



RP160804-CTC4

SMD Type Red Emitter

Features

- Top view 0603 package
- Viewing Angle = $\pm 60^\circ$
- Compatible with infrared and vapor phase reflow solder process
- High reliability
- Ultra bright Red
- RoHS compliance

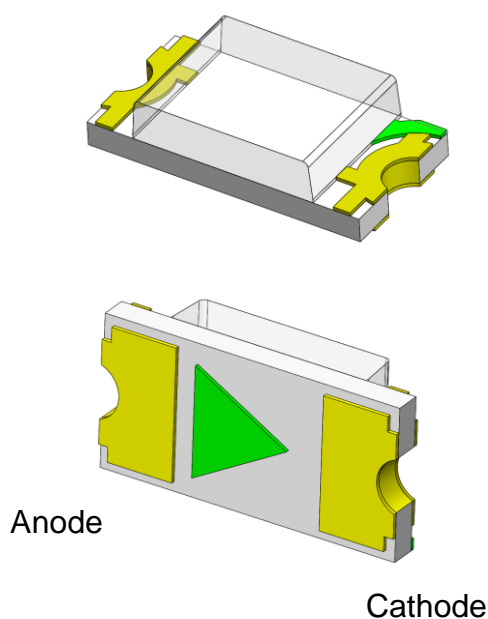
Applications

- Optical indicator.
- Switch and Symbol Display.

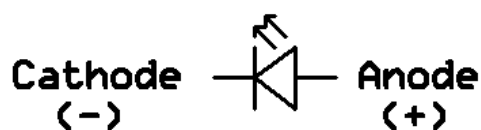
Description

The RP160804-CTC4 is an AlGaInP Red LED housed in a miniature SMD package. The device has a dominant wavelength of 624nm LED.

Package Outline



Schematic





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Absolute Maximum Rating at 25°C

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

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

Optical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I _v	Luminous Intensity	I _F =5mA	14.5	-	45.0	mcd	3
λ _d	Dominant Wavelength	I _F =5mA	617.5	-	629.5	nm	4
θ _{1/2}	Angle of Half Intensity	I _F =5mA	-	±60	-	deg	

Electrical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V _F	Forward Voltage	I _F =5mA	1.7	-	2.2	V	5
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

Bin Code	Min	Max	Unit	Condition
L2	14.5	18.0	mcd	I _F =5mA
M1	18.0	22.5		
M2	22.5	28.5		
N1	28.5	36.0		
N2	36.0	45.0		

Tolerance of: Luminous Intensity ±10%



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4. Bin Range of Dominant Wavelength

Bin Code	Min	Max	Unit	Condition
E4	617.5	621.5	nm	I _F =5mA
E5	621.5	625.5		
E6	625.5	629.5		

Tolerance of Dominant Wavelength ± 1 nm

5. Bin Range of Forward Voltage

Bin Code	Min	Max	Unit	Condition
18	1.7	1.8	V	I _F =5mA
19	1.8	1.9		
20	1.9	2.0		
21	2.0	2.1		
22	2.1	2.2		

