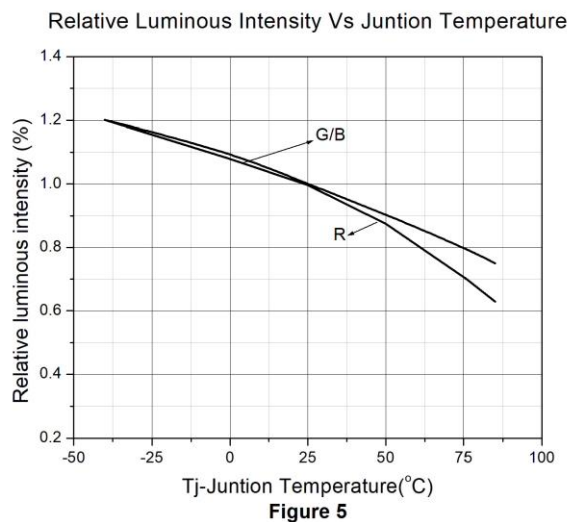
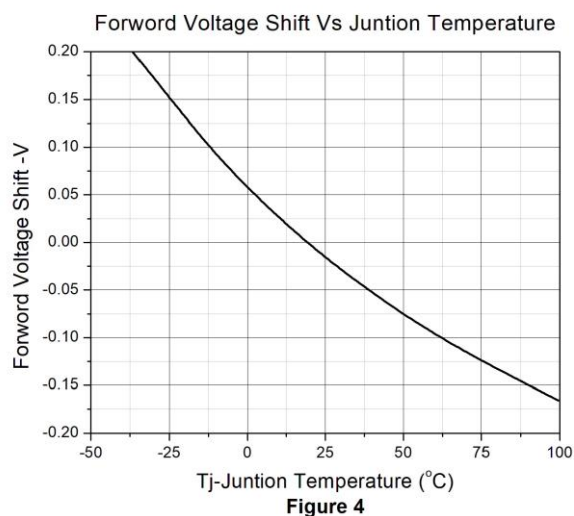
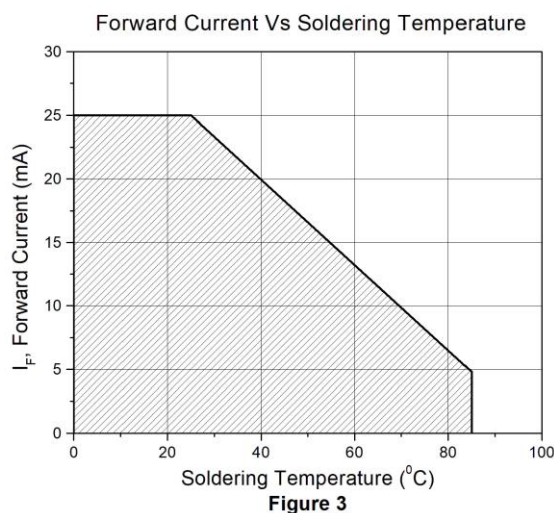
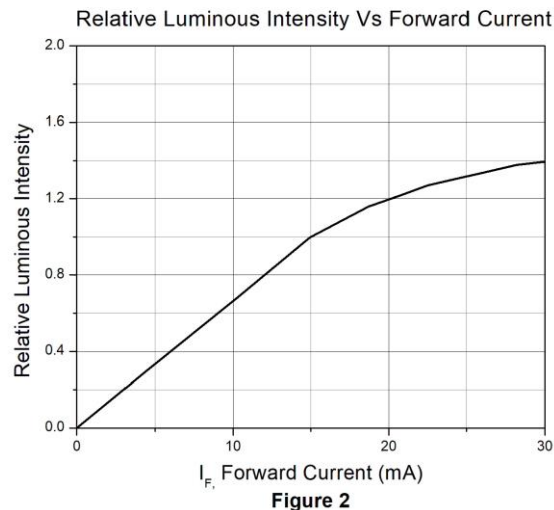
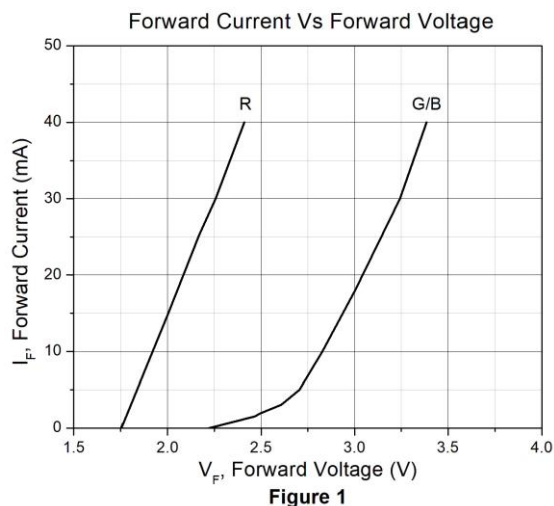
Tolerance of Forward Voltage: ±0.1V.



