



AP201607-ATC4

SMD Type Amber Emitter

Features

- Top view 2016 package
- Viewing Angle = $\pm 60^\circ$
- Compatible with infrared and vapor phase reflow solder process
- High reliability
- Ultra bright Amber
- RoHS compliance

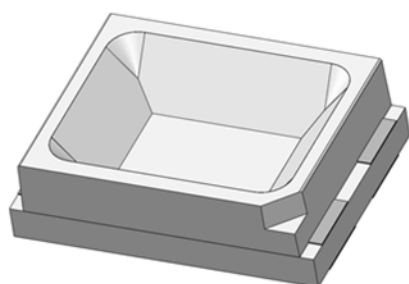
Applications

- Optical indicator.
- Switch and Symbol Display.

Description

The AC201607-ATC4 is an AlGaInP Amber LED housed in a miniature SMD package. The device has a dominant wavelength of 605nm LED.

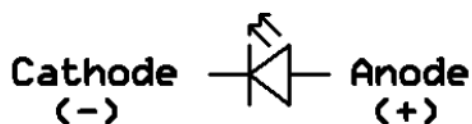
Package Outline



Cathode

Anode

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 | 80 | 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 =20mA | 140 | - | 285 | mcd | 3 |
| λ _d | Dominant Wavelength | I _F =20mA | 600.5 | - | 609.5 | nm | 4 |
| θ _{1/2} | Angle of Half Intensity | I _F =20mA | - | ±60 | - | deg | |

Electrical Characteristics

| Symbol | Parameters | Test Conditions | Min | Typ | Max | Units | Notes |
|----------------|-----------------|----------------------|------|-----|------|-------|-------|
| V _F | Forward Voltage | I _F =20mA | 1.75 | - | 2.35 | V | 5 |
| I _R | Reverse Current | V _R =5V | - | - | 10 | 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 |
|----------|-----|-----|------|----------------------|
| R2 | 140 | 180 | mcd | I _F =20mA |
| S1 | 180 | 225 | | |
| S2 | 225 | 285 | | |

Tolerance of Luminous Intensity ±10%



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4. Bin Range of Dominant Wavelength

| Bin Code | Min | Max | Unit | Condition |
|----------|-------|-------|------|-------------------|
| S8 | 600.5 | 603.5 | nm | $I_F=20\text{mA}$ |
| S9 | 603.5 | 606.5 | | |
| S10 | 606.5 | 609.5 | | |

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

5. Bin Range of Forward Voltage

| Bin Code | Min | Max | Unit | Condition |
|----------|------|------|------|-------------------|
| 0 | 1.75 | 1.95 | V | $I_F=20\text{mA}$ |
| 1 | 1.95 | 2.15 | | |
| 2 | 2.15 | 2.35 | | |

