



GP160804-CTC4

SMD Type Green Emitter

Features

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

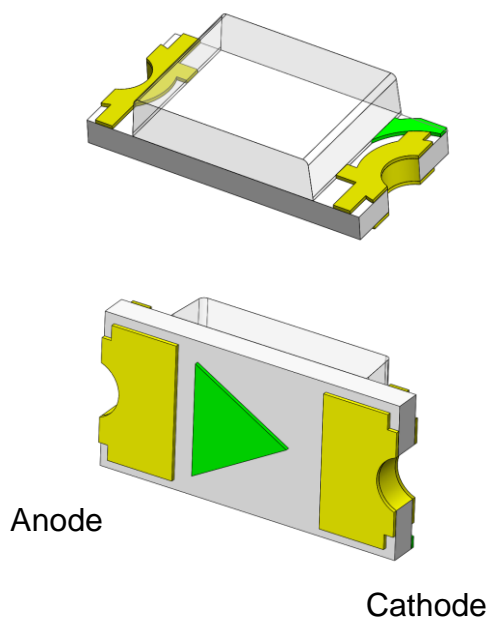
Applications

- Optical indicator.
- Switch and Symbol Display.

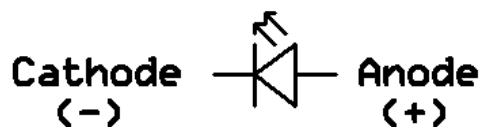
Description

The GP160804-CTC4 is an AlGaInP Green LED housed in a miniature SMD package. The device has a dominant wavelength of 527nm 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 | 95 | 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 | 225 | - | 450 | mcd | 3 |
| λ _d | Dominant Wavelength | I _F =5mA | 520 | - | 535 | 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 | 2.5 | - | 3.1 | 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 |
|----------|-----|-----|------|---------------------|
| S2 | 225 | 285 | mcd | I _F =5mA |
| T1 | 285 | 360 | | |
| T2 | 360 | 450 | | |

Tolerance of Luminous Intensity ±10%



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4. Bin Range of Dominant Wavelength

| Bin Code | Min | Max | Unit | Condition |
|----------|-----|-----|------|------------------|
| A5 | 520 | 525 | nm | $I_F=5\text{mA}$ |
| A6 | 525 | 530 | | |
| A7 | 530 | 535 | | |

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

5. Bin Range of Forward Voltage

| Bin Code | Min | Max | Unit | Condition |
|----------|-----|-----|------|------------------|
| 32 | 2.5 | 2.6 | V | $I_F=5\text{mA}$ |
| 33 | 2.6 | 2.7 | | |
| 34 | 2.7 | 2.8 | | |
| 35 | 2.8 | 2.9 | | |
| 36 | 2.9 | 3.0 | | |
| 37 | 3.0 | 3.1 | | |

Tolerance of Forward Voltage $\pm 0.05\text{V}$.



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Typical Characteristic Curves

