



WRP321015-NCSC2

Dual Wavelength SMD Type Emitter

Features

- Side view 1204 package
- Viewing Angle = $\pm 65^\circ$
- Compatible with infrared and vapor phase reflow solder process
- High reliability
- RoHS compliance

Applications

- Optical indicator.
- Switch and Symbol Display.

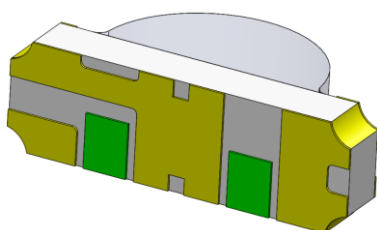
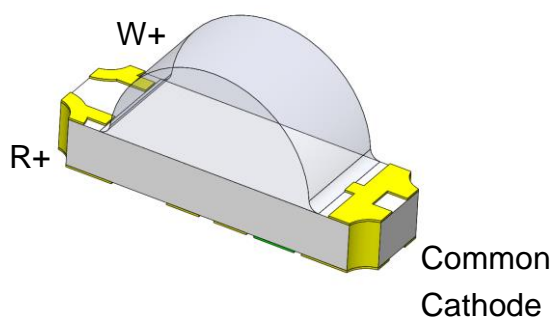
Description

The WRP321015-NCSC2 is a double LED housed in a miniature SMD package. The device has a Red and White LED.

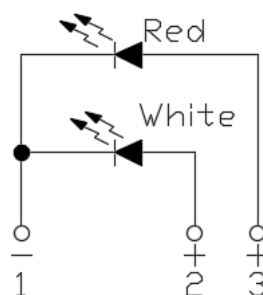
Static electricity and surge damage the LEDs.

It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

Package Outline



Schematic





WRP321015-NCSC2

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Absolute Maximum Rating at 25°C

Symbol	Parameters		Ratings	Units	Notes
I _F	Continuous Forward Current	W	25	mA	
		R	25		
I _{FP}	Peak Forward Current	W	60	mA	1
		R	60		
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	W	95	mW	
		R	60		

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

Optical Characteristics (White)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I _v	Luminous Intensity	I _F =5mA	112	-	285	mcd	3
λ _p	Peak Wavelength	I _F =5mA	-	-	-	nm	
λ _D	Dominant Wavelength	I _F =5mA	-	-	-	nm	4
θ _{1/2}	Angle of Half Intensity	I _F =5mA	-	±65	-	deg	

Electrical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V _F	Forward Voltage	I _F =5mA	2.7	-	3.3	V	
I _R	Reverse Current	V _R =5V	-	-	1	μA	

Optical Characteristics (Red)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I _v	Luminous Intensity	I _F =5mA	18	-	45	mcd	3
λ _p	Peak Wavelength	I _F =5mA	-	632	-	nm	
λ _D	Dominant Wavelength	I _F =5mA	-	621	-	nm	4
θ _{1/2}	Angle of Half Intensity	I _F =5mA	-	±65	-	deg	



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Electrical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V _F	Forward Voltage	I _F =5mA	1.7	-	2.4	V	
I _R	Reverse Current	V _R =5V	-	-	1	μA	

Notes:

1. I_{FP} Conditions--Pulse Width ≤ 100μs and Duty ≤ 10%.
2. Soldering time ≤ 10 seconds.
3. Bin Range of Luminous Intensity

