



YGRP321608-ATC2

Dual Wavelength SMD Type Emitter

Features

- Top view 1206 package
- Viewing Angle = $\pm 65^\circ$
- Compatible with infrared and vapor phase reflow solder process
- High reliability
- Dual dominant wavelength (YG=570nm , R=621nm)
- RoHS compliance

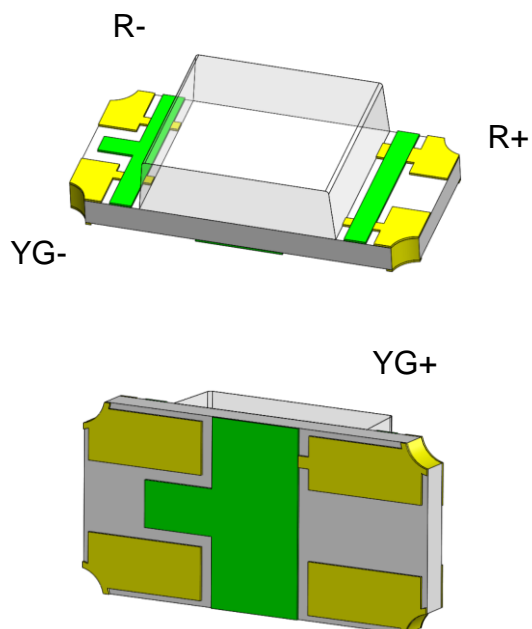
Description

The YGRP321608-ATC2 is a double LED housed in a miniature SMD package. The device has a dominant wavelength of 570nm and 621nm LED.

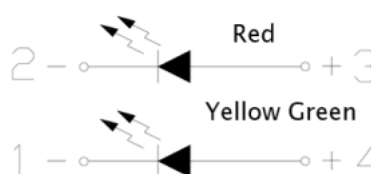
Applications

- Optical indicator.
- Switch and Symbol Display.

Package Outline



Schematic



**Absolute Maximum Rating at 25°C**

| Symbol | Parameters | | Ratings | Units | Notes |
|------------------|--|----|------------|-------|-------|
| I _F | Continuous Forward Current | YG | 25 | mA | |
| | | R | 25 | | |
| I _{FP} | Peak Forward Current | YG | 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 | YG | 60 | mW | |
| | | R | 60 | | |

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

| Symbol | Parameters | Test Conditions | Min | Typ | Max | Units | Notes |
|------------------|-------------------------|----------------------|-------|-----|-------|-------|-------|
| I _v | Luminous Intensity | I _F =20mA | 36 | - | 90 | mcd | 3 |
| λ _p | Peak Wavelength | I _F =20mA | - | 574 | - | | |
| λ _d | Dominant Wavelength | I _F =20mA | 567.5 | - | 575.5 | nm | 4 |
| θ _{1/2} | Angle of Half Intensity | I _F =20mA | - | ±65 | - | deg | |

Electrical Characteristics

| Symbol | Parameters | Test Conditions | Min | Typ | Max | Units | Notes |
|----------------|-----------------|----------------------|-----|-----|-----|-------|-------|
| V _F | Forward Voltage | I _F =20mA | 1.7 | - | 2.4 | 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 =20mA | 72 | - | 180 | mcd | 3 |
| λ _p | Peak Wavelength | I _F =20mA | - | 632 | - | | |
| λ _d | Dominant Wavelength | I _F =20mA | - | 621 | - | nm | |
| θ _{1/2} | Angle of Half Intensity | I _F =20mA | - | ±65 | - | deg | |

**Electrical Characteristics**

| Symbol | Parameters | Test Conditions | Min | Typ | Max | Units | Notes |
|----------------|-----------------|----------------------|-----|-----|-----|-------|-------|
| V _F | Forward Voltage | I _F =20mA | 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

| Yellow Green | | | | |
|--------------|-----|-----|------|----------------------|
| Bin Code | Min | Max | Unit | Condition |
| NA | 36 | 57 | mcd | I _F =20mA |
| PA | 57 | 90 | | |
| Red | | | | |
| Q | 72 | 112 | mcd | I _F =20mA |
| R | 112 | 180 | | |

Tolerance of: Luminous Intensity ±10%

4. Bin Range of Dominant Wavelength

| Yellow Green | | | | |
|--------------|-------|-------|------|----------------------|
| Bin Code | Min | Max | Unit | Condition |
| AG15 | 567.5 | 569.5 | nm | I _F =20mA |
| AG16 | 569.5 | 571.5 | | |
| AG17 | 571.5 | 573.5 | | |
| AG18 | 573.5 | 575.5 | | |

Tolerance of Dominant Wavelength: ±1nm.



