



BC283507-GTC4

SMD Type Blue Emitter

Features

- Top view 2835 package
- Viewing Angle = $\pm 60^\circ$
- Compatible with infrared and vapor phase reflow solder process
- High reliability
- Ultra bright Blue
- RoHS compliance

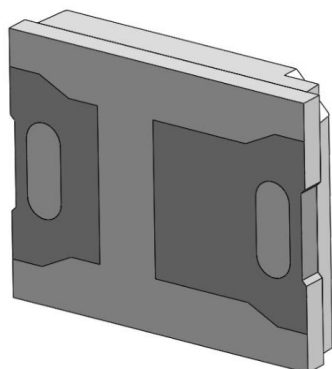
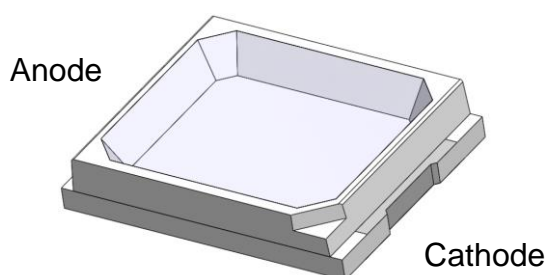
Applications

- Optical indicator.
- Switch and Symbol Display.

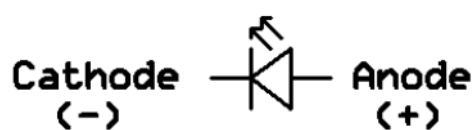
Description

The BC283507-GTC4 InGaN Blue LED housed in a miniature SMD package. The device has a dominant wavelength of 455 nm LED.

Package Outline



Schematic





BC283507-GTC4

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Absolute Maximum Rating at 25°C

| Symbol | Parameters | Ratings | Units | Notes |
|------------------|--|------------|-------|-------|
| I _F | Continuous Forward Current | 180 | mA | |
| I _{FP} | Peak Forward Current | 350 | 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 | 0.5 | W | |

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

Optical Characteristics

| Symbol | Parameters | Test Conditions | Min | Typ | Max | Units | Notes |
|------------------|-------------------------|-----------------------|-------|-----|-------|-------|-------|
| I _v | Luminous Flux | I _F =150mA | 4.5 | - | 11 | lm | 3 |
| λ _d | Dominant Wavelength | I _F =150mA | 450.0 | - | 460.0 | nm | 4 |
| θ _{1/2} | Angle of Half Intensity | I _F =150mA | - | 60 | - | deg | |

Electrical Characteristics

| Symbol | Parameters | Test Conditions | Min | Typ | Max | Units | Notes |
|----------------|-----------------|-----------------------|------|-----|------|-------|-------|
| V _F | Forward Voltage | I _F =150mA | 2.75 | - | 3.65 | 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.



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3. Bin Range of Luminous Flux

| Bin Code | Min | Max | Unit | Condition |
|----------|-----|-----|------|--------------------|
| L14 | 4.5 | 5 | lm | $I_F=150\text{mA}$ |
| L15 | 5 | 6 | | |
| L16 | 6 | 7 | | |
| L17 | 7 | 8 | | |
| L18 | 8 | 9 | | |
| L19 | 9 | 10 | | |
| L20 | 10 | 11 | | |

Tolerance of Luminous Intensity $\pm 10\%$

4. Bin Range of Dominant Wavelength

| Bin Code | Min | Max | Unit | Condition |
|----------|-------|-------|------|--------------------|
| A3 | 450.0 | 455.0 | nm | $I_F=150\text{mA}$ |
| A4 | 455.0 | 460.0 | | |

Tolerance of Dominant Wavelength: $\pm 1\text{nm}$

5. Bin Range of Forward Voltage

| Bin Code | Min | Max | Unit | Condition |
|----------|------|------|------|--------------------|
| 5 | 2.75 | 3.05 | V | $I_F=150\text{mA}$ |
| 6 | 3.05 | 3.35 | | |
| 7 | 3.35 | 3.65 | | |

Tolerance of Forward Voltage: $\pm 0.1\text{V}$.