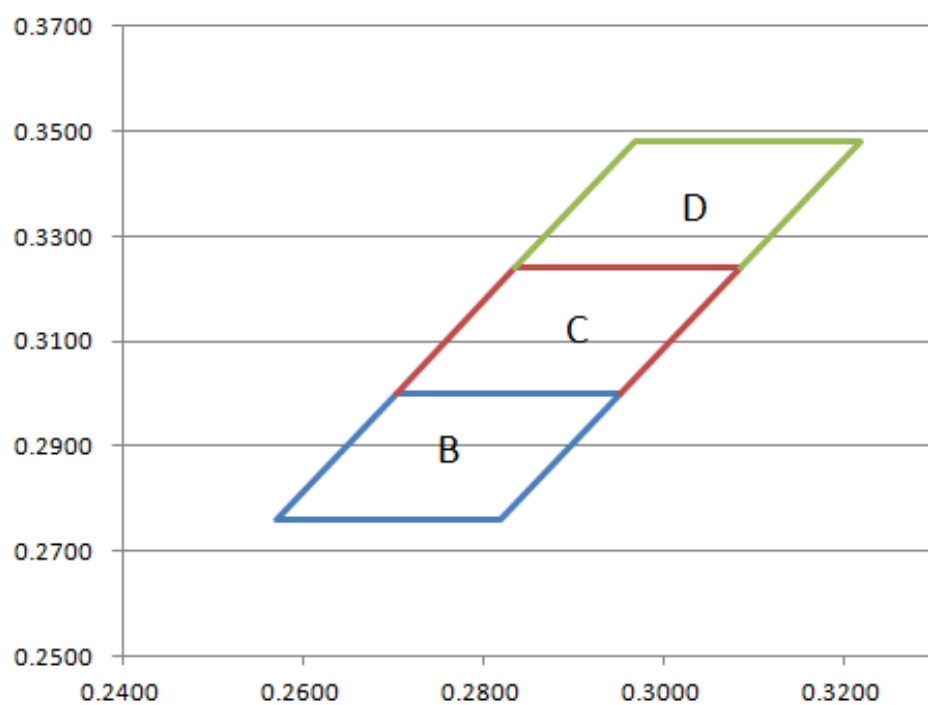
White				
Bin Code	Min	Max	Unit	Condition
R	112	180	mcd	I _F =5mA
S	180	285		
Red				
Bin Code	Min	Max	Unit	Condition
M	18.0	28.5	mcd	I _F =5mA
N	28.5	45.0		

Tolerance of: Luminous Intensity ±10%



4. Bin Range of Chromaticity Coordinates

Bin Code	CIE_x	CIE_y	Bin Code	CIE_x	CIE_y
B	0.2570	0.2760	C	0.2703	0.3000
	0.2703	0.3000		0.2836	0.3240
	0.2953	0.3000		0.3086	0.3240
	0.2820	0.2760		0.2953	0.3000
D	0.2836	0.3240			
	0.2969	0.3480			
	0.3219	0.3480			
	0.3086	0.3240			





