



RBGC161510-PKTC17

Multi-Wavelength SMD Type

Features

- Top view 1615 package
- Wide viewing angle
- RGB individual control
- High reliability
- RoHS compliance

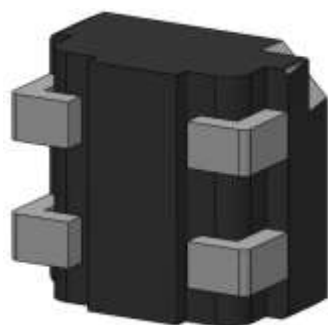
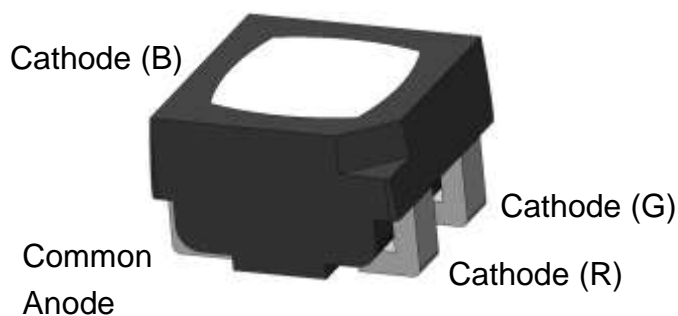
Applications

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

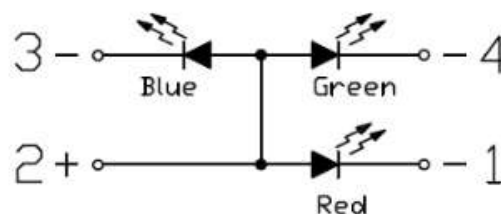
Description

The RBGC161510-PKTC17 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 _F	Continuous Forward Current	R	20	mA	
		G	15		
		B	15		
I _{FP}	Peak Forward Current	R	25	mA	1
		G	20		
		B	20		
V _R	Reverse Voltage		5	V	
T _{opr}	Operating Temperature		-40 ~ +85	°C	
T _{stg}	Storage Temperature		-40 ~ +100	°C	
T _{sol}	Soldering Temperature		260	°C	2
P _D	Power Dissipation at(or below) 25°C Free Air Temperature	R	40	mW	
		G	50		
		B	50		

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

Optical Characteristics (Red)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I _v	Luminous Intensity	I _F =8mA	46	-	78	mcd	3
λ _d	Dominant Wavelength	I _F =8mA		624.5	-	nm	4
θ _{1/2}	Angle of Half Intensity	I _F =5mA	-	±60	-	deg	

Electrical Characteristics (Red)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V _F	Forward Voltage	I _F =8mA	1.6	-	2.4	V	5
I _R	Reverse Current	V _R =10V	-	-	1	μA	



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Optical Characteristics (Green)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I _v	Luminous Intensity	I _F =5mA	102	-	172	mcd	3
λ _d	Dominant Wavelength	I _F =5mA	-	525.5	-	nm	4
θ _{1/2}	Angle of Half Intensity	I _F =5mA	-	±60	-	deg	

Electrical Characteristics (Green)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V _F	Forward Voltage	I _F =5mA	2.4	-	3.4	V	5
I _R	Reverse Current	V _R =10V	-	-	1	μA	

Optical Characteristics (Blue)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I _v	Luminous Intensity	I _F =3mA	20	-	34	mcd	3
λ _d	Dominant Wavelength	I _F =3mA	-	468.0	-	nm	4
θ _{1/2}	Angle of Half Intensity	I _F =10mA	-	±60	-	deg	

Electrical Characteristics (Blue)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V _F	Forward Voltage	I _F =5mA	2.4	-	3.4	V	5
I _R	Reverse Current	V _R =10V	-	-	1	μA	

Notes:

1. I_{FP} 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
D1	46	60	mcd	I _F =8mA
E1	60	78		
Green				
Bin Code	Min	Max	Unit	Condition
J1	102	132	mcd	I _F =5mA
K1	132	172		



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Blue				
Bin Code	Min	Max	Unit	Condition
Z1	20	26	mcd	I _F =3mA
A1	26	34		

Tolerance of Luminous Intensity $\pm 10\%$.

