



## BRGC450810-ASC5

### Multi-Wavelength SMD Type

#### Features

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

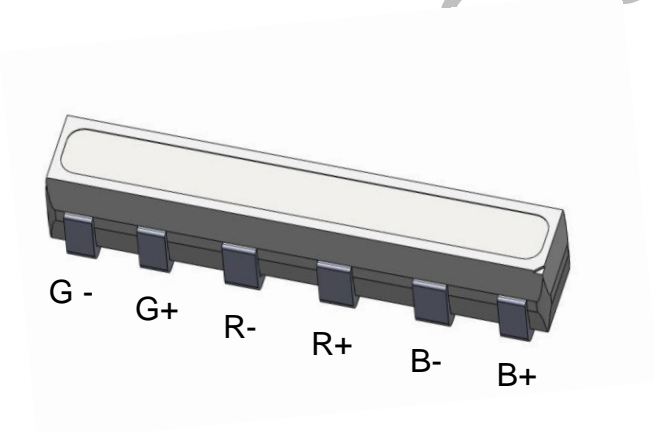
#### Applications

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

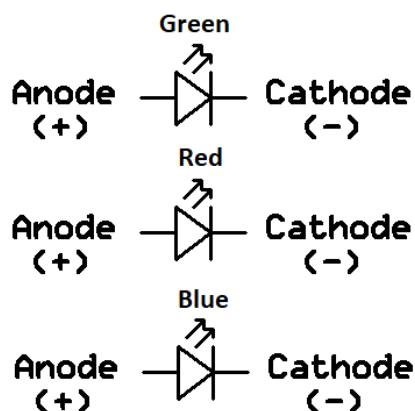
#### Description

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 *T<sub>A</sub> = 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.