Tolerance of Forward Voltage ± 0.05 V



Typical Characteristic Curves

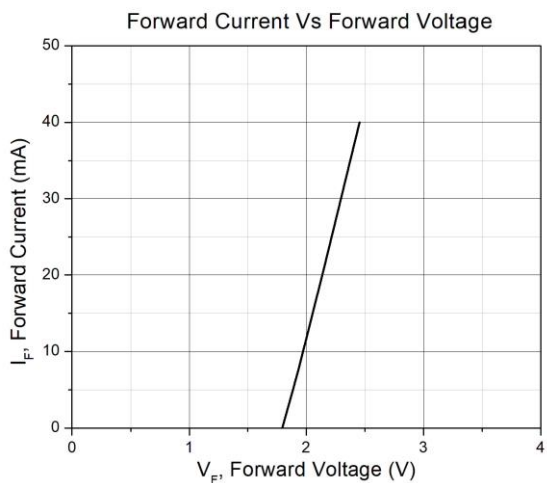


Figure 1

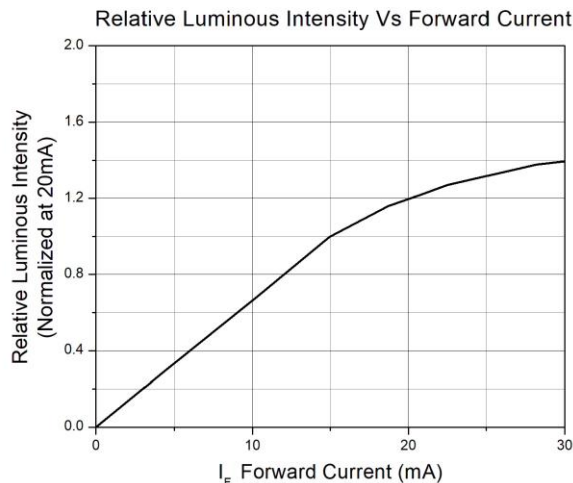


Figure 2

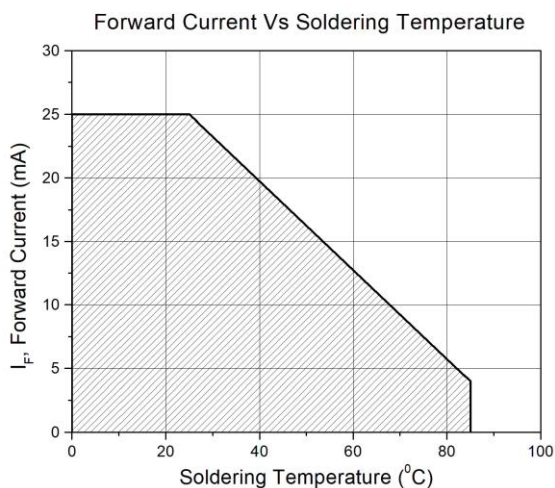