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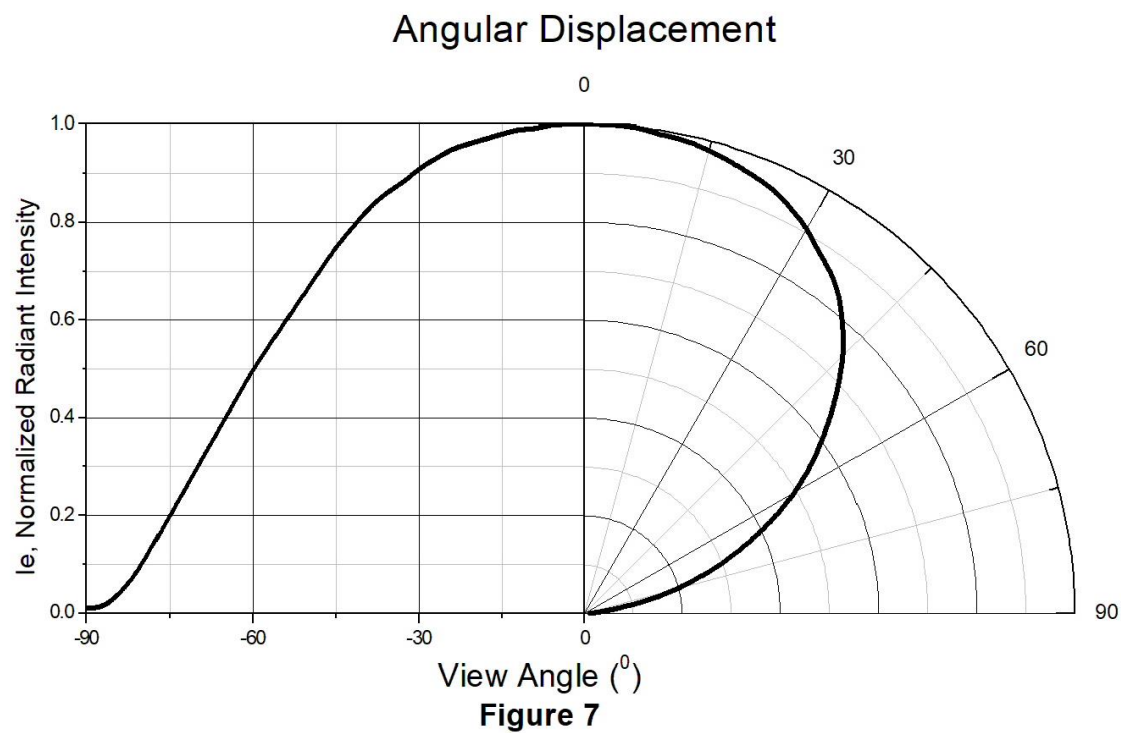
## Multi-Wavelength SMD Type

### Typical Characteristic Curves



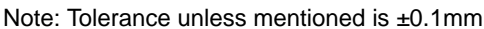


**Typical Characteristic Curves**





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



## Recommended Soldering Mask



## Ordering Information

CT Micro  
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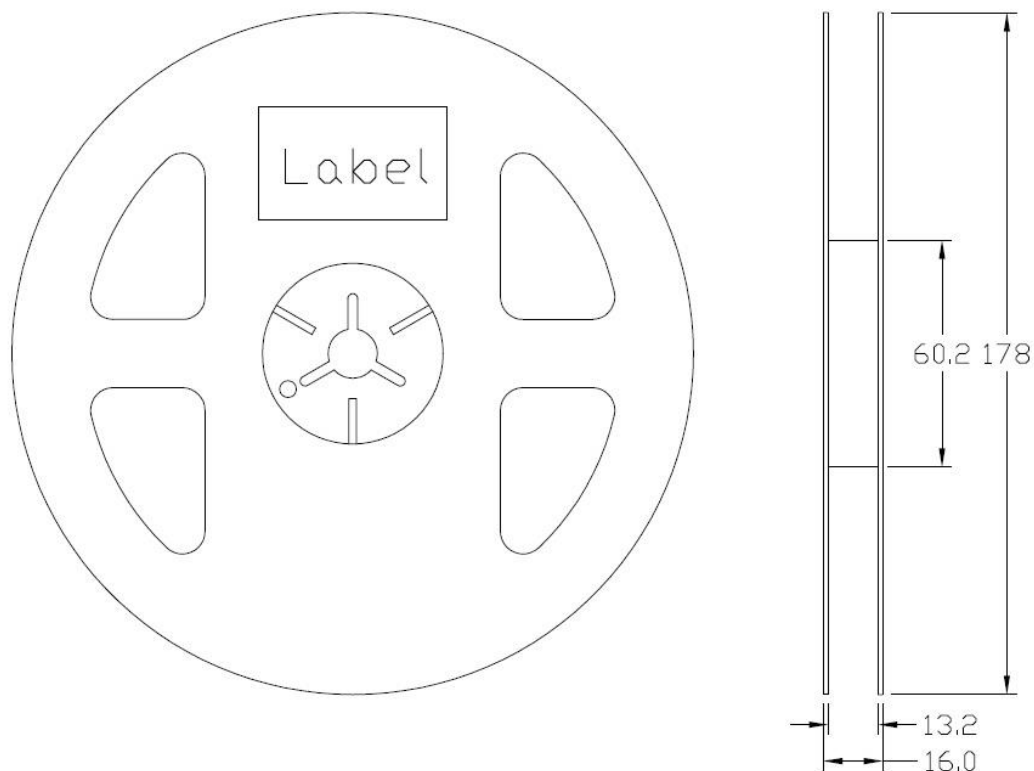