Typical Characteristic Curves

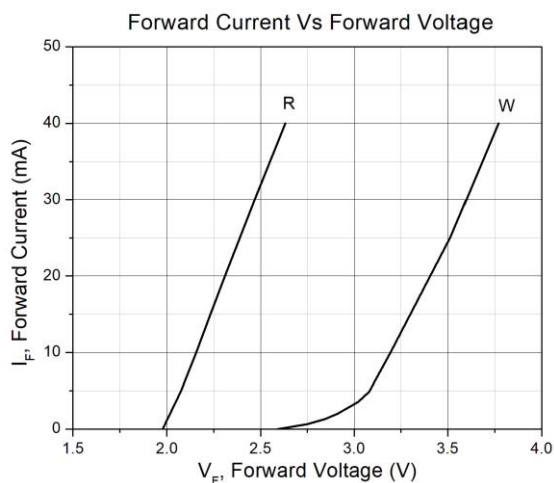


Figure 1

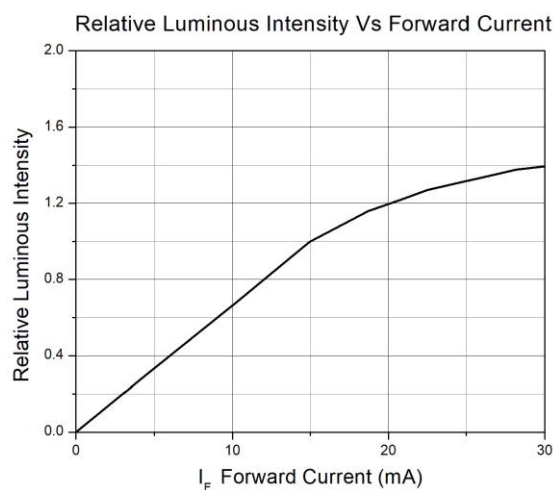


Figure 2

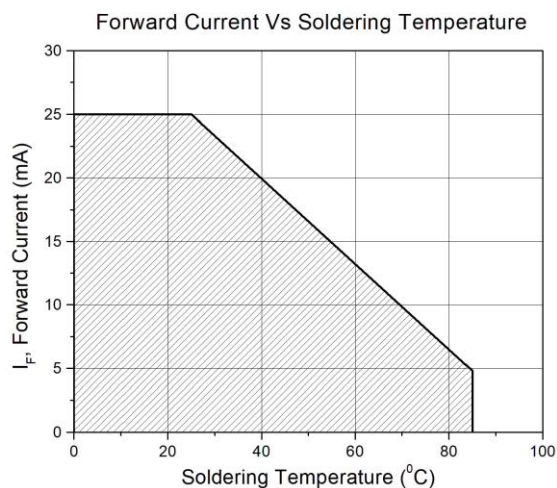


Figure 3