Typical Characteristic Curves

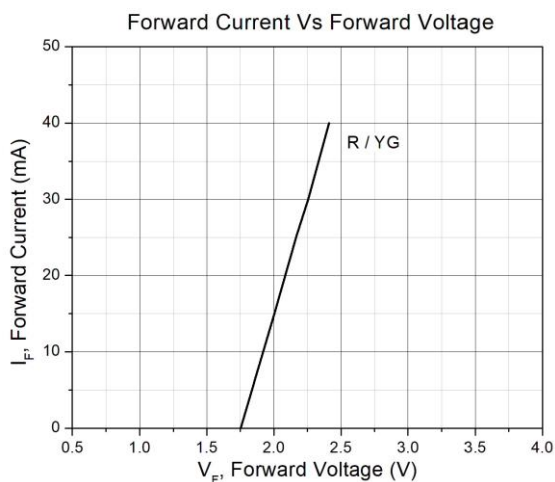


Figure 1

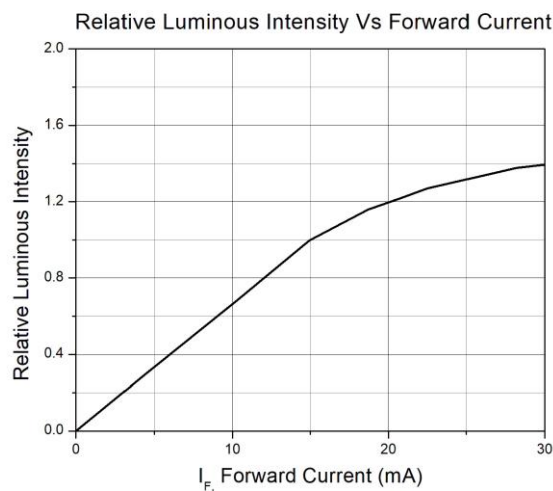


Figure 2

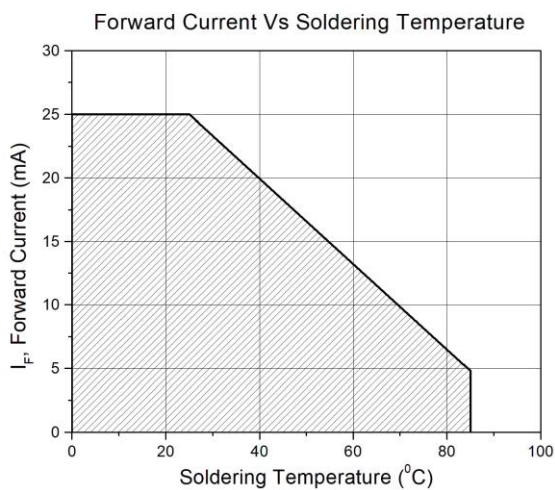


Figure 3

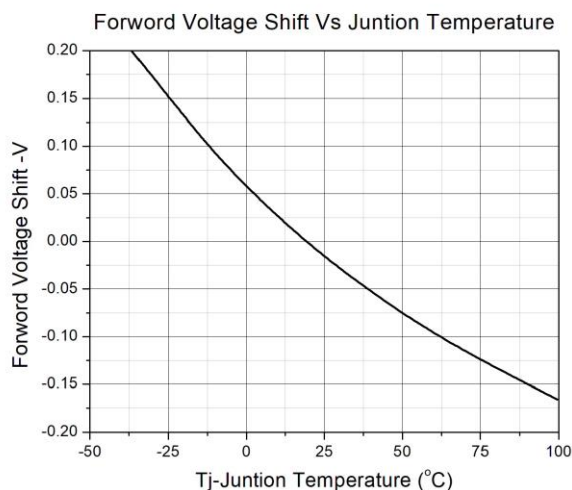


Figure 4

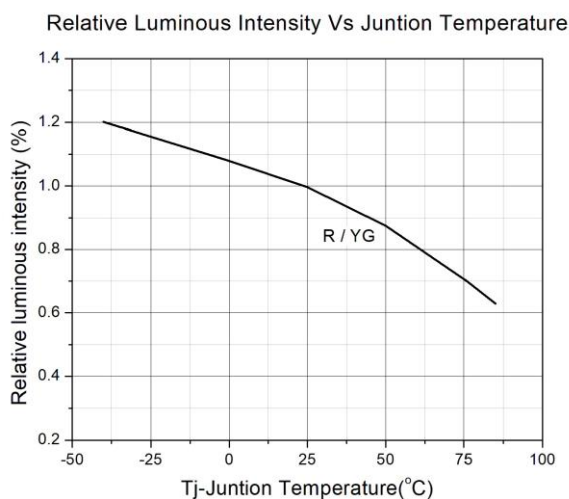


