



AP321608-ATC3

SMD Type Amber Emitter

Features

- Top view 1206 package
- Viewing Angle = $\pm 70^\circ$
- Compatible with infrared and vapor phase reflow solder process
- High reliability
- Ultra bright Amber
- RoHS compliance

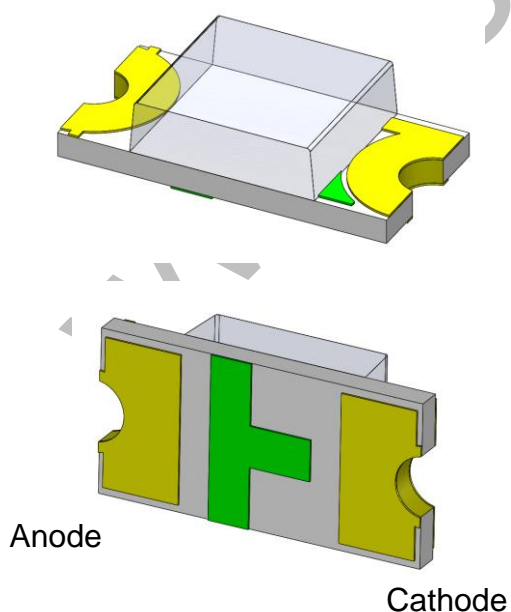
Applications

- Optical indicator.
- Switch and Symbol Display.

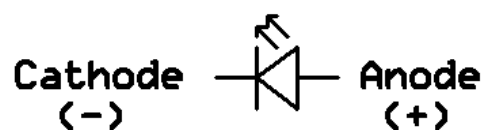
Description

The AP321608-ATC3 is an AlGaInP Amber LED housed in a miniature SMD package. The device has a dominant wavelength of 605nm 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 =20mA	89	-	250	mcd	3
λ _d	Dominant Wavelength	I _F =20mA	600	-	610	nm	4
θ _{1/2}	Angle of Half Intensity	I _F =20mA	-	±70	-	deg	

Electrical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V _F	Forward Voltage	I _F =20mA	1.7	-	2.5	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
n1	89	100	mcd	I _F =20mA
n2	100	130		
o1	130	160		
o2	160	200		
p1	200	250		

Tolerance of: Luminous Intensity ±10%



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4. Bin Range of Dominant Wavelength

Bin Code	Min	Max	Unit	Condition
I1	600	605	nm	I _F =20mA
I2	605	610		

Tolerance of Dominant Wavelength ± 1 nm.

5. Bin Range of Forward Voltage

Bin Code	Min	Max	Unit	Condition
V4	1.7	1.9	V	I _F =20mA
V5	1.9	2.1		
V6	2.1	2.3		
V7	2.3	2.5		

Tolerance of Forward Voltage ± 0.1 V.



Typical Characteristic Curves

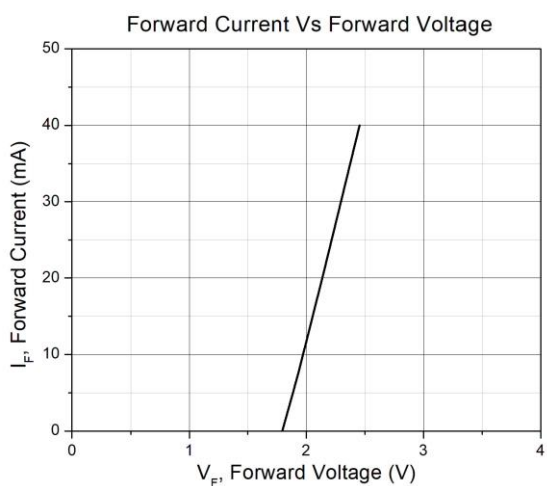


Figure 1

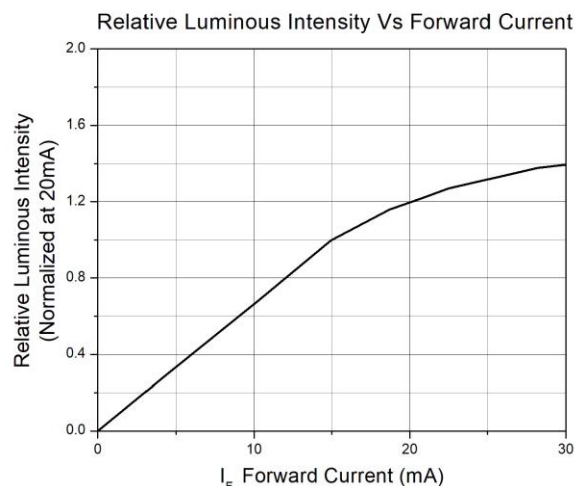


Figure 2

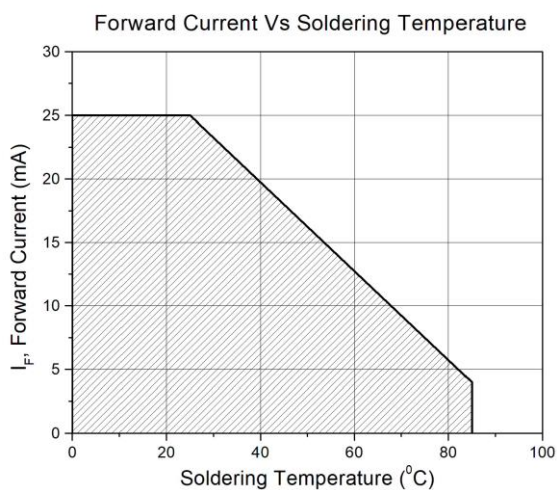


Figure 3

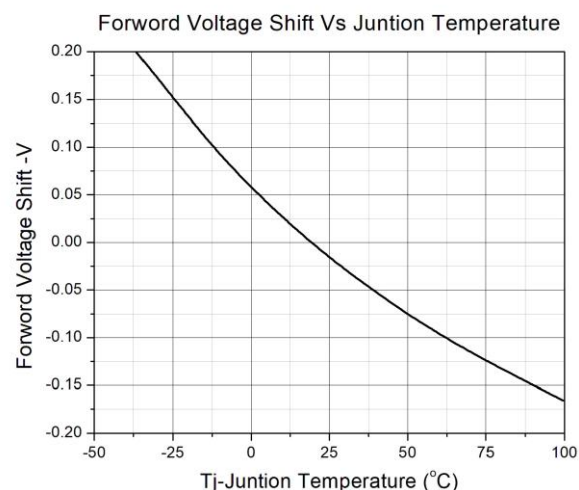


Figure 4