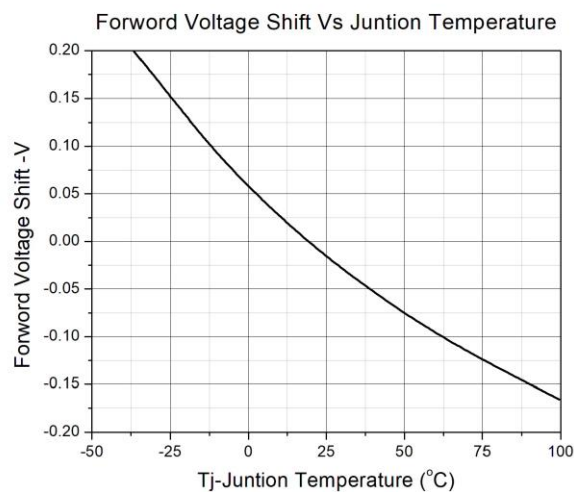


Figure 4

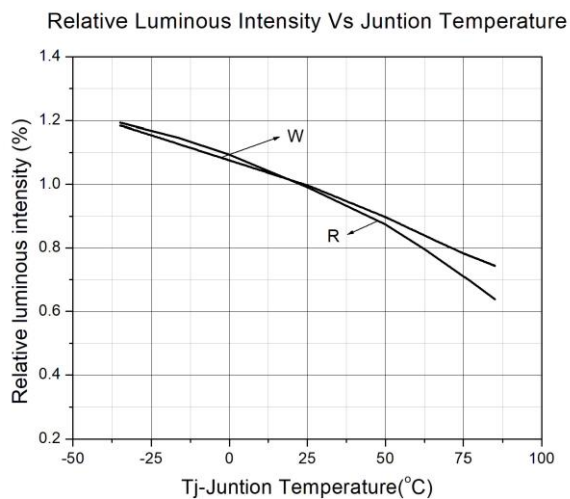


Figure 5

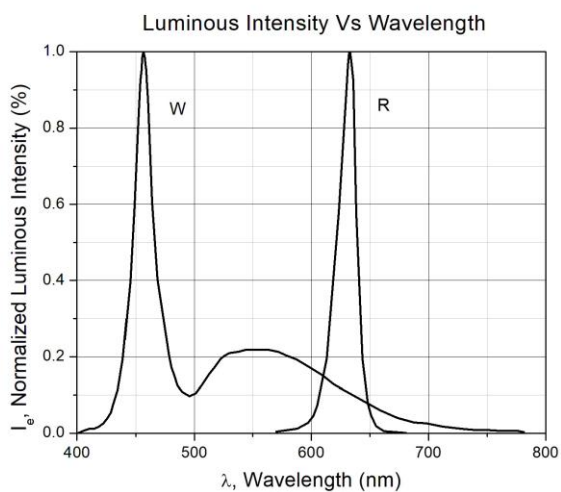
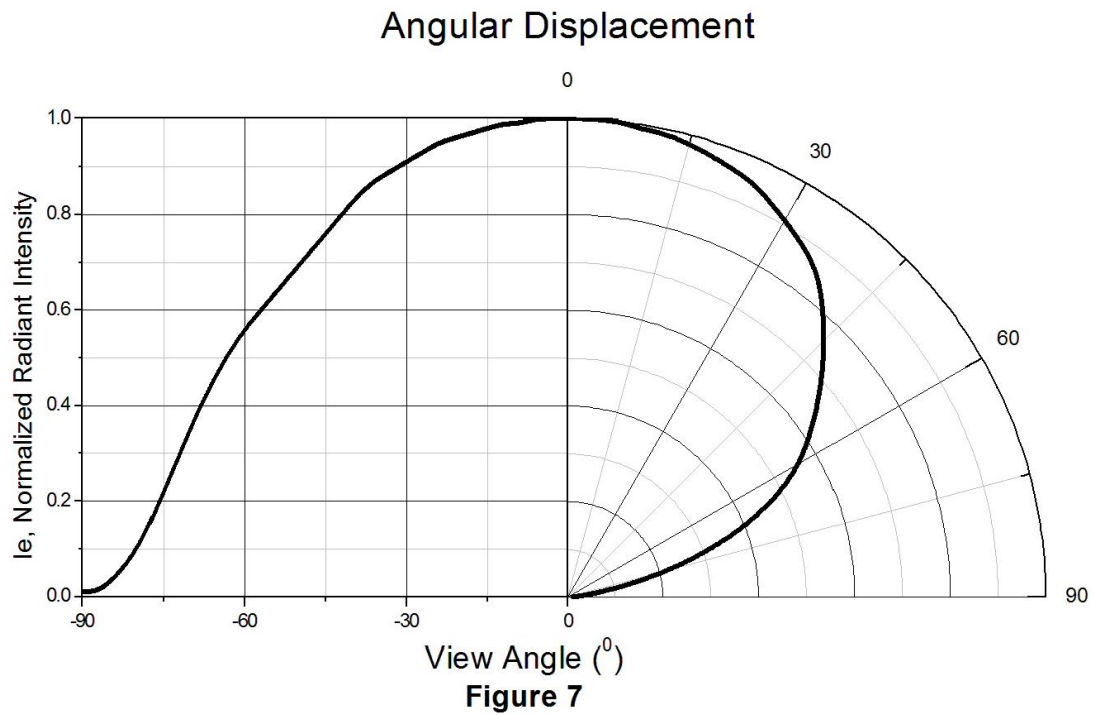