4. Bin Range of Dominant Wavelength

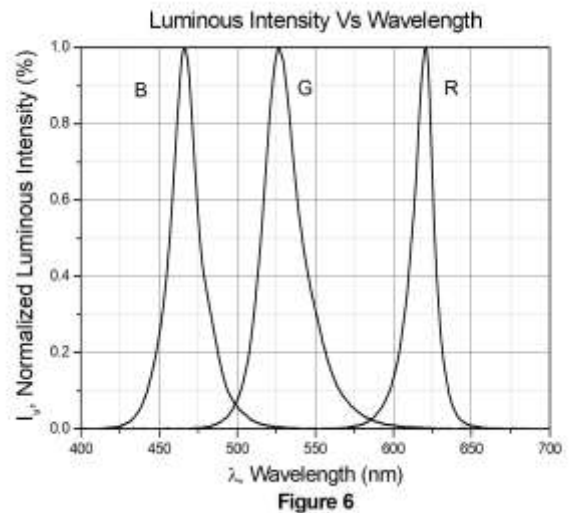
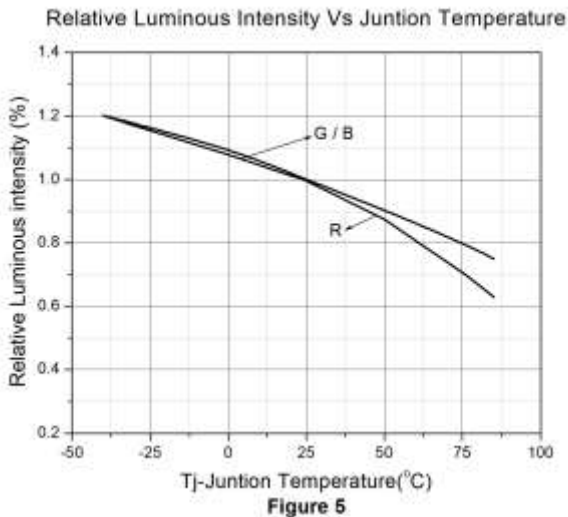
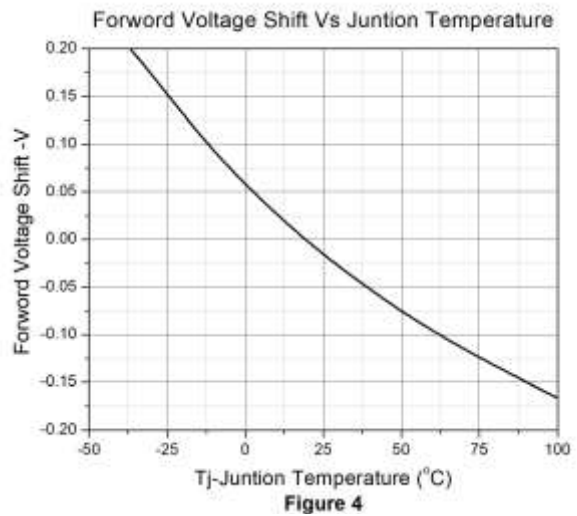
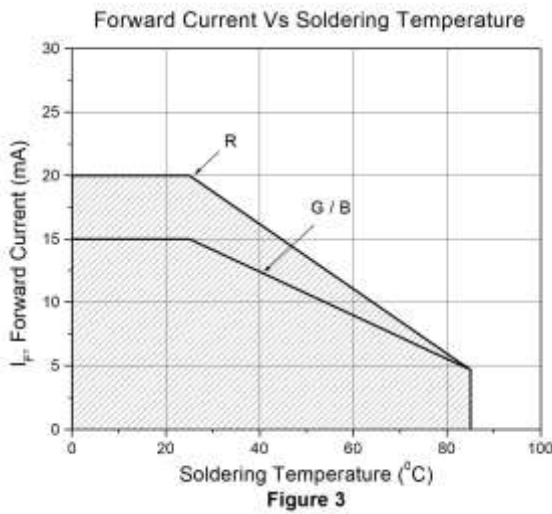
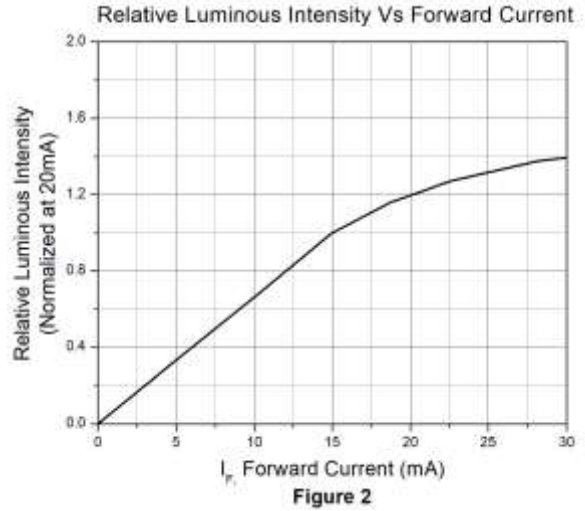
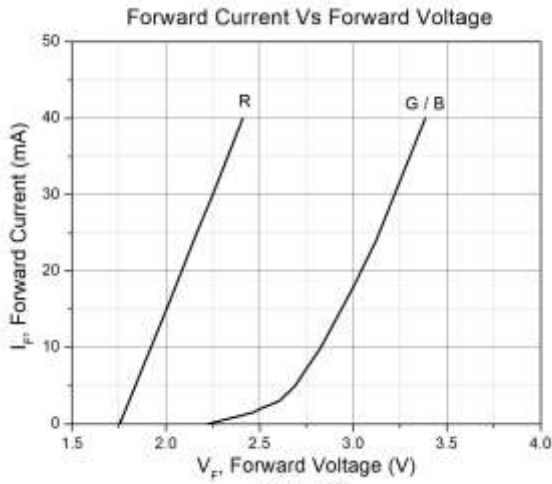
Red				
Bin Code	Min	Max	Unit	Condition
R1	619.5	624.5	nm	I _F =8mA
R2	624.5	629.5		
Green				
Bin Code	Min	Max	Unit	Condition
G1	521.0	525.0	nm	I _F =5mA
G2	525.0	529.0		
Blue				
Bin Code	Min	Max	Unit	Condition
B1	464.0	468.0	nm	I _F =3mA
B2	468.0	472.0		