Figure 5

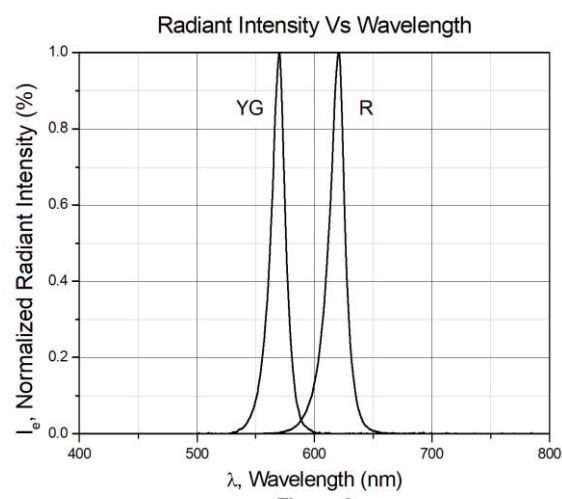


Figure 6



Typical Characteristic Curves

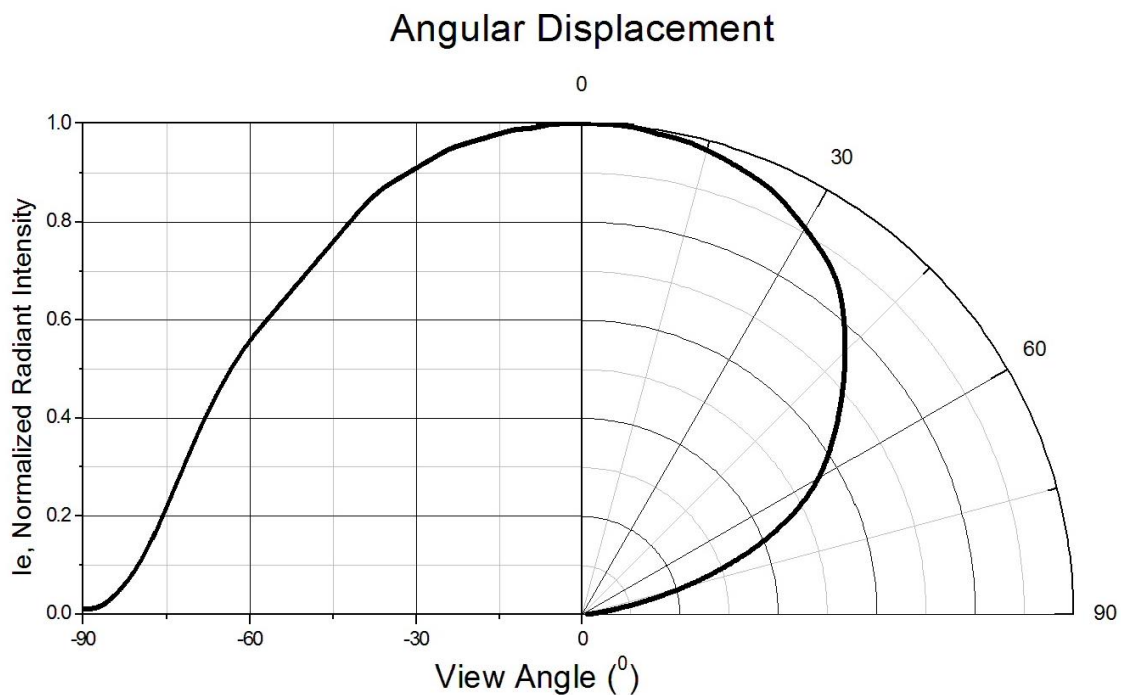


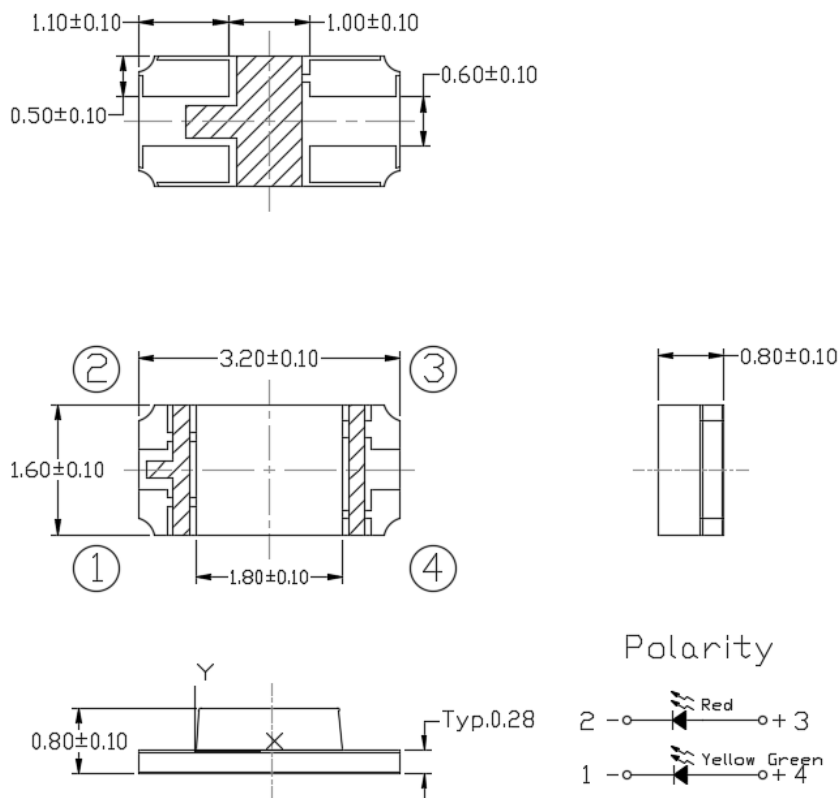
Figure 7



YGRP321608-ATC2

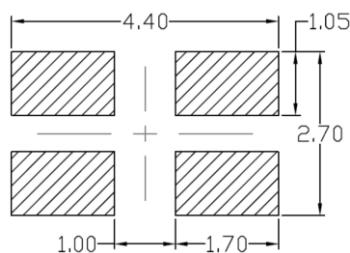