Figure 6



Typical Characteristic Curves

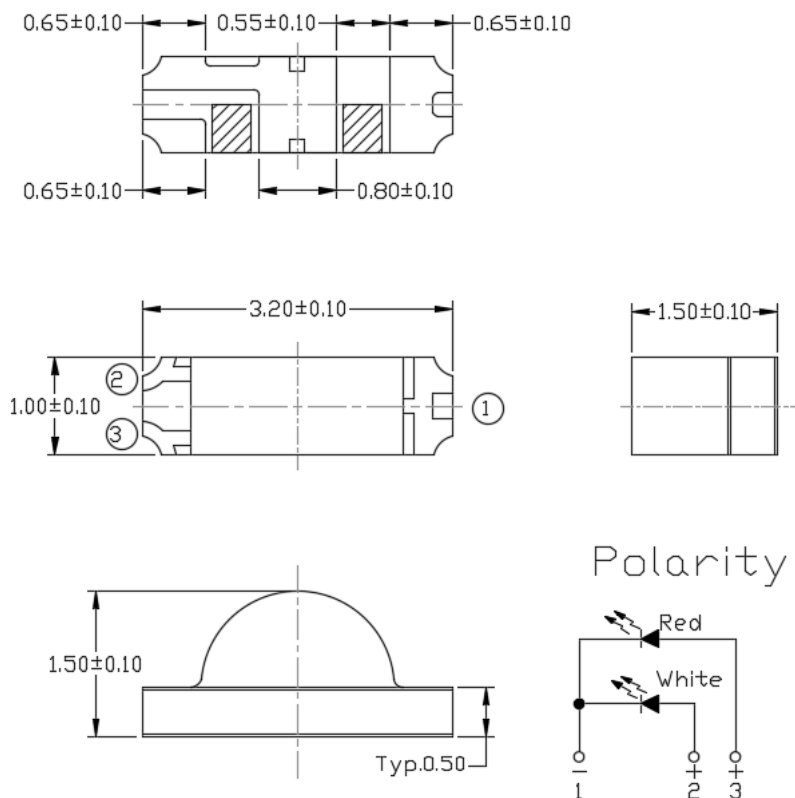




WRP321015-NCSC2

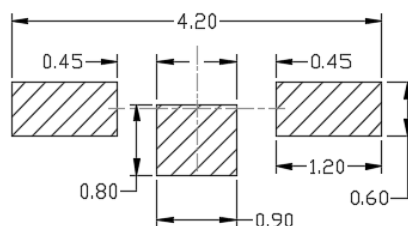
Dual Wavelength SMD Type Emitter

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*



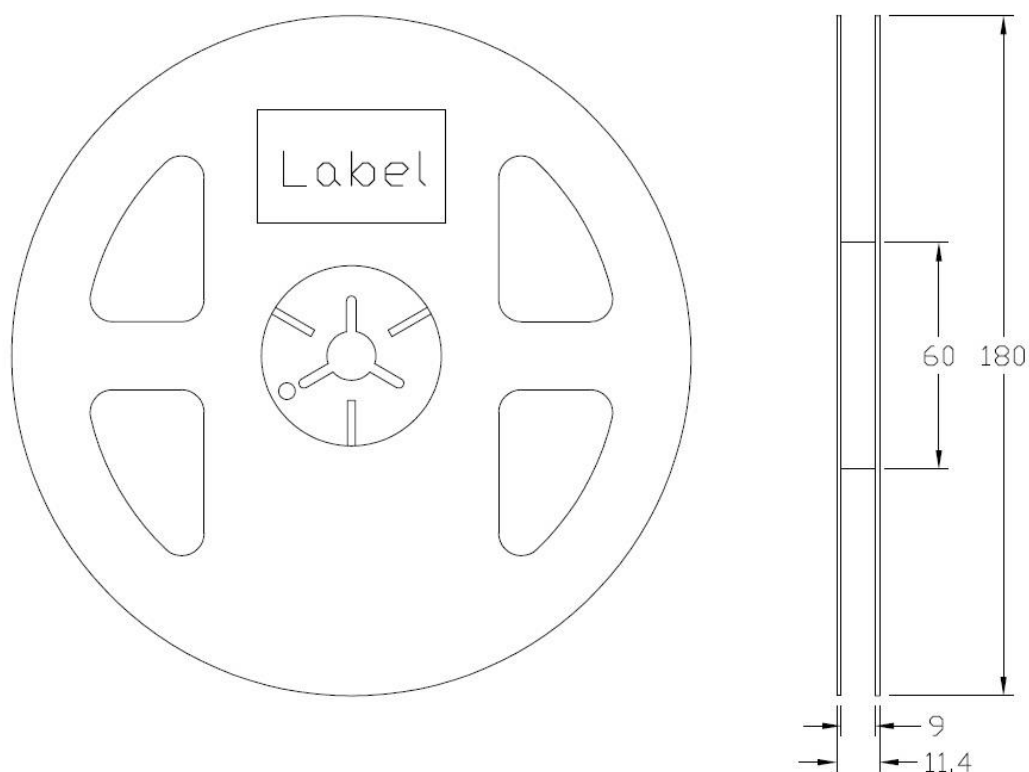
Note: Tolerance unless mentioned is ± 0.1 mm.

Ordering Information

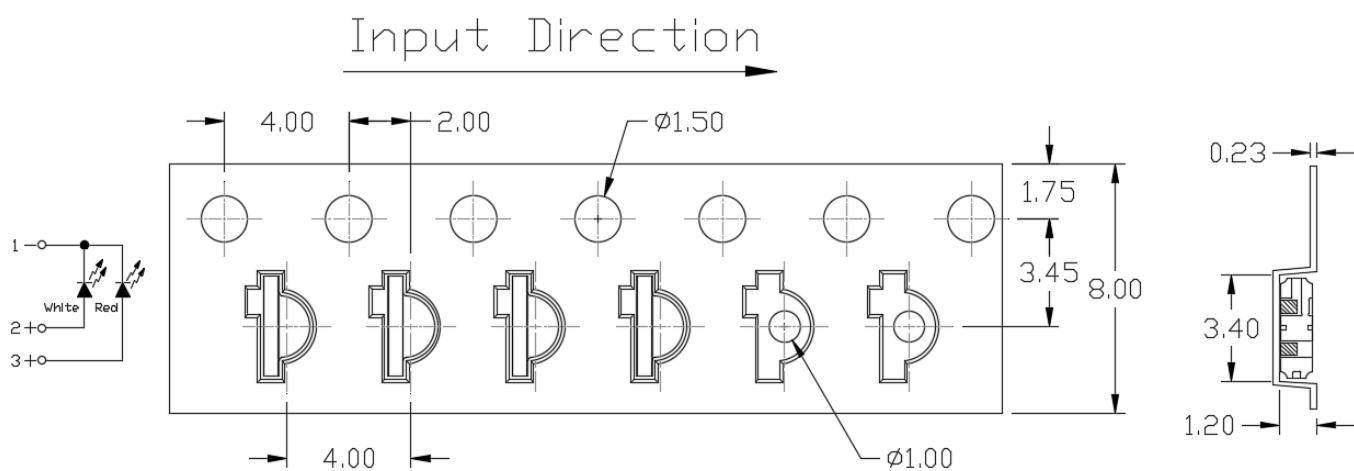
Part Number	Description	Quantity
WRP321015-NCSC2	Tape & Reel	2000 pcs



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 ± 0.1 mm.