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Typical Characteristic Curves

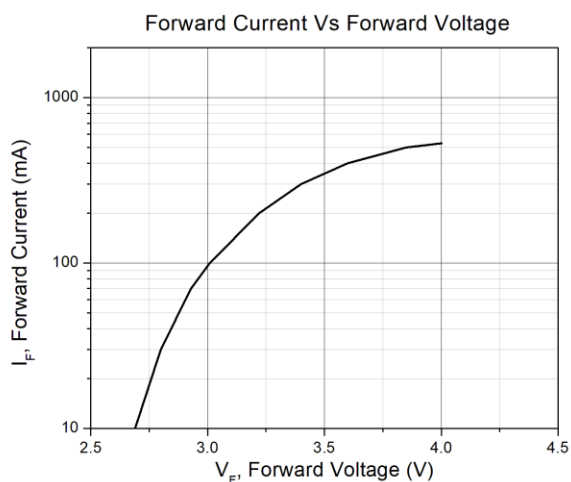


Figure 1

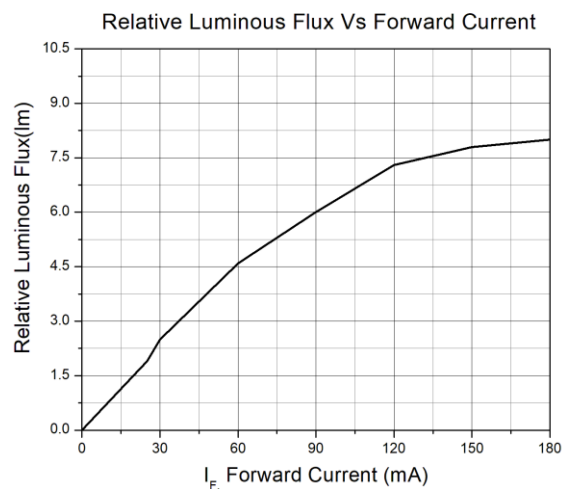


Figure 2

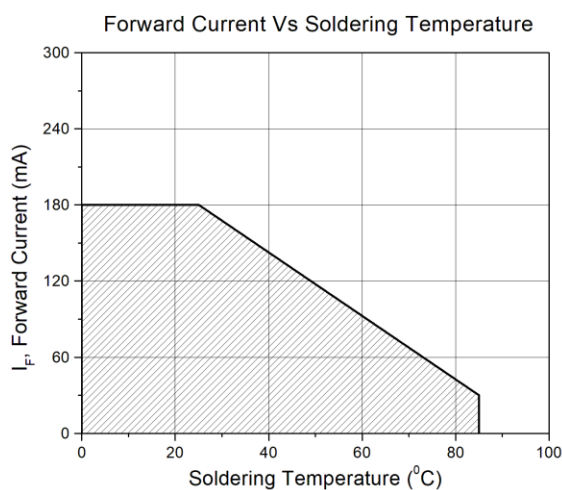