Figure 3

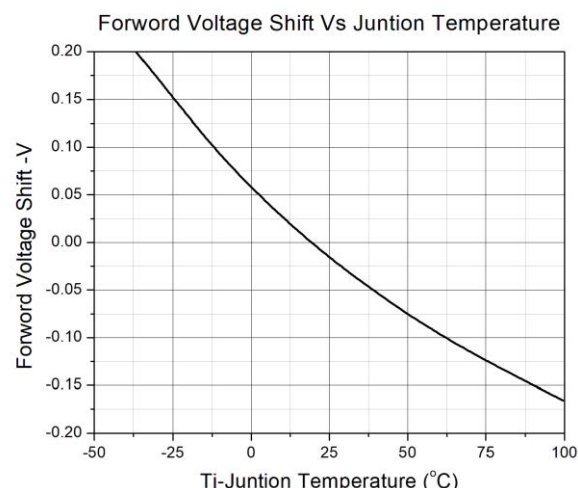


Figure 4

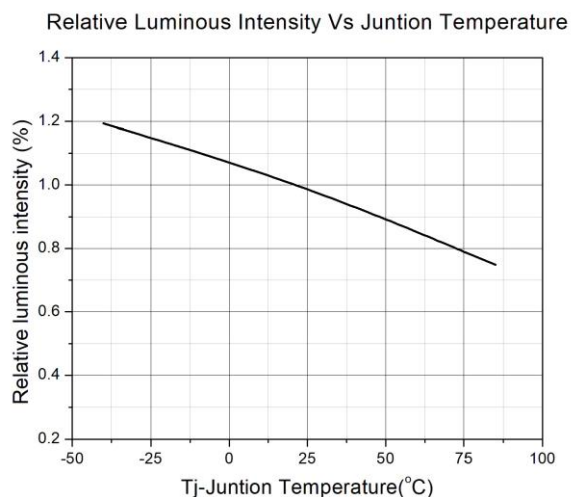


Figure 5

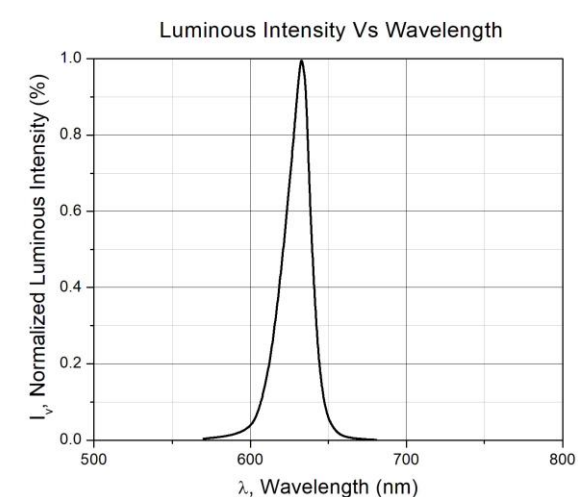
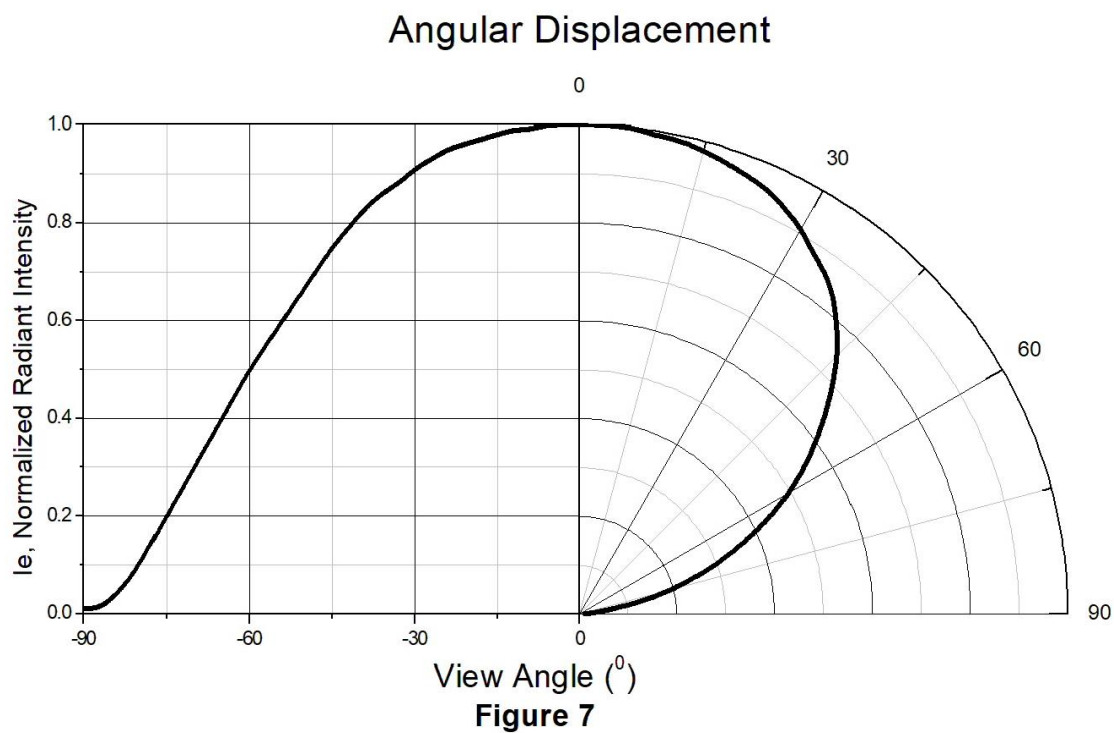