Tolerance of Dominant Wavelength: ± 1 nm.

5. Tolerance of Forward Voltage: ± 0.1 V.

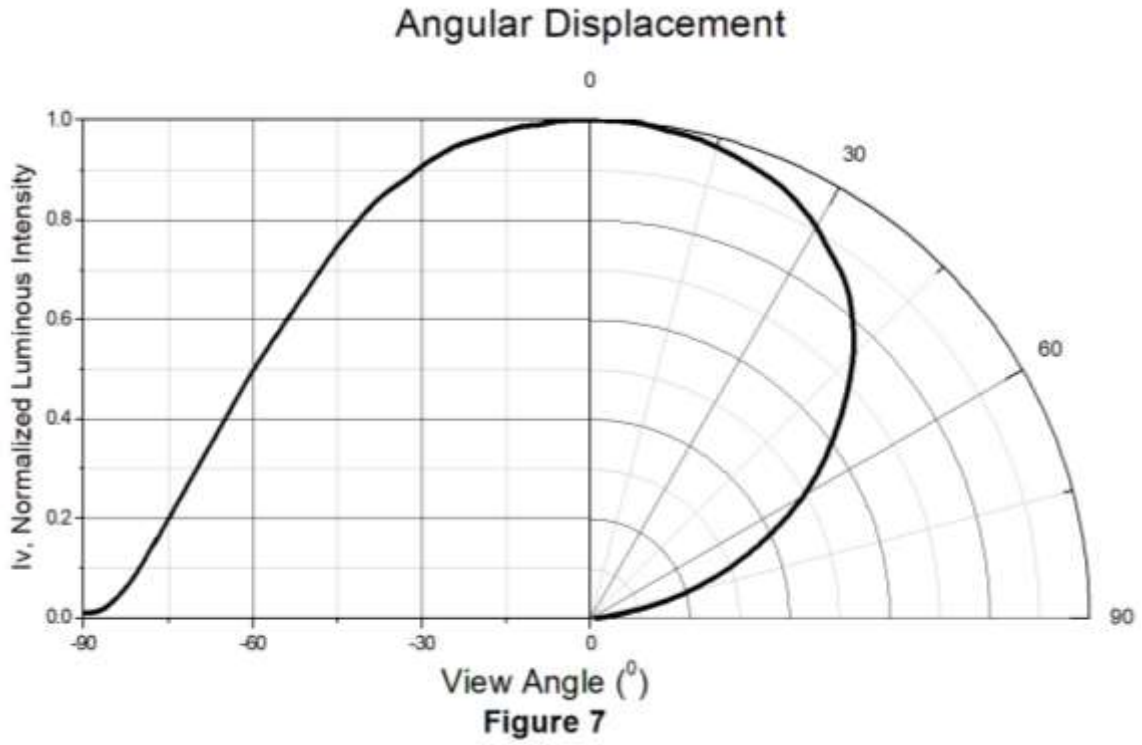


Typical Characteristic Curves





Typical Characteristic Curves

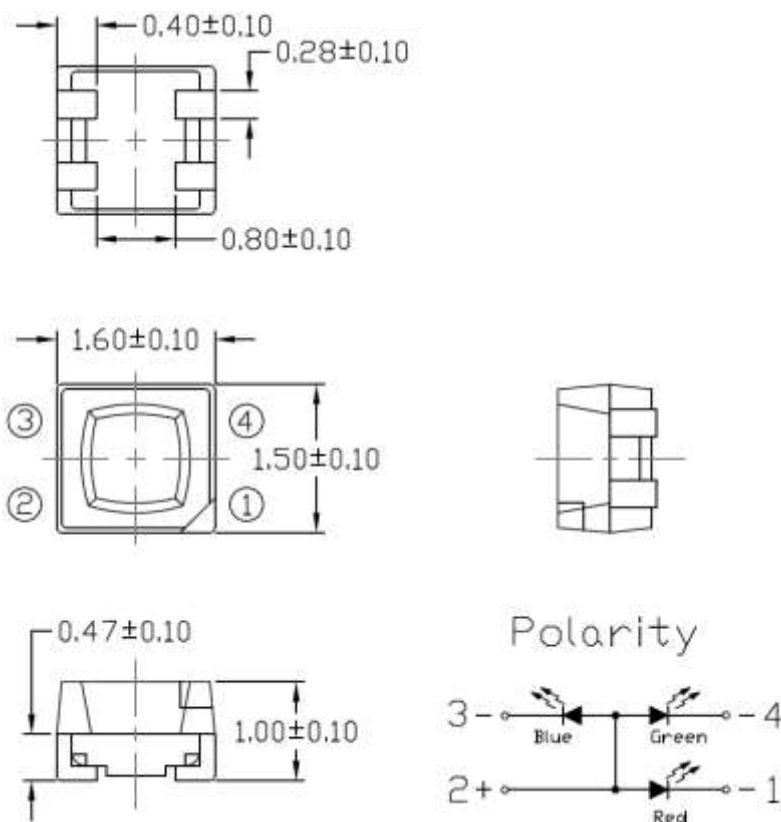




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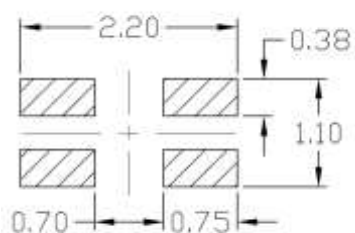
Multi-Wavelength SMD Type