Figure 3

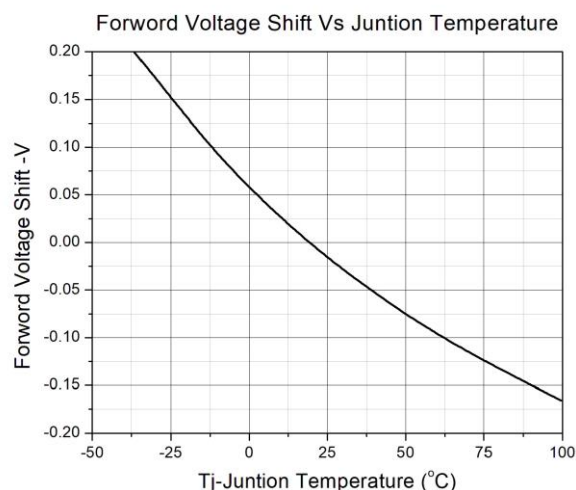


Figure 4

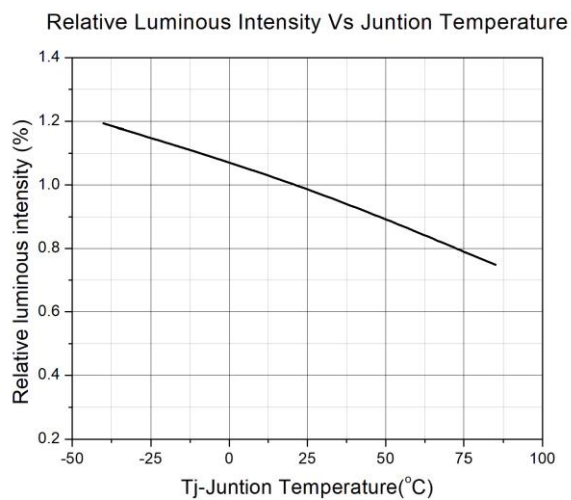


Figure 5

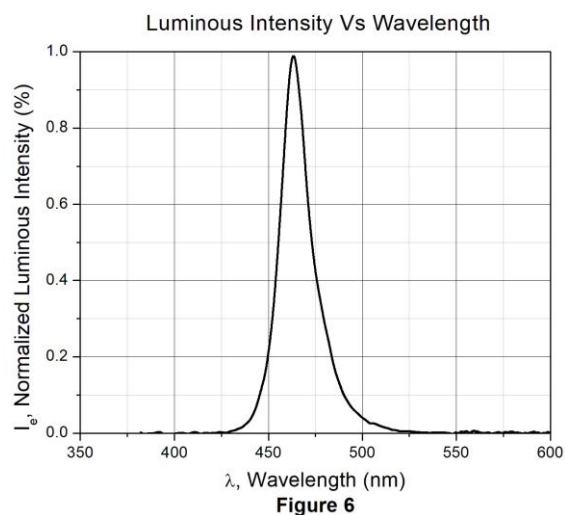
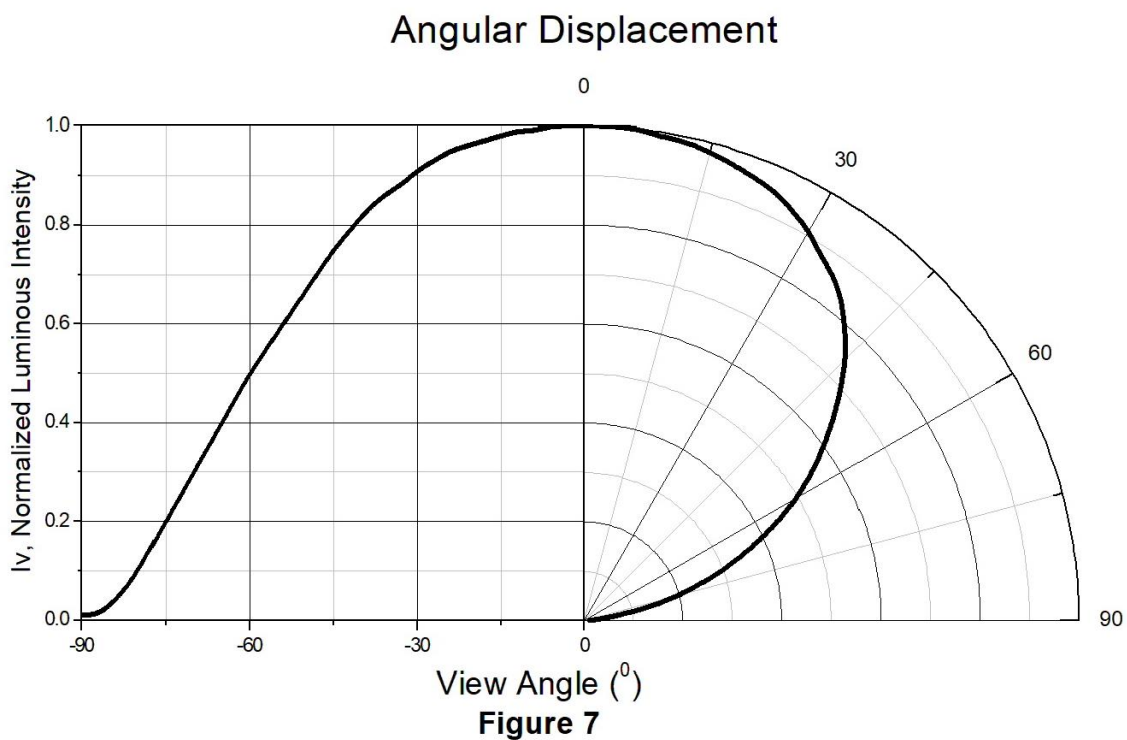