Figure 6



Typical Characteristic Curves

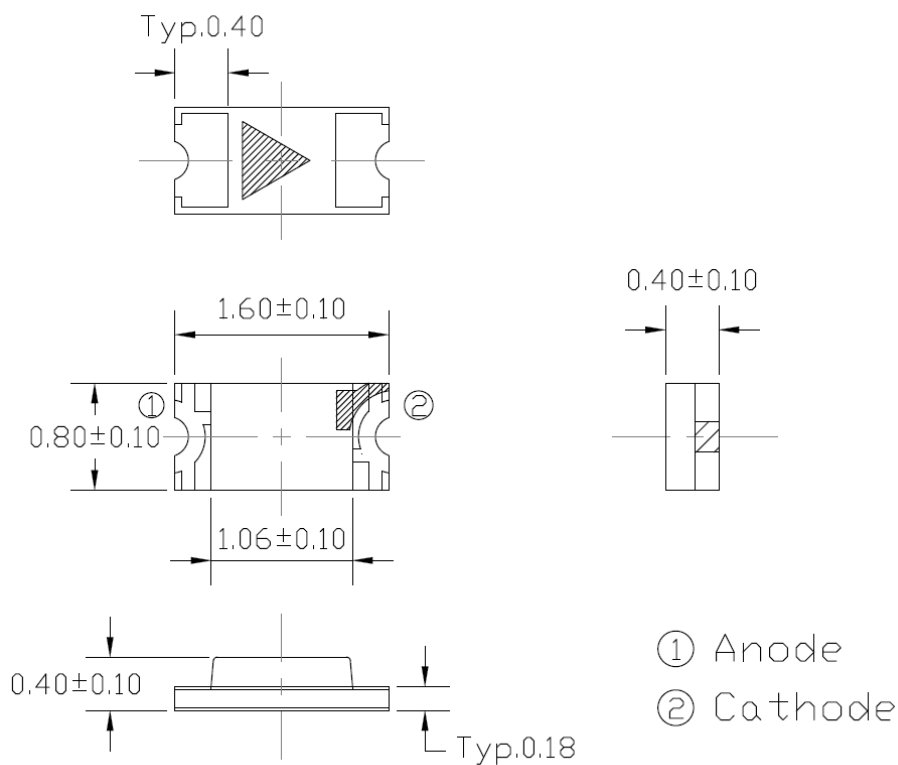




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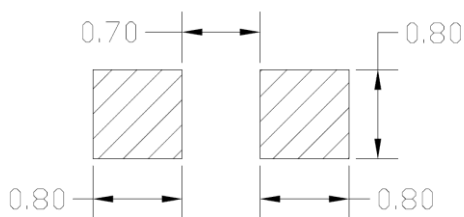
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Package Dimension *All dimensions are in mm, unless otherwise stated*



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
RP160804-CTC4	Tape & Reel	4000 pcs