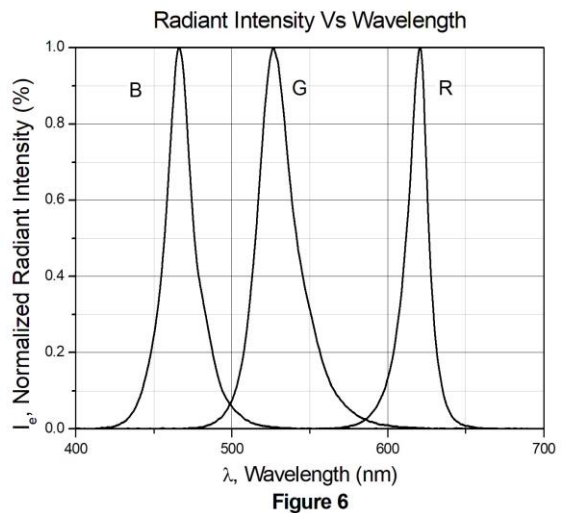
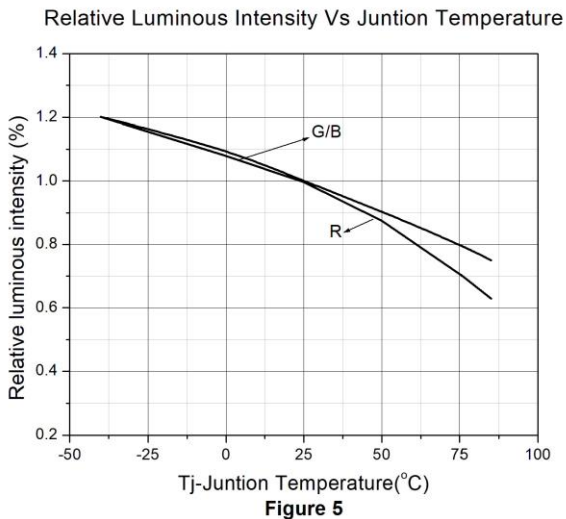
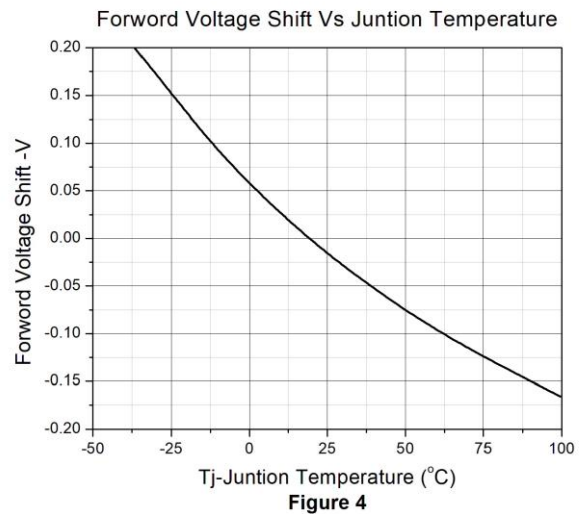
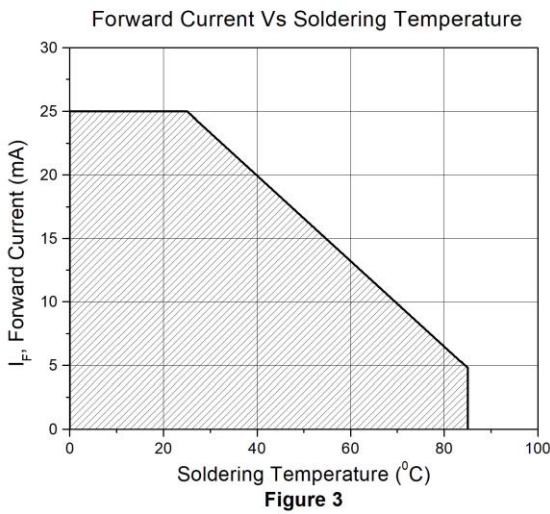
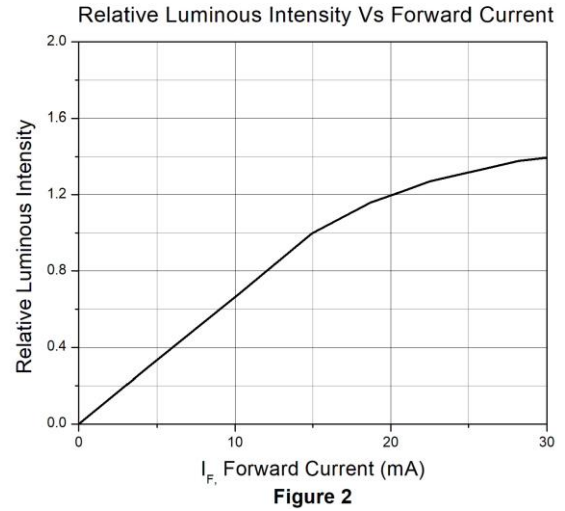
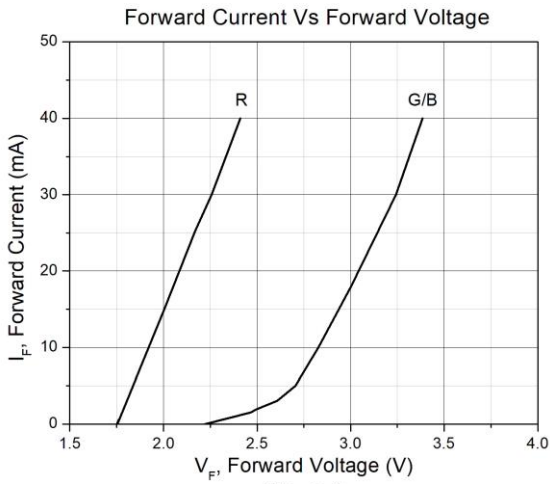
Tolerance of Luminous Intensity ±10%.

Tolerance of Dominant Wavelength: ±1nm.

Tolerance of Forward Voltage: ±0.1V.