Figure 6



Typical Characteristic Curves

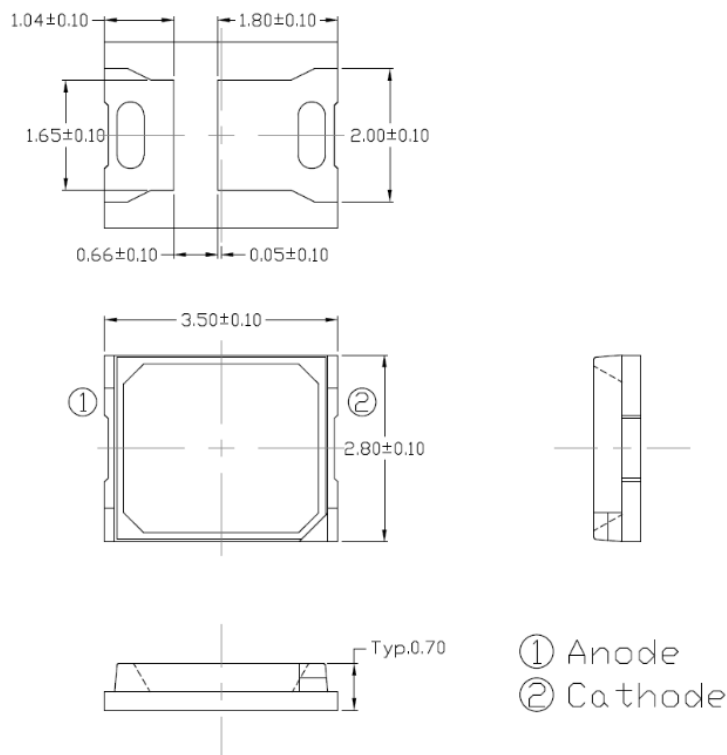




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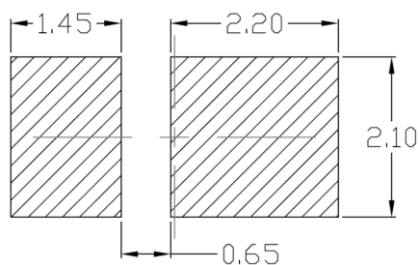
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Package Dimension *All dimensions are in mm, unless otherwise stated*



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 |
|---------------|-------------|----------|
| BC283507-GTC4 | Tape & Reel | 4000 pcs |