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



Typical Characteristic Curves

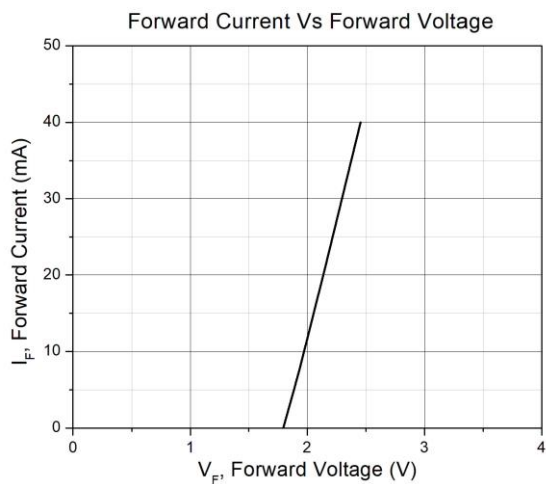


Figure 1

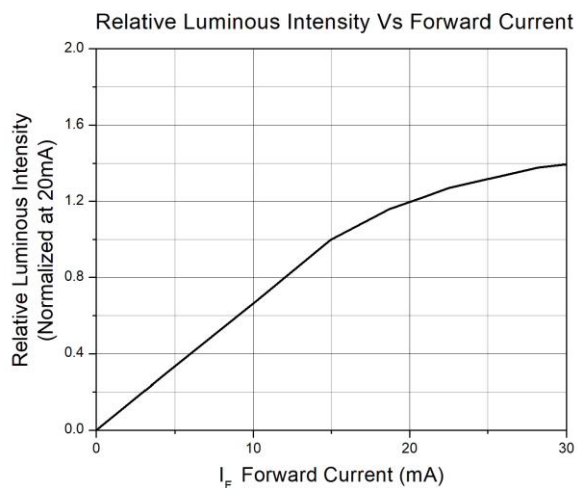


Figure 2

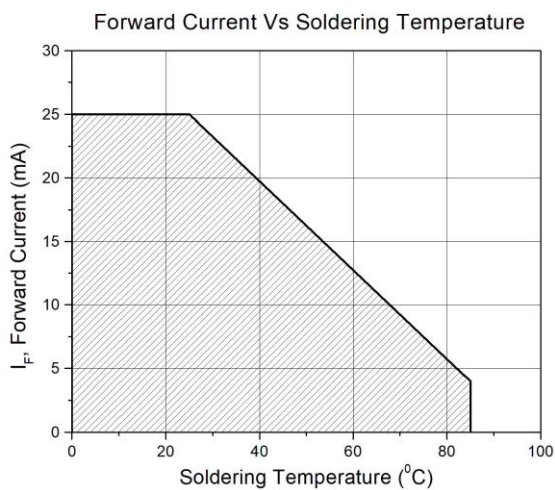


Figure 3

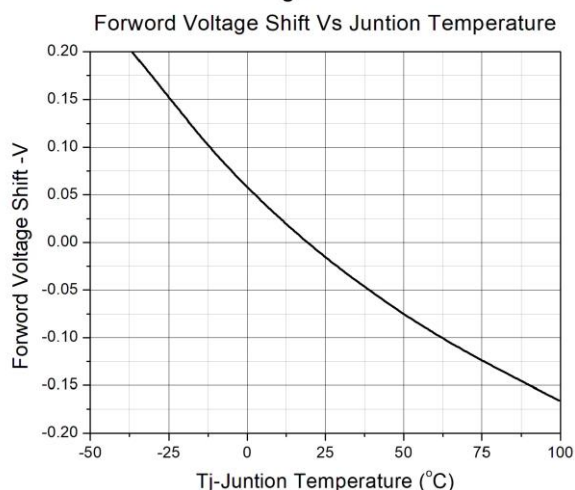


Figure 4

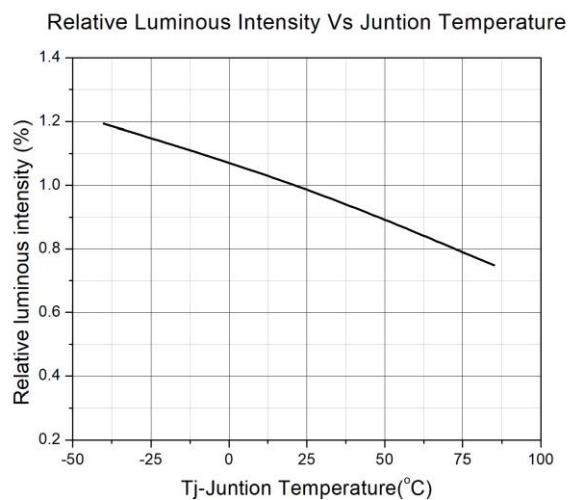


Figure 5

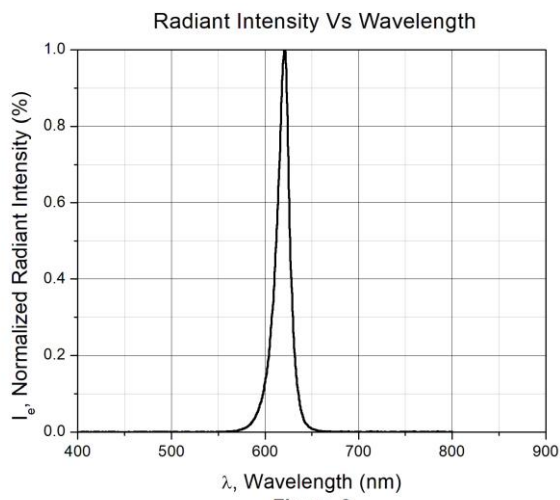


Figure 6



Typical Characteristic Curves

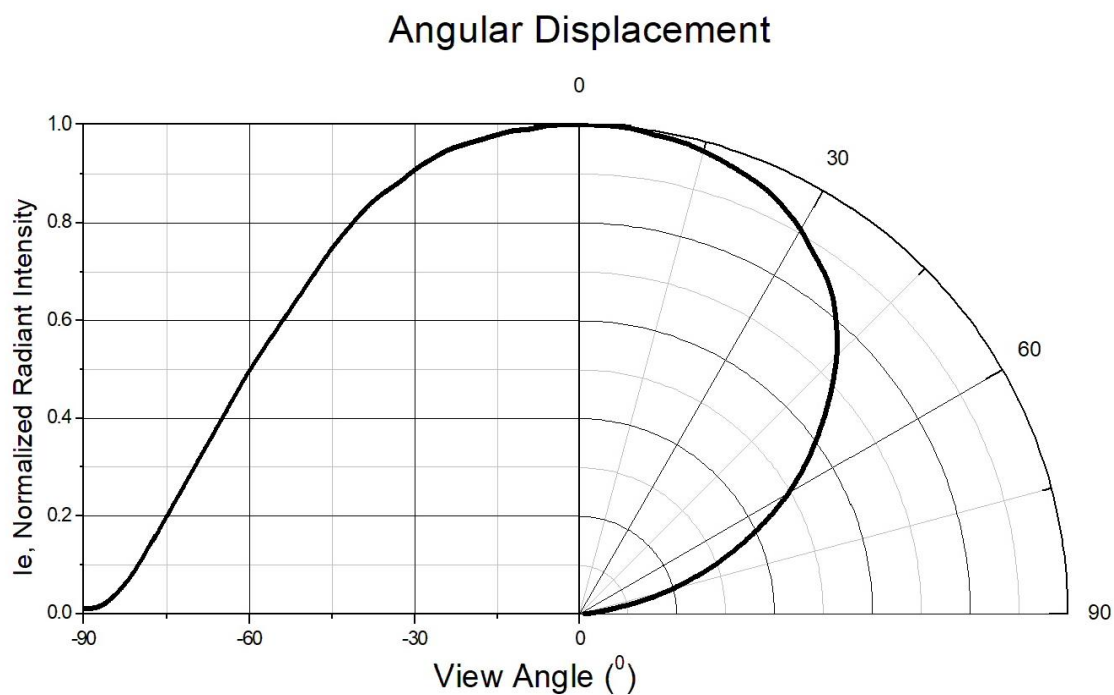