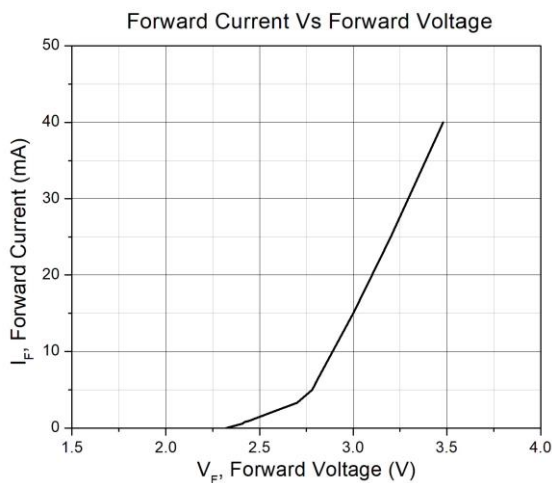


Figure 1

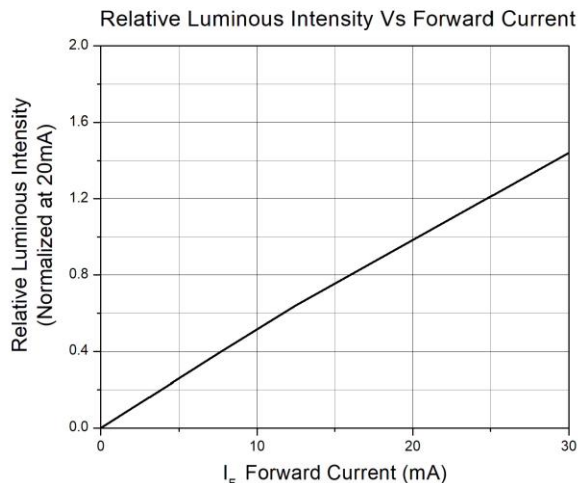


Figure 2

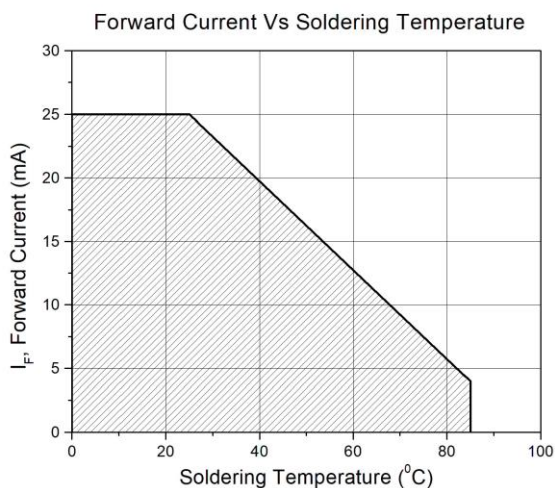


Figure 3

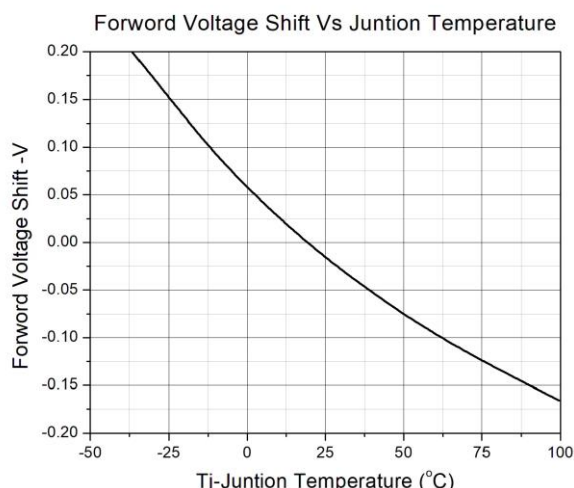


Figure 4

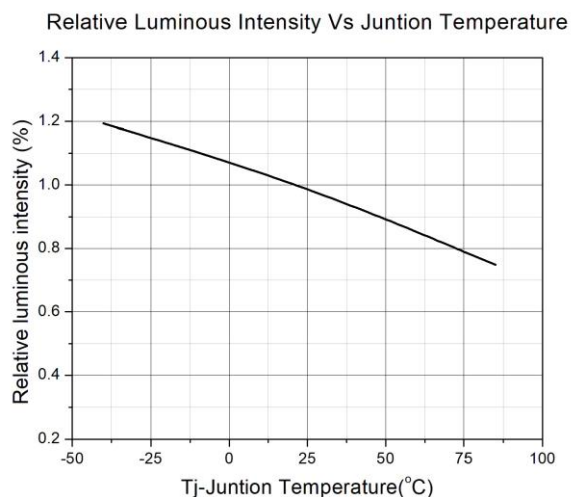


Figure 5