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



Note: Tolerance unless mentioned is ± 0.1 mm

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



Note: Tolerance unless mentioned is ± 0.1 mm

Ordering Information

Part Number	Description	Quantity
RBGC161510-PKTC17	Tape & Reel	17000 pcs

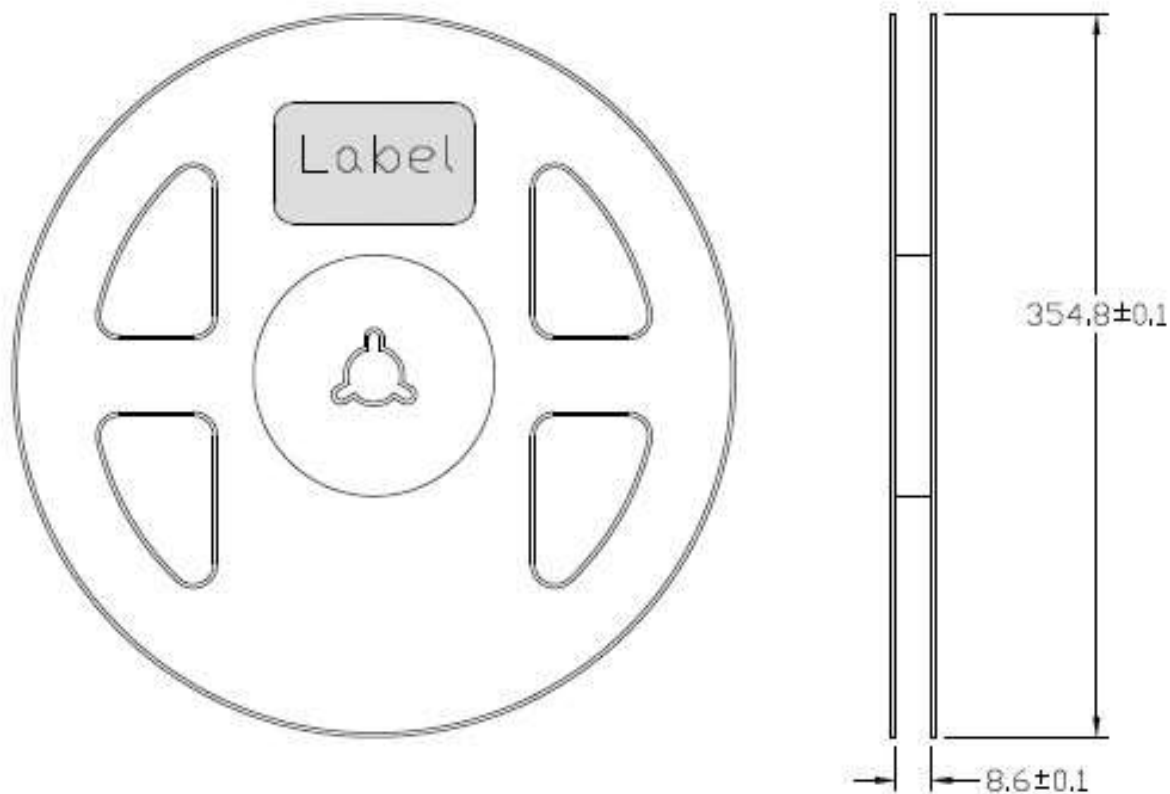


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Multi-Wavelength SMD Type

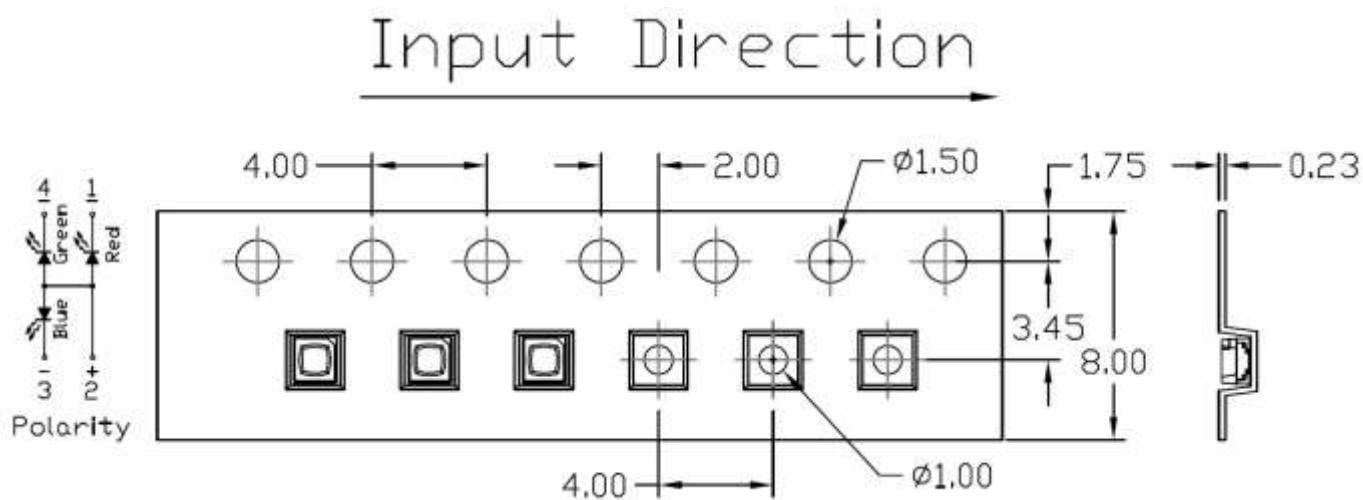