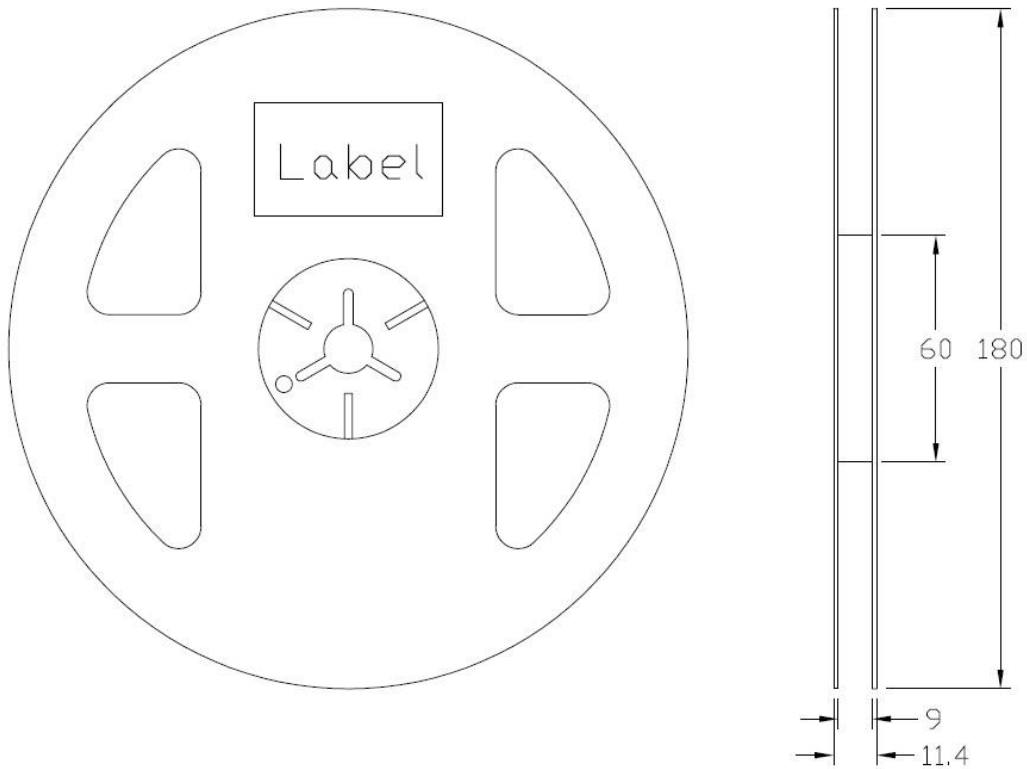


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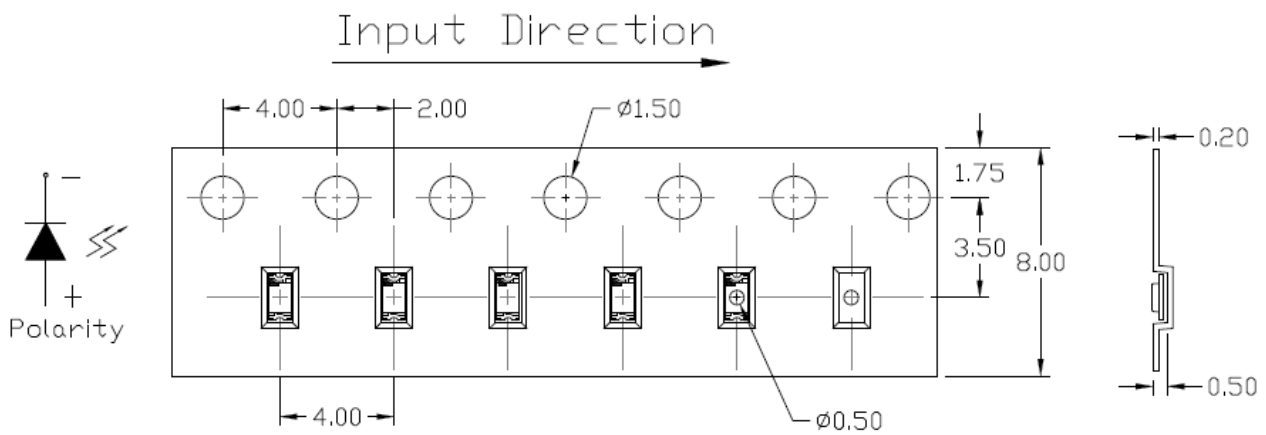
Reel Dimension

All dimensions are in mm, unless otherwise stated



Tape Dimension

All dimensions are in mm, unless otherwise stated

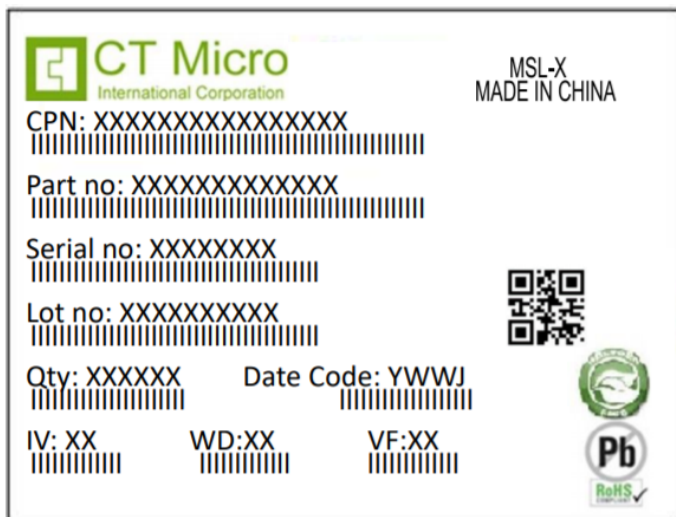


Note: Tolerance unless mentioned is ± 0.1 mm.