## Typical Characteristic Curves





## Typical Characteristic Curves

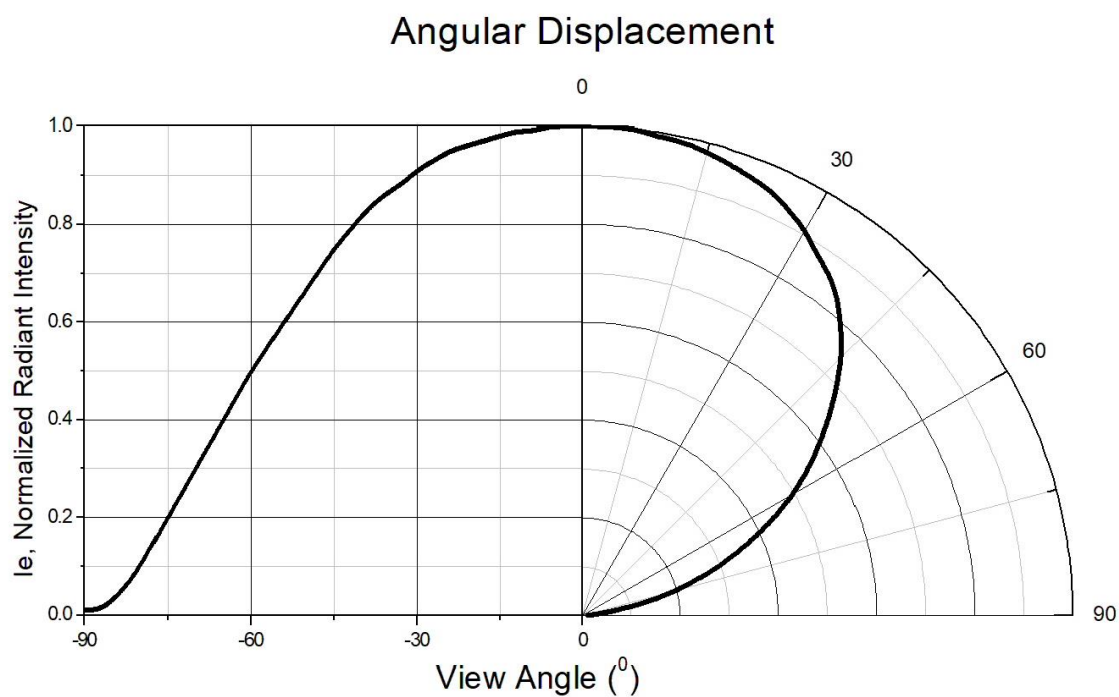


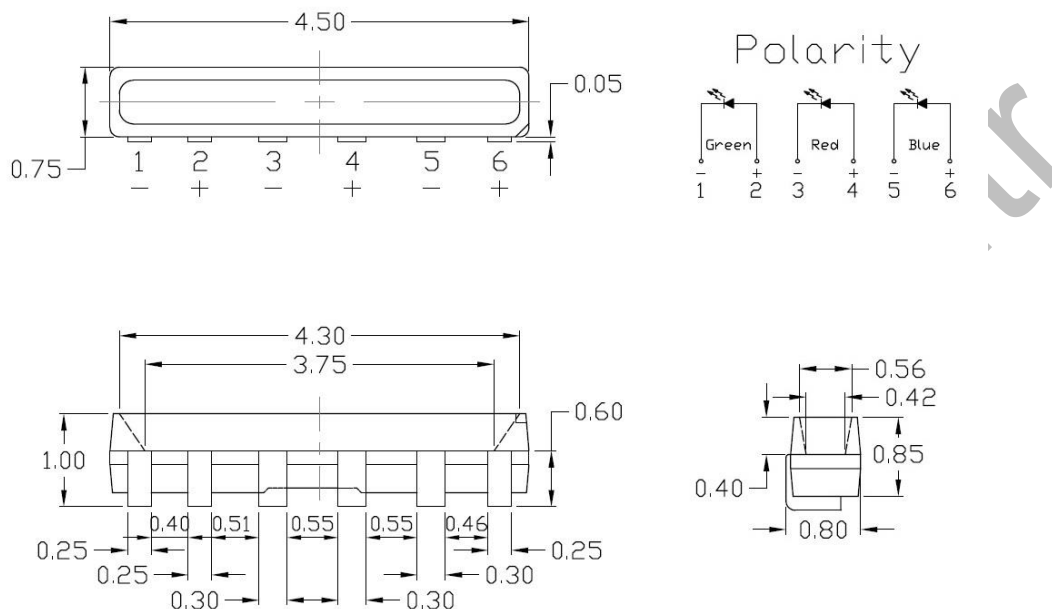
Figure 7



# BRGC450810-ASC5

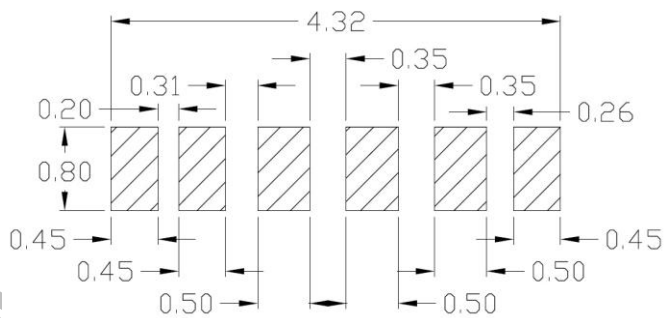
## Multi-Wavelength SMD Type

### 