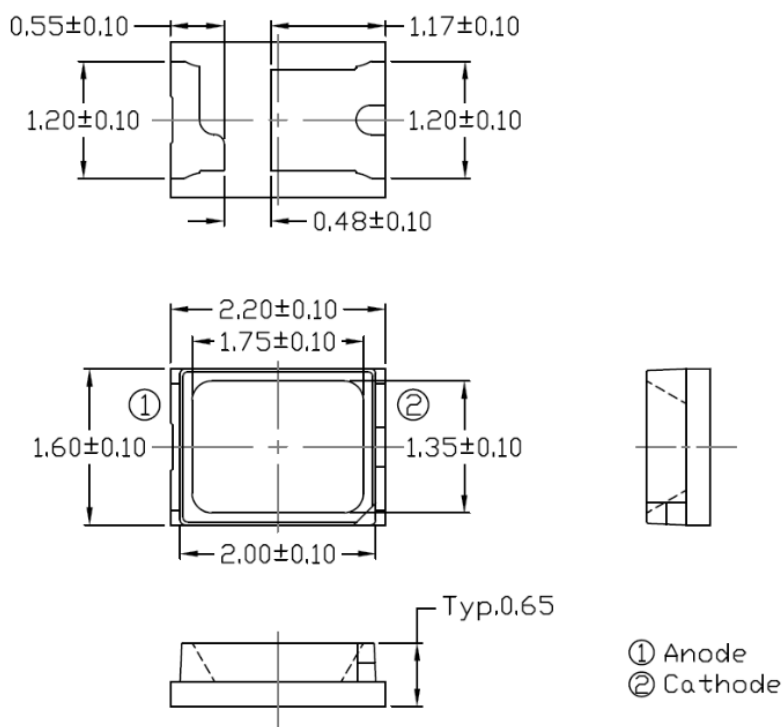
Figure 7



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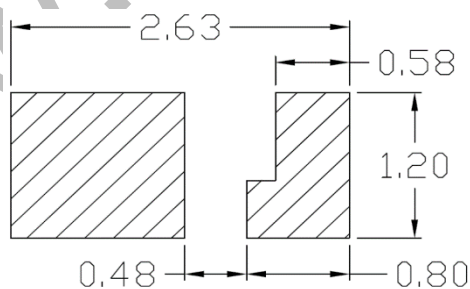
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Package Dimension *All dimensions are in mm, unless otherwise stated*



Note: Tolerance unless mentioned is ±0.1mm.

Recommended Soldering Mask *All dimensions are in mm, unless otherwise stated*



Note: Tolerance unless mentioned is ±0.1mm.