RP160804-CTC4 SMD Type Red Emitter

Label Form Specification



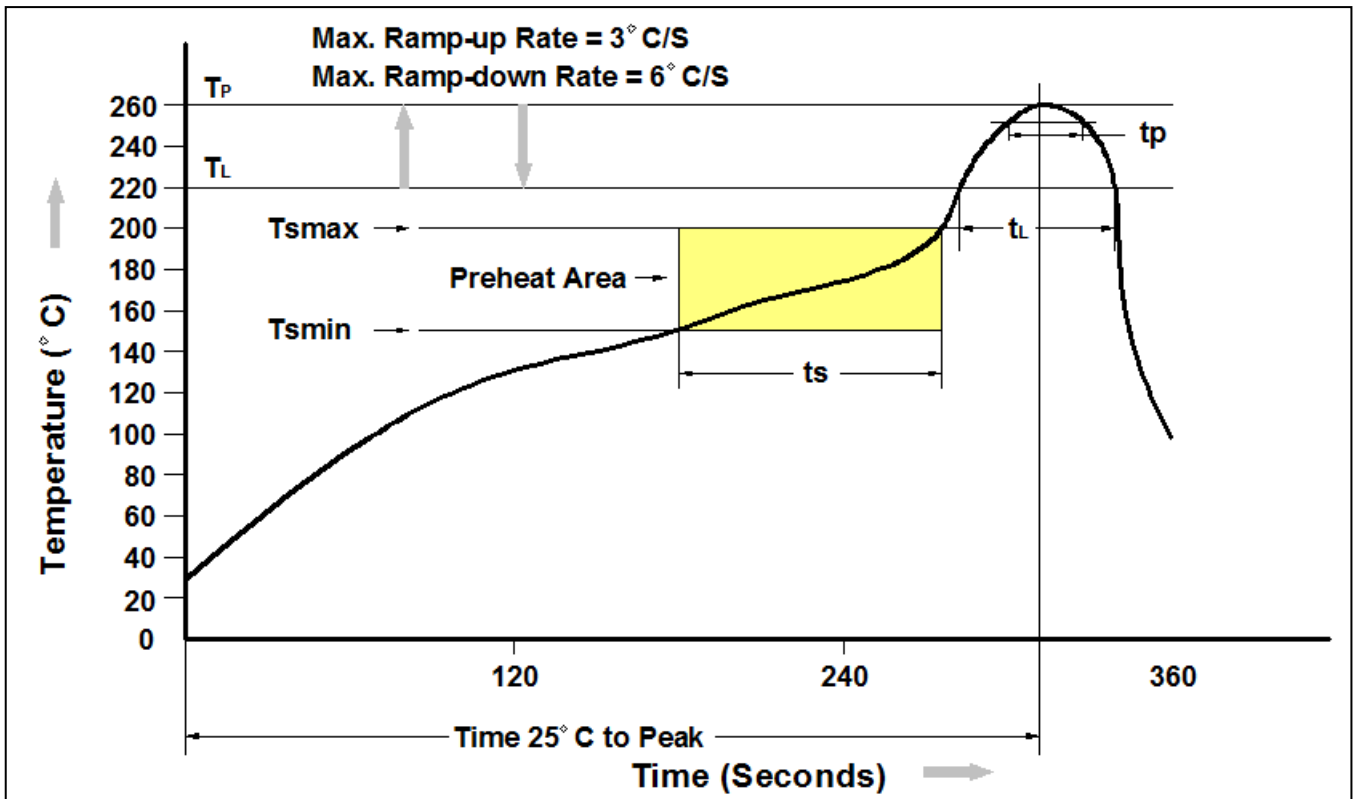
CPN : Customer Part Number
 Part no: CTM Production Number
 Serial no: Production Number
 Lot no: Lot number
 Q'ty: Packing Quantity
 Date Code: Manufacture Date
 IV : Bin Code of Luminous Intensity
 WD : Bin Code of Dominant Wavelength
 VF : Bin Code of Forward Voltage
 MADE IN CHINA: Production Place

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 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. (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.



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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.*