Dual Wavelength SMD Type Emitter

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

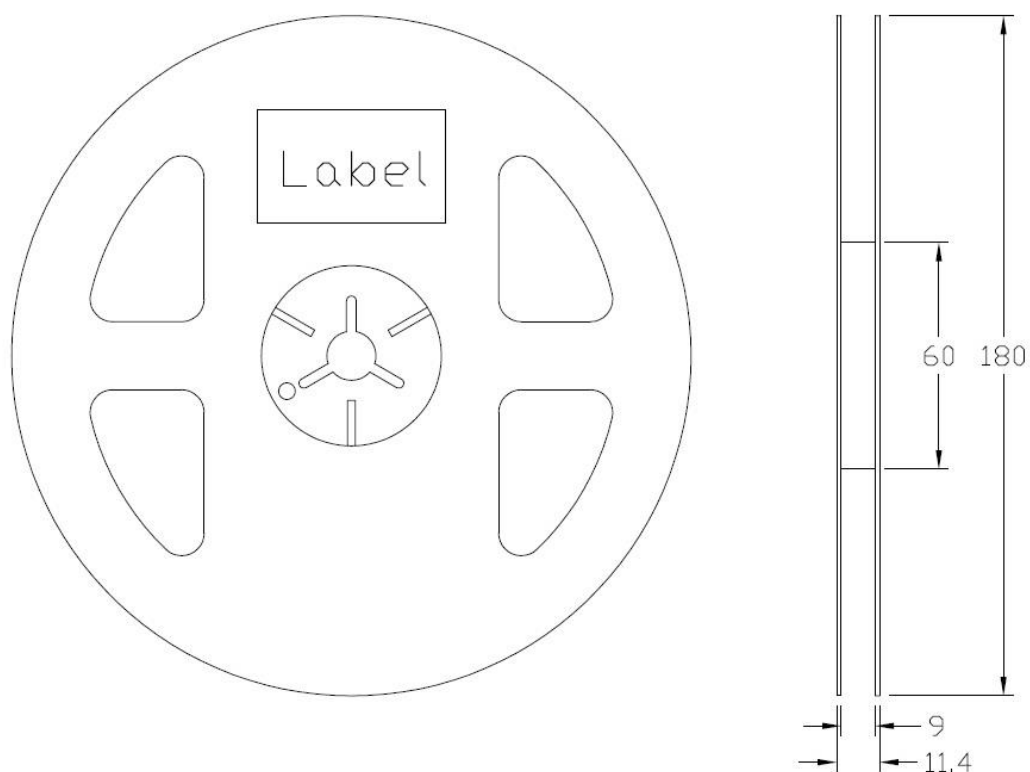
| Part Number | Description | Quantity |
|-----------------|-------------|----------|
| YGRP321608-ATC2 | Tape & Reel | 2000 pcs |