Ordering Information

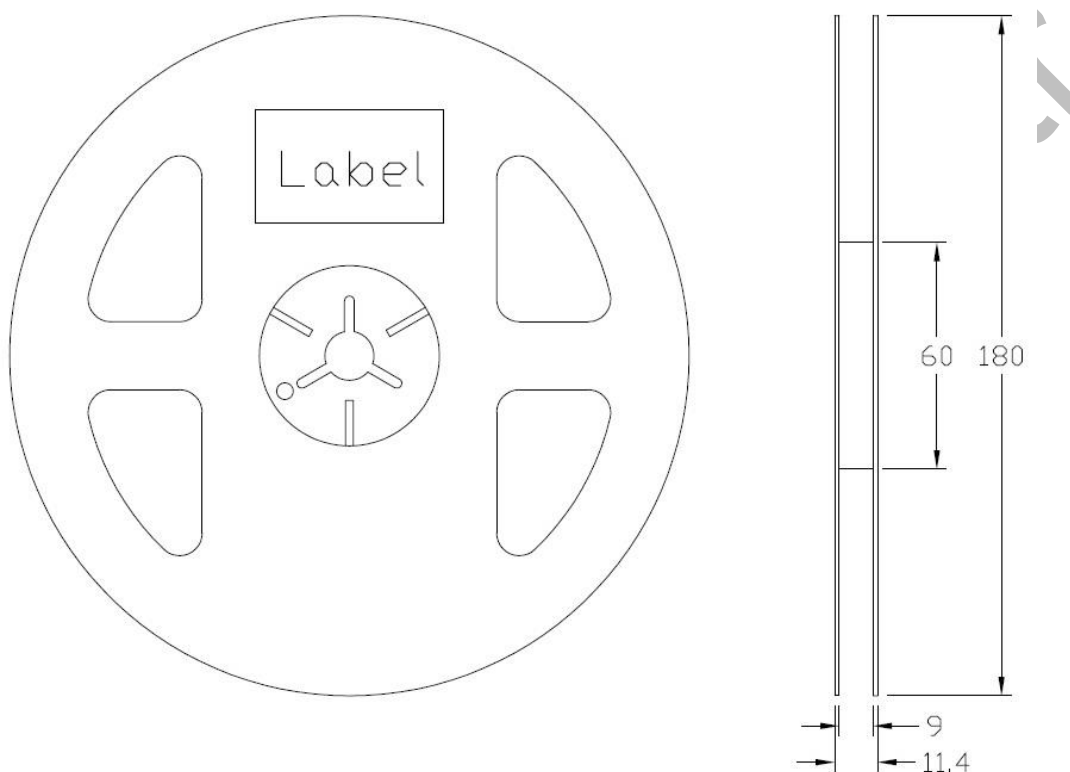
| Part Number | Description | Quantity |
|---------------|-------------|----------|
| AC201607-ATC4 | Tape & Reel | 4000 pcs |



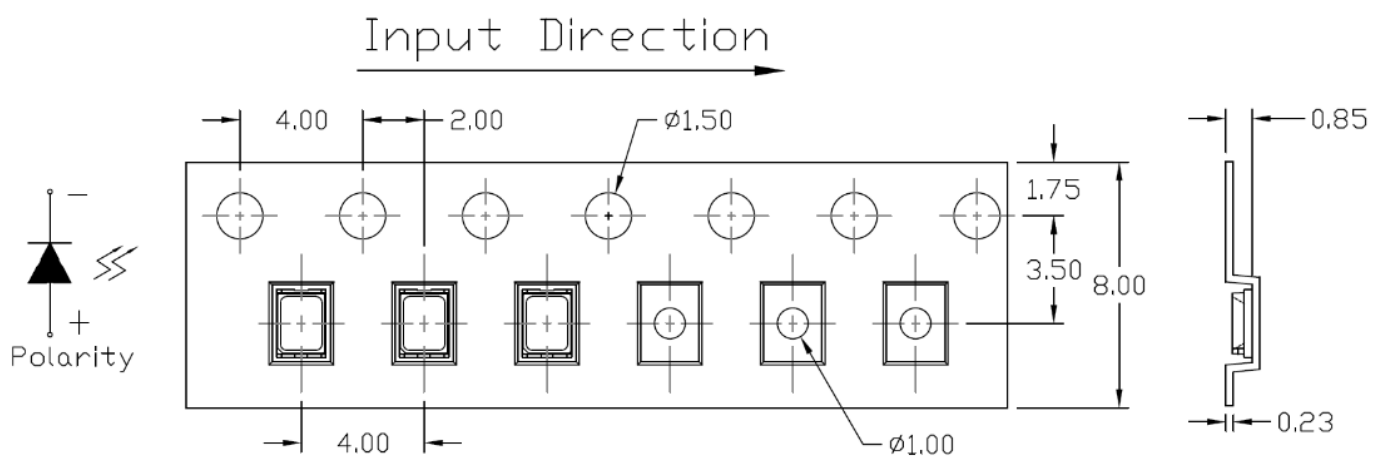
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SMD Type Amber Emitter