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*



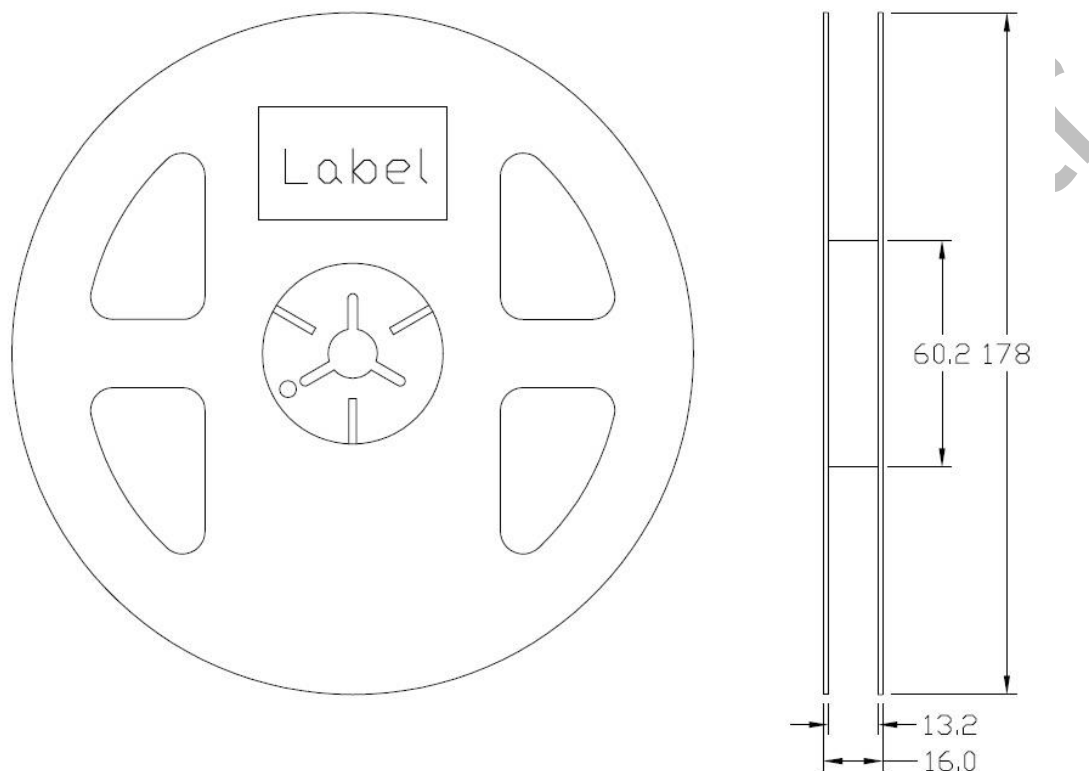
Note: Tolerance unless mentioned is  $\pm 0.1$ mm

### Ordering Information

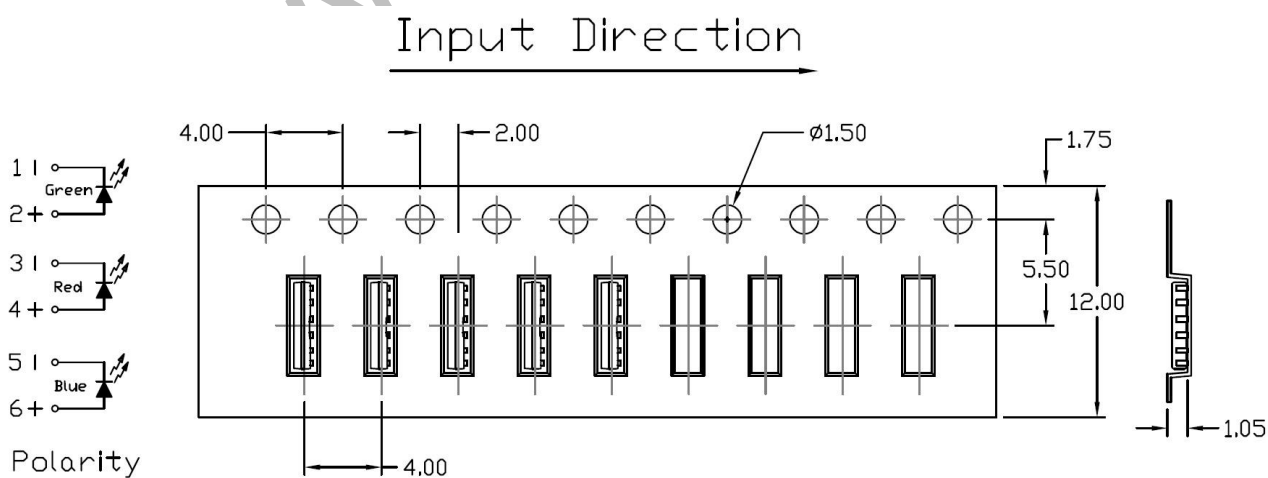
Part Number	Description	Quantity
BRGC450810-ASC5	Tape & Reel	5000 pcs