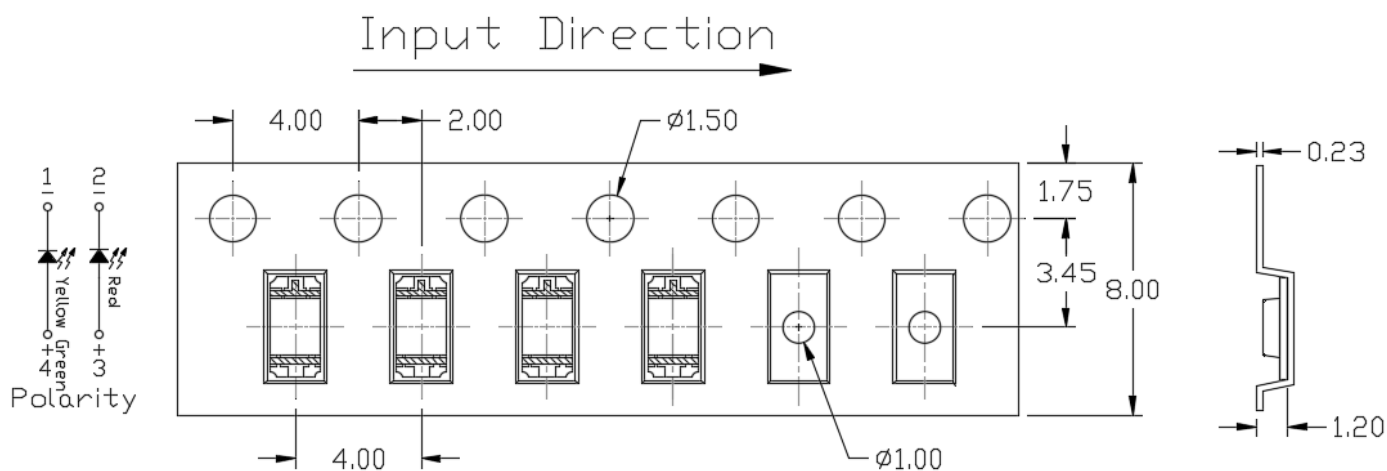
YGRP321608-ATC2

Dual Wavelength SMD Type Emitter

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



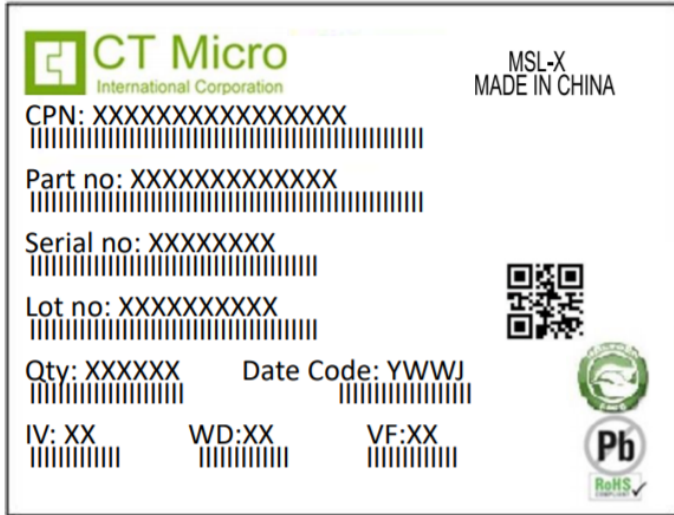
Tape Dimension *All dimensions are in mm, unless otherwise stated*



Note: Tolerance unless mentioned is ± 0.1 mm.