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## Multi-Wavelength SMD Type

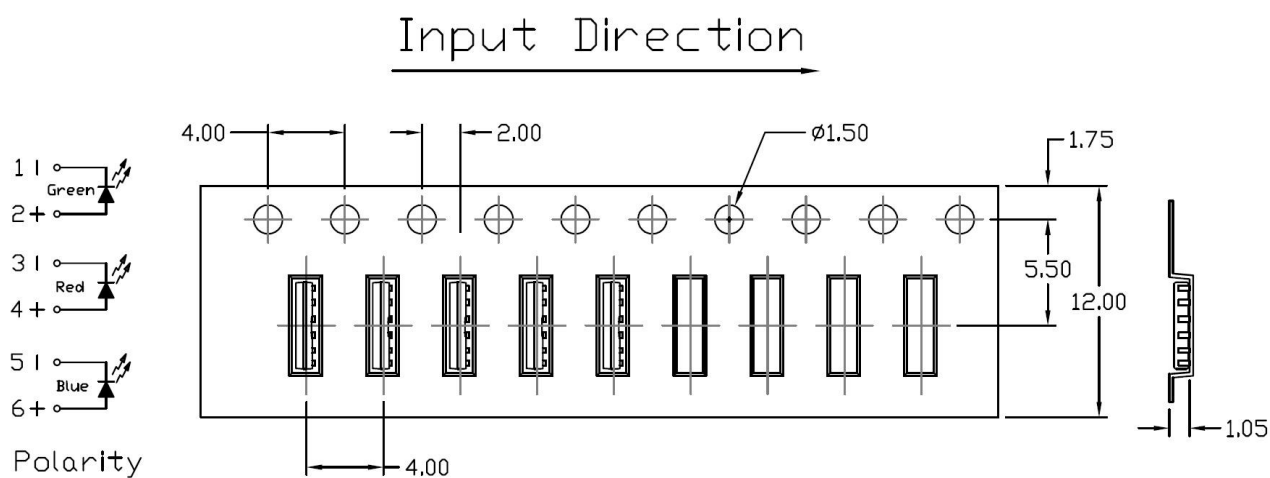
### Reel Dimension

All dimensions are in mm, unless otherwise stated



### Tape Dimension

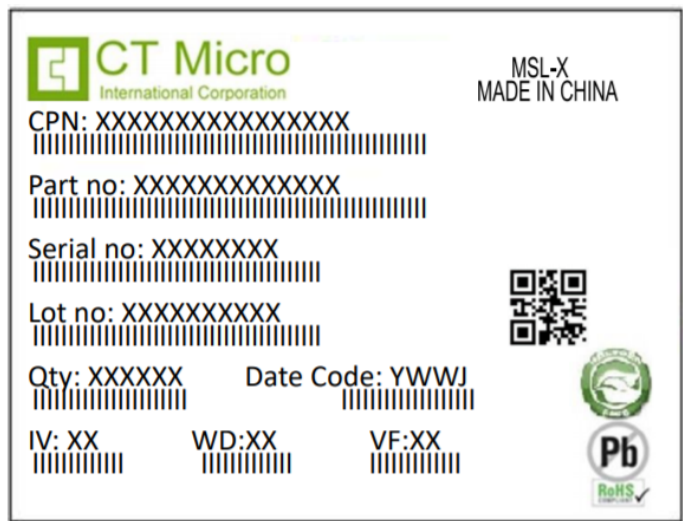
All dimensions are in mm, unless otherwise stated



Note: Tolerance unless mentioned is  $\pm 0.1\text{mm}$



Label Form Specification



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 24h 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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### Reflow Profile



Profile Feature	Pb-Free Assembly Profile
Temperature Min. ( $T_{smin}$ )	150°C
Temperature Max. ( $T_{smax}$ )	200°C
Time ( $t_s$ ) from ( $T_{smin}$ to $T_{smax}$ )	60-120 seconds
Ramp-up Rate ( $t_L$ to $t_P$ )	3°C/second max.
Liquidous Temperature ( $T_L$ )	217°C
Time ( $t_L$ ) Maintained Above ( $T_L$ )	60 – 150 seconds
Peak Body Package Temperature	260°C +0°C / -5°C
Time ( $t_P$ ) within 5°C of 260°C	30 seconds
Ramp-down Rate ( $T_P$ to $T_L$ )	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.



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