Reel Dimension

All dimensions are in mm, unless otherwise stated



Tape Dimension

All dimensions are in mm, unless otherwise stated



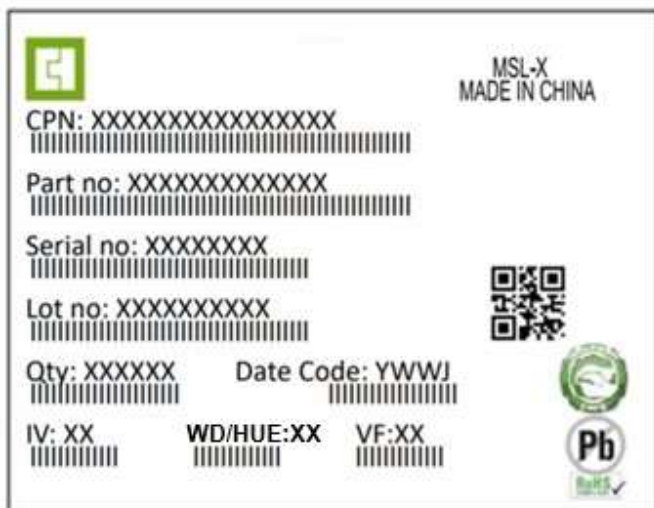
Note: Tolerance unless mentioned is ± 0.1 mm



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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
HUE: Bin Code of Chromaticity Coordinates
VF : Bin Code of Forward Voltage
MADE IN CHINA: Production Place