Label Form Specification



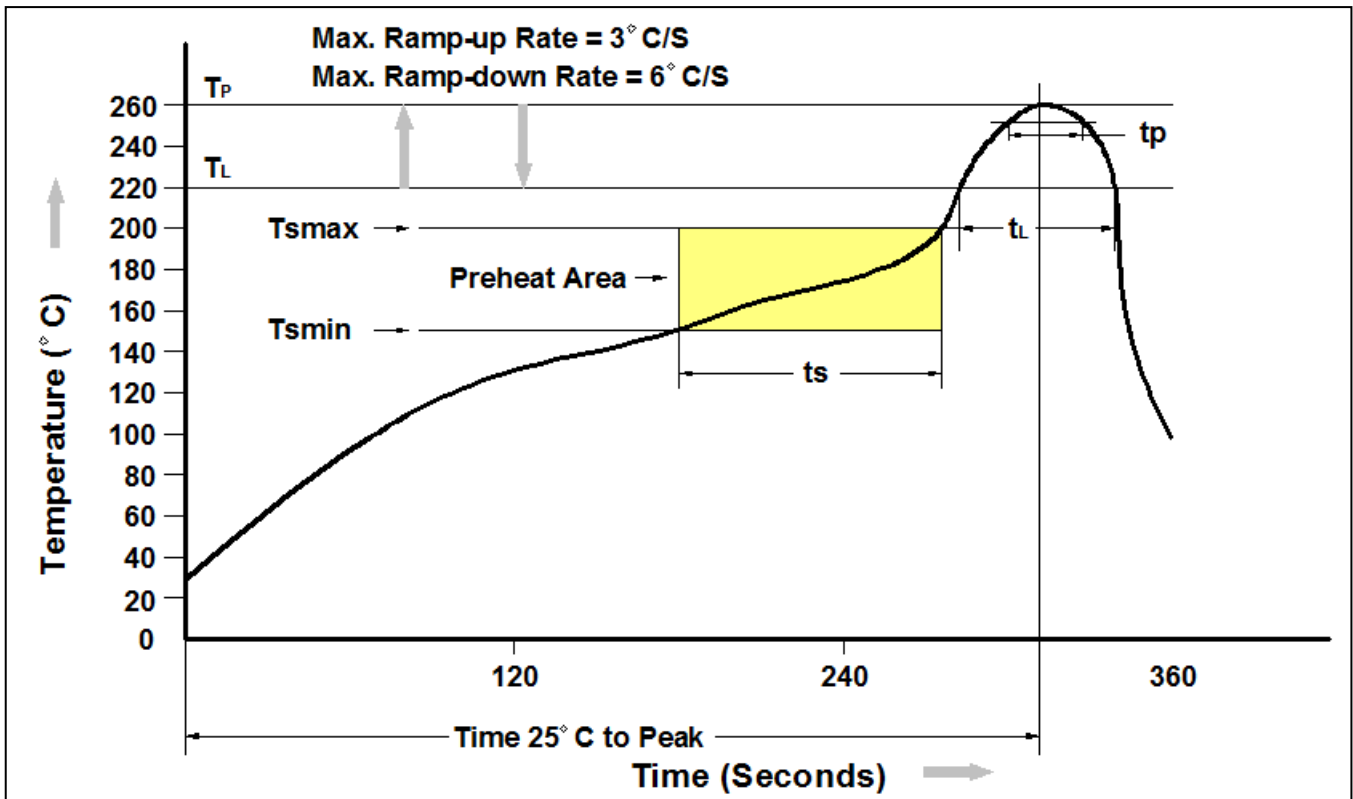
CPN : Customer Part Number
 Part no: CTM Production Number
 Serial no: Production Number
 Lot no: Lot number
 Q'ty: Packing Quantity
 Date Code: Manufacture Date
 IV : Bin Code of Luminous Intensity
 WD : Bin Code of Dominant Wavelength
 VF : Bin Code of Forward Voltage
 MADE IN CHINA: Production Place

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. (Tsmín) | 150°C |
| Temperature Max. (Tsmáx) | 200°C |
| Time (ts) from (Tsmín to Tsmáx) | 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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