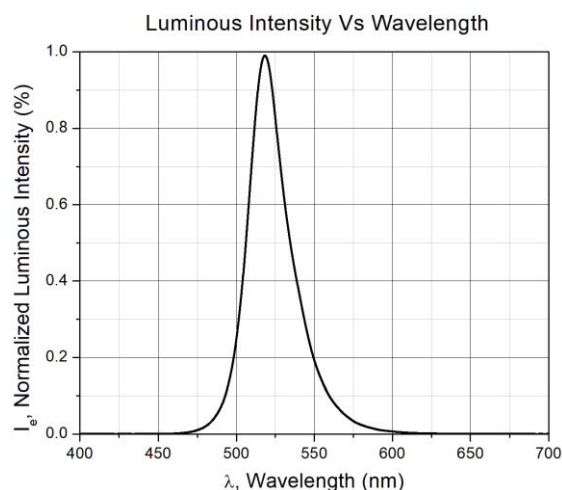
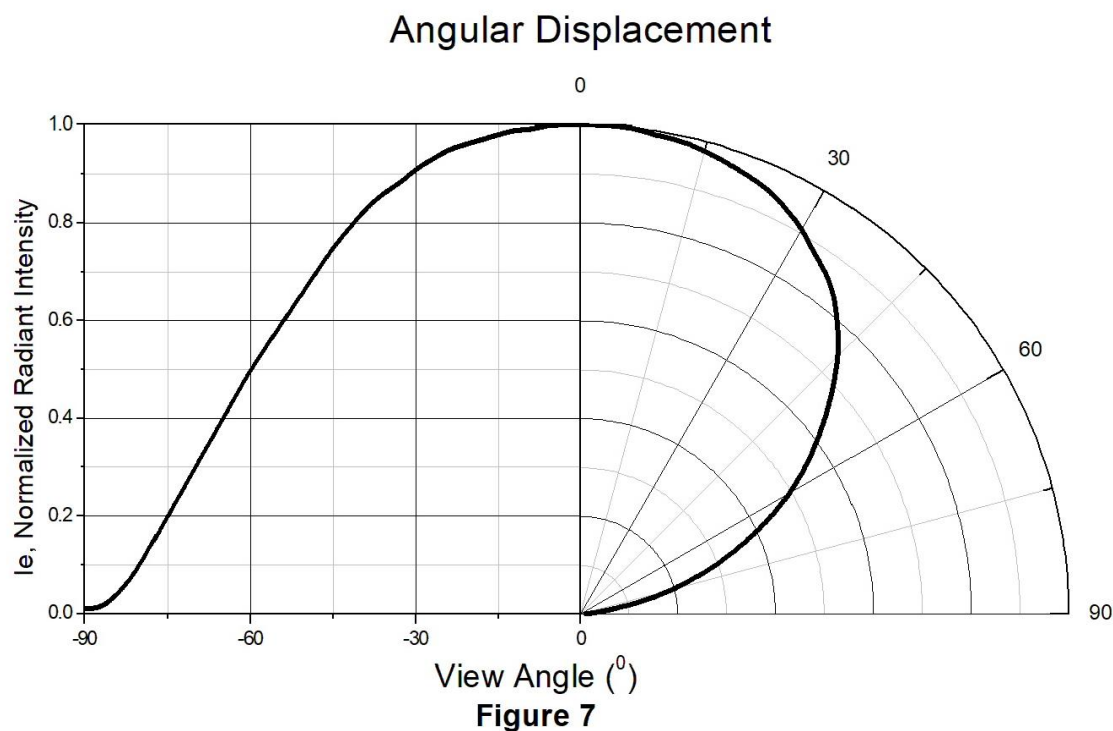


Figure 6



Typical Characteristic Curves

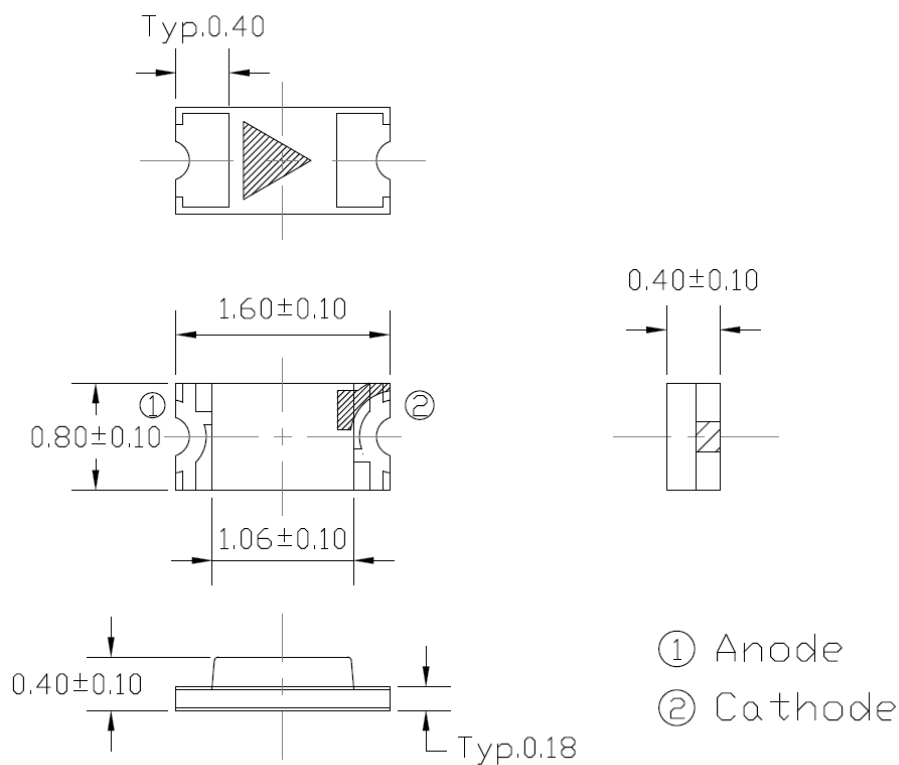




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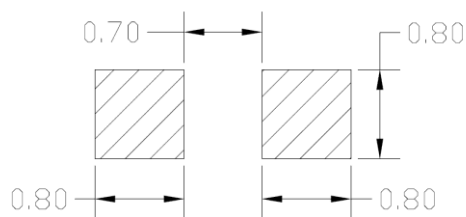
SMD Type Green Emitter