Storage Condition

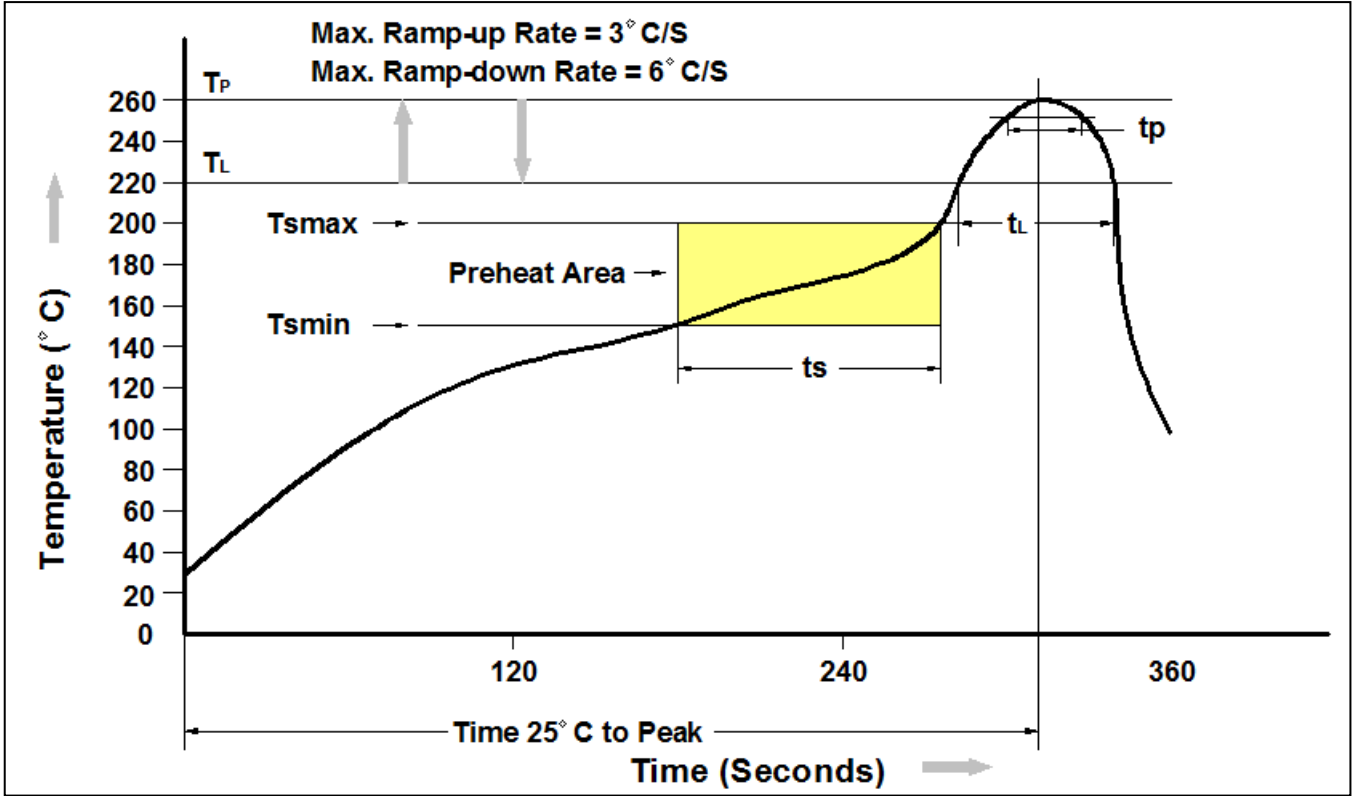
1. Do not open moisture proof bag before the products are ready to use.
2. The moisture barrier bag should be stored at 30°C and 90%R.H. max. before opening.
Shelf life of non-opened bag is 12 months after the bag sealing date.
3. After opening the moisture barrier bag floor life is 168h at 30°C/60%RH. 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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