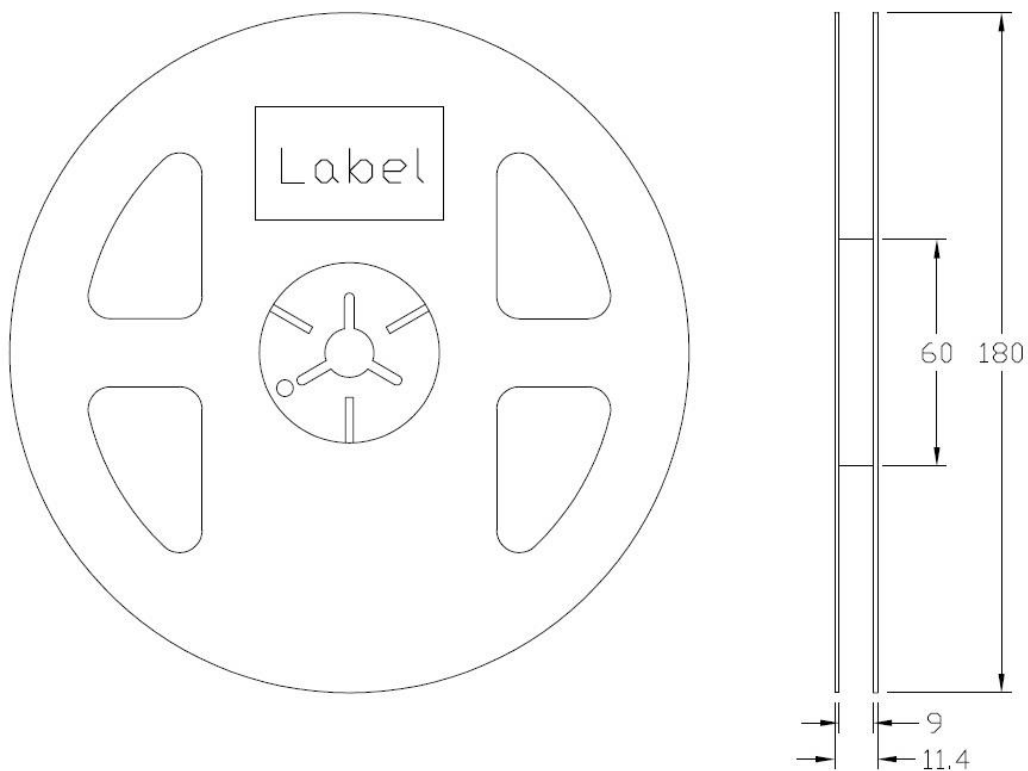


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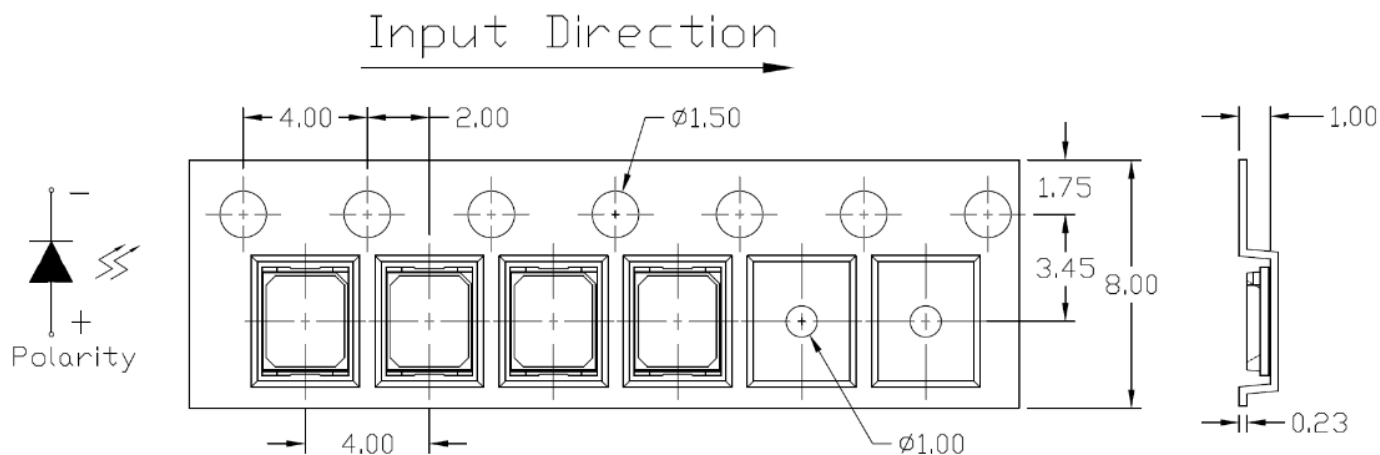
Reel Dimension

All dimensions are in mm, unless otherwise stated



Tape Dimension

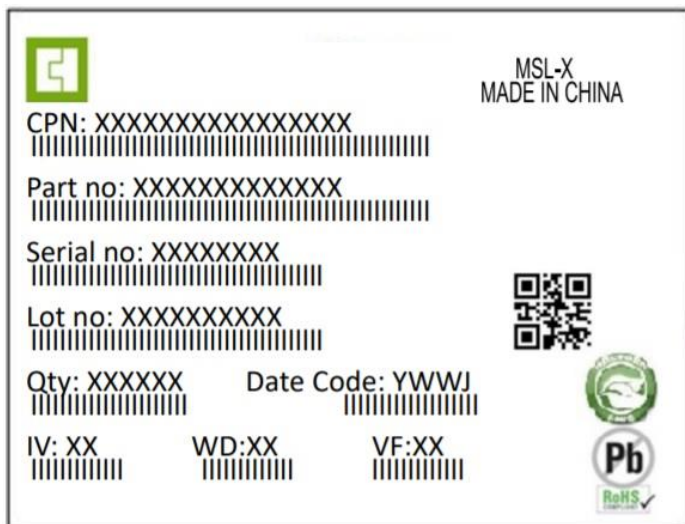
All dimensions are in mm, unless otherwise stated



Note: Tolerance unless mentioned is ± 0.1 mm.