Label Form Specification

CT Micro
International Corporation

MSL-X
MADE IN CHINA

CPN: XXXXXXXXXXXXXXXXX
|||||

Part no: XXXXXXXXXXXXXXXX
|||||

Serial no: XXXXXXXX
|||||

Lot no: XXXXXXXX
|||||

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

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

QR Code

Pb
RoHS

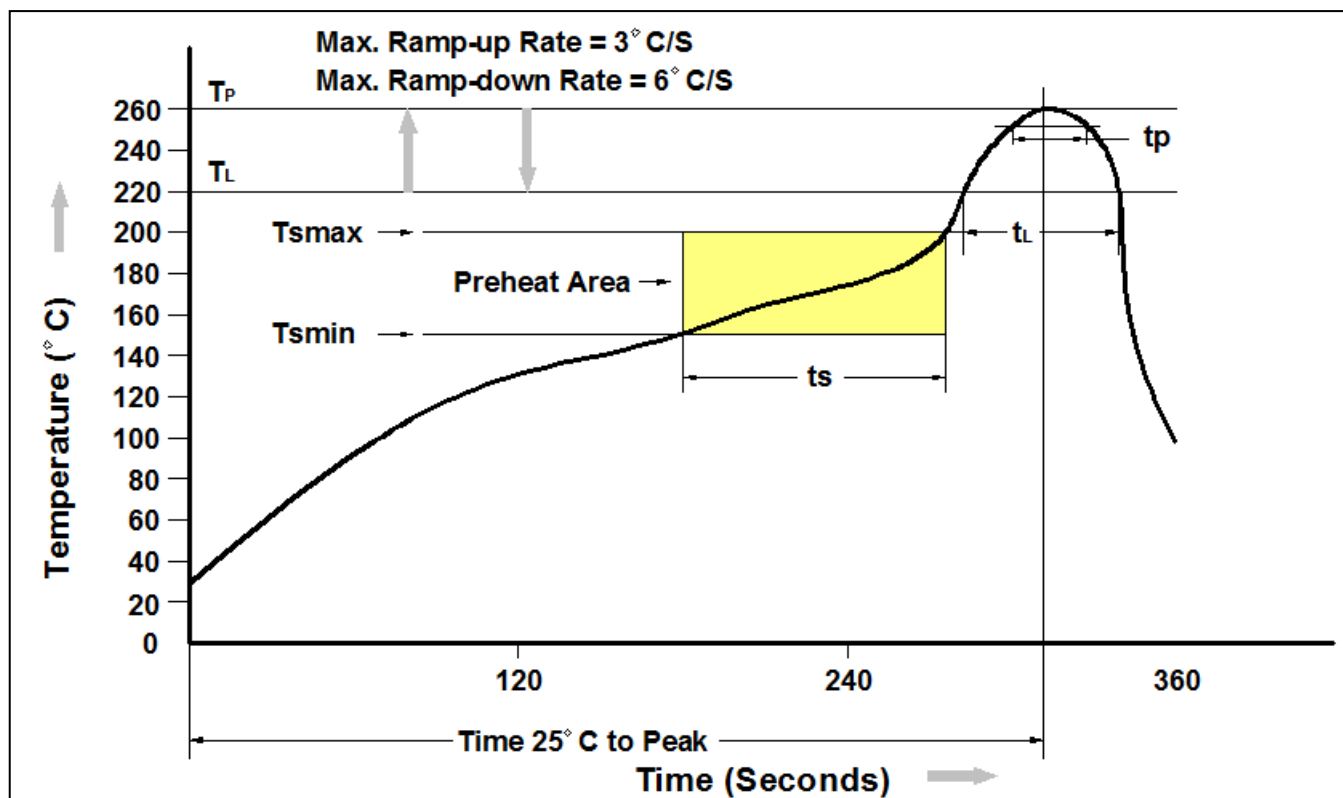
CPN : Customer Part Number
Part no: CTM Production Number
Serial no: Production Number
Lot no: Lot number
Q'ty: Packing Quantity
Date Code: Manufacture Date
IV : Bin Code of Luminous Intensity
WD : Bin Code of Dominant Wavelength
VF : Bin Code of Forward Voltage
MADE IN CHINA: Production Place

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.



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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