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



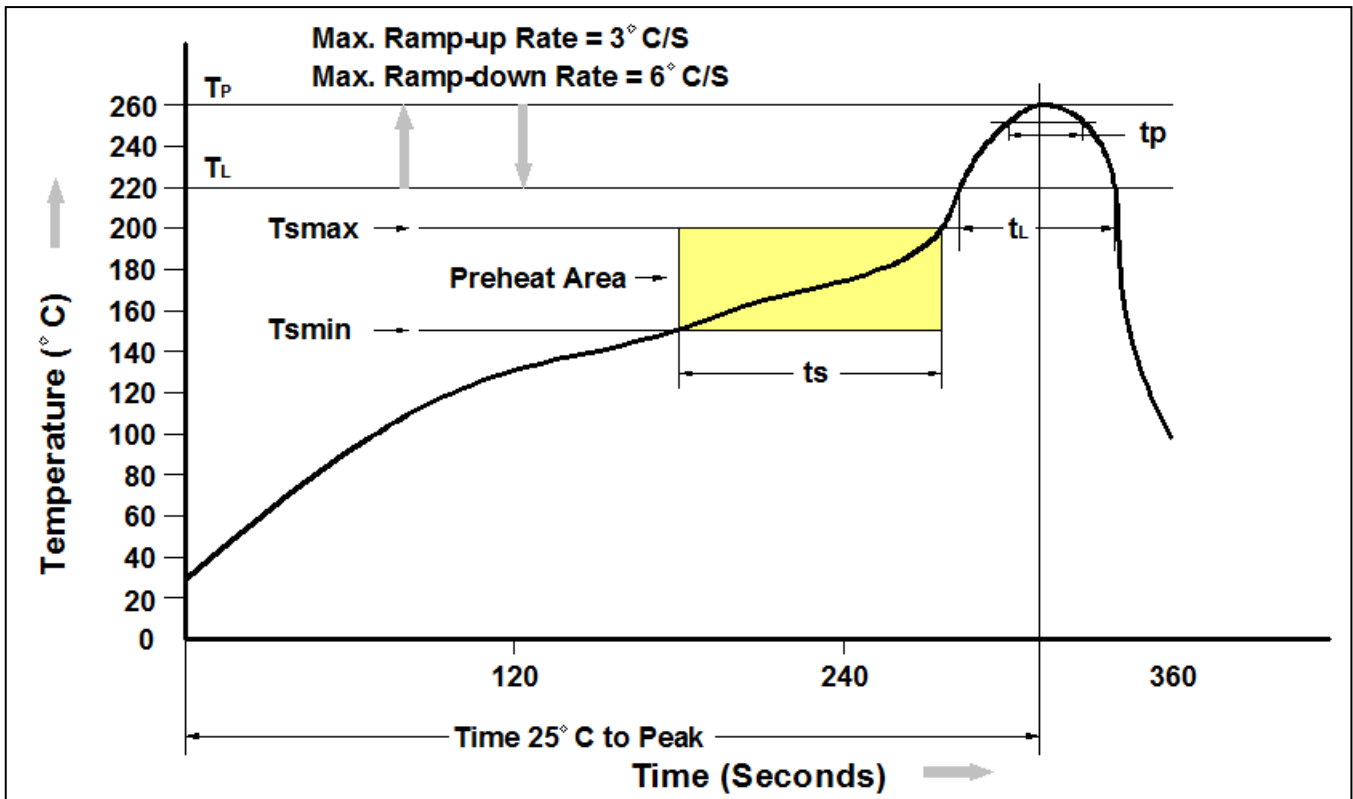
CPN : Customer Part Number
 Part no: CTM Production Number
 Serial no: Production Number
 Lot no: Lot number
 Q'ty: Packing Quantity
 Date Code: Manufacture Date
 IV : Bin Code of Luminous Intensity
 WD : Bin Code of Dominant Wavelength
 VF : Bin Code of Forward Voltage
 MADE IN CHINA: Production Place

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 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 _{sm}) | 150°C |
| Temperature Max. (T _{sm}) | 200°C |
| Time (t _s) from (T _{sm} to T _{sm}) | 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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