Label Form Specification



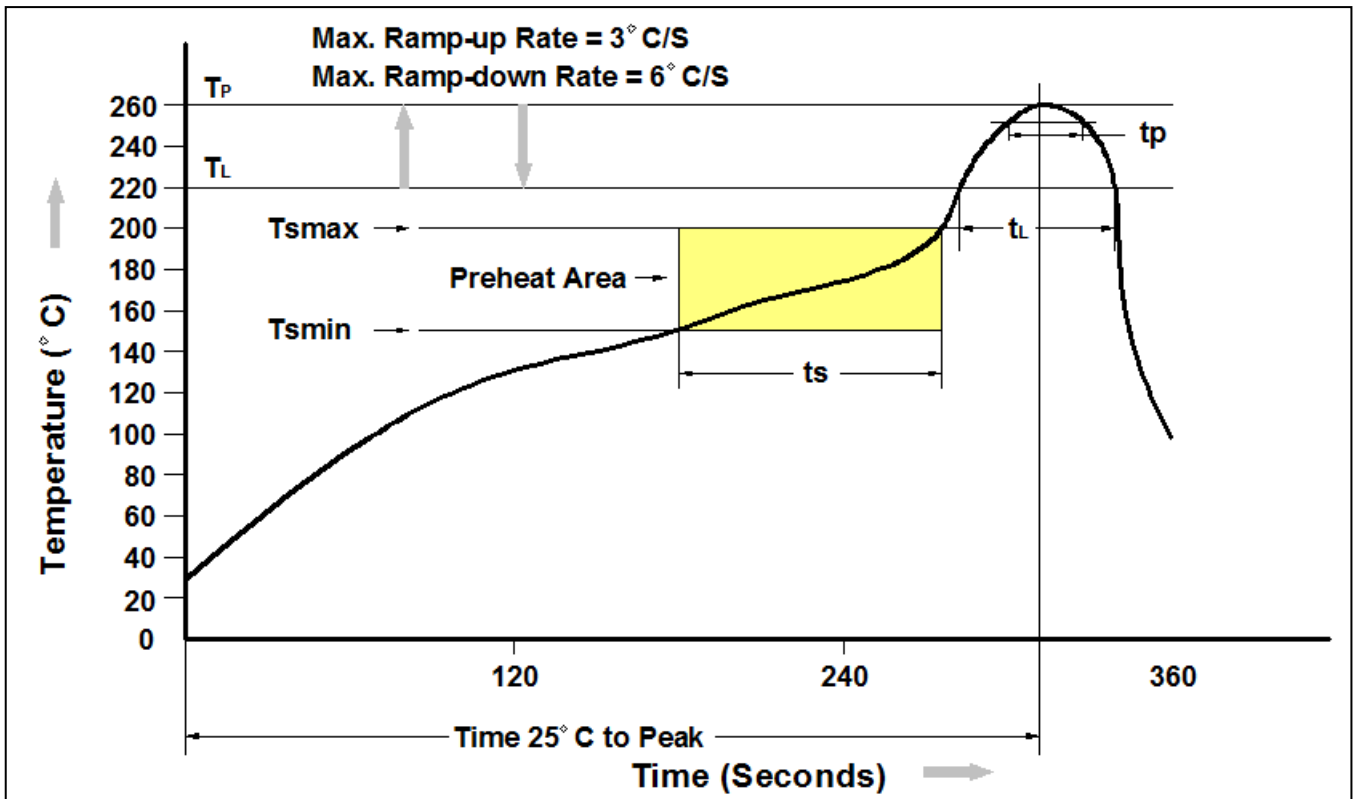
CPN : Customer Part Number
 Part no: CTM Production Number
 Serial no: Production Number
 Lot no: Lot number
 Q'ty: Packing Quantity
 Date Code: Manufacture Date
 IV : Bin Code of Luminous Intensity
 WD : Bin Code of Dominant Wavelength
 VF : Bin Code of Forward Voltage
 MADE IN CHINA: Production Place

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 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.



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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