**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.

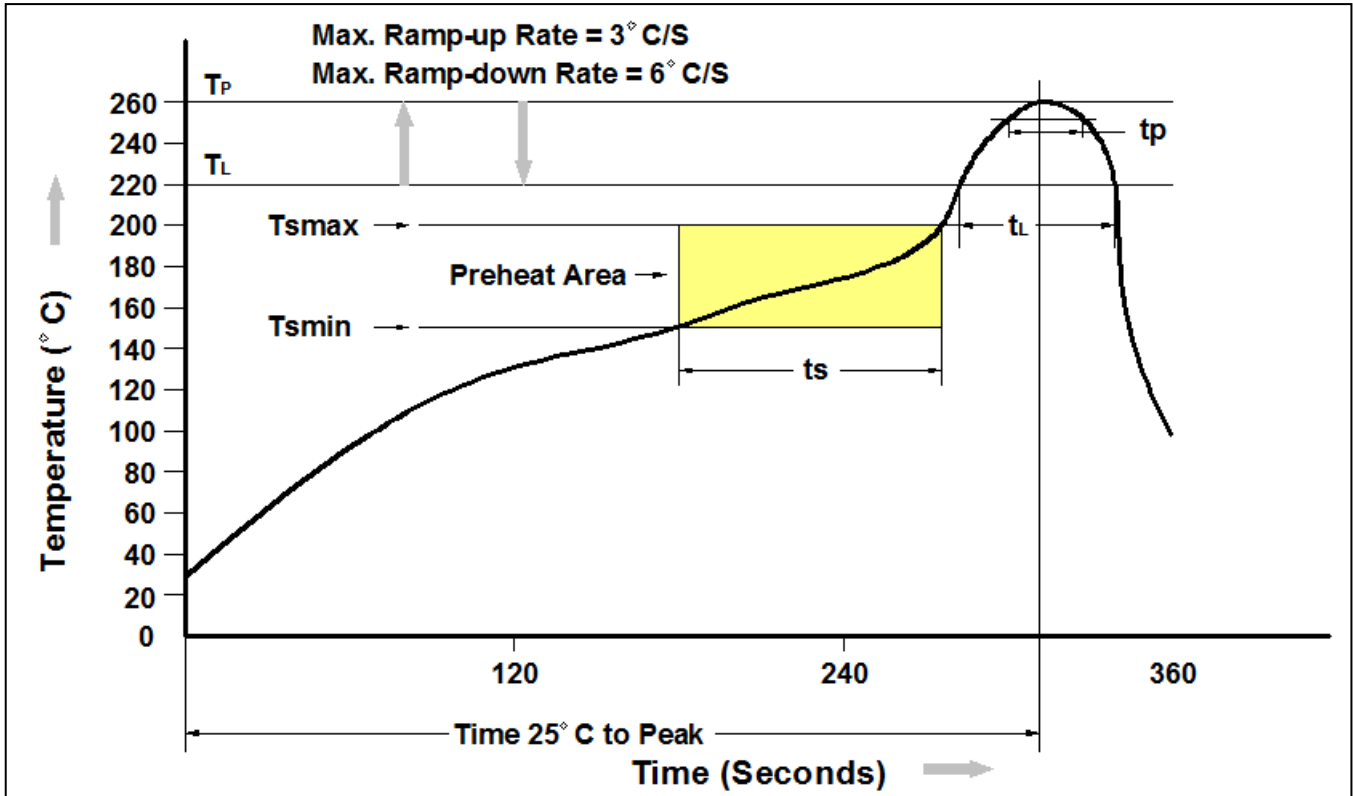




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## Multi-Wavelength SMD Type

### Reflow Profile



Profile Feature	Pb-Free Assembly Profile
Temperature Min. (T <sub>min</sub> )	150°C
Temperature Max. (T <sub>max</sub> )	200°C
Time (t <sub>s</sub> ) from (T <sub>min</sub> to T <sub>max</sub> )	60-120 seconds
Ramp-up Rate (t <sub>L</sub> to t <sub>P</sub> )	3°C/second max.
Liquidous Temperature (T <sub>L</sub> )	217°C
Time (t <sub>L</sub> ) Maintained Above (T <sub>L</sub> )	60 – 150 seconds
Peak Body Package Temperature	260°C +0°C / -5°C
Time (t <sub>P</sub> ) within 5°C of 260°C	30 seconds
Ramp-down Rate (T <sub>P</sub> to T <sub>L</sub> )	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.



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- 2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.*