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 |
|---------------|-------------|----------|
| GP160804-CTC4 | Tape & Reel | 4000 pcs |

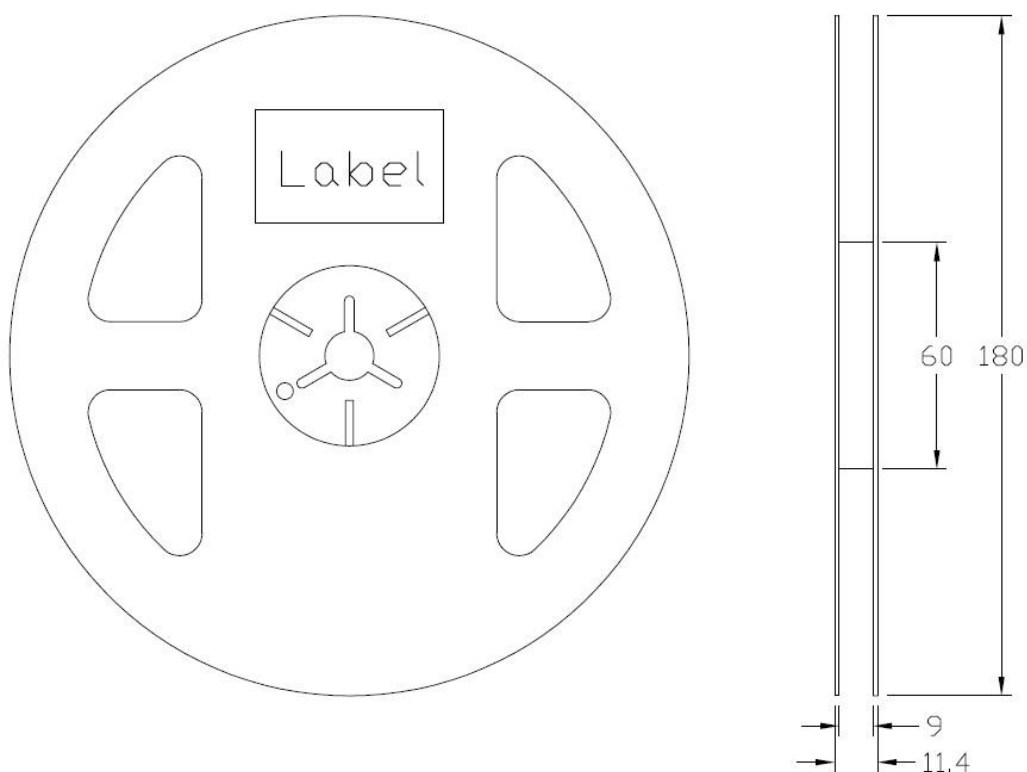


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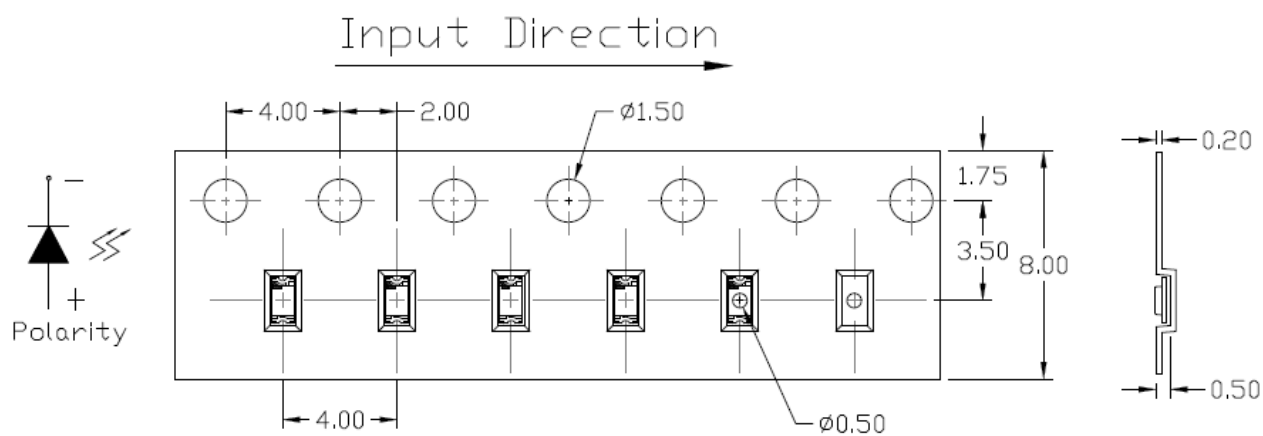
Reel Dimension

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.



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SMD Type Green Emitter

Label Form Specification

CT Micro
International Corporation

MSL-X
MADE IN CHINA

CPN: XXXXXXXXXXXXXXXXXX
|||||

Part no: XXXXXXXXXXXXXXXX
|||||

Serial no: XXXXXXXX
|||||

Lot no: XXXXXXXX
|||||

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

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

QR Code

RoHS

Pb

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

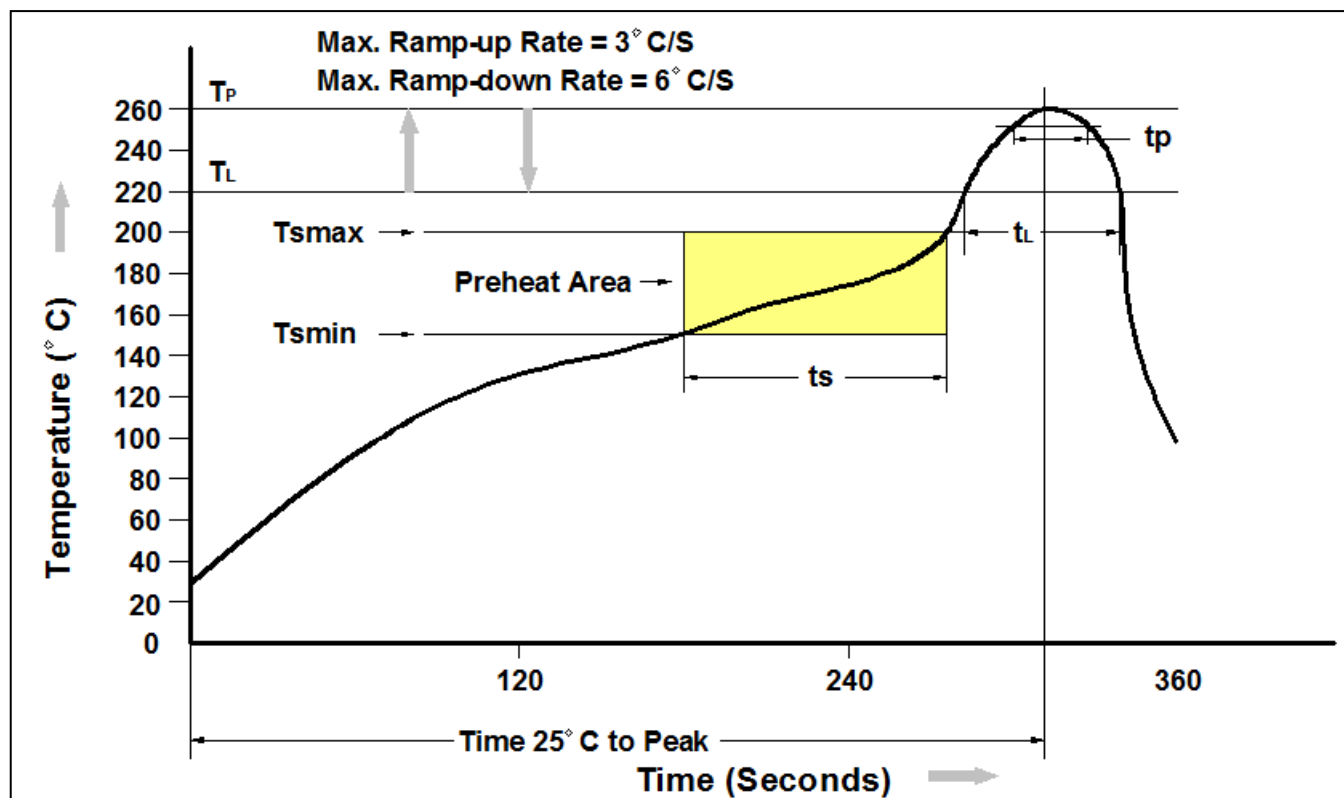
1. Do not open moisture proof bag before the products are ready to use.
2. The moisture barrier bag should be stored at 30°C and 90%R.H. max. before opening.
Shelf life of non-opened bag is 12 months after the bag sealing date.
3. After opening the moisture barrier bag floor life is 1 year at 30°C/60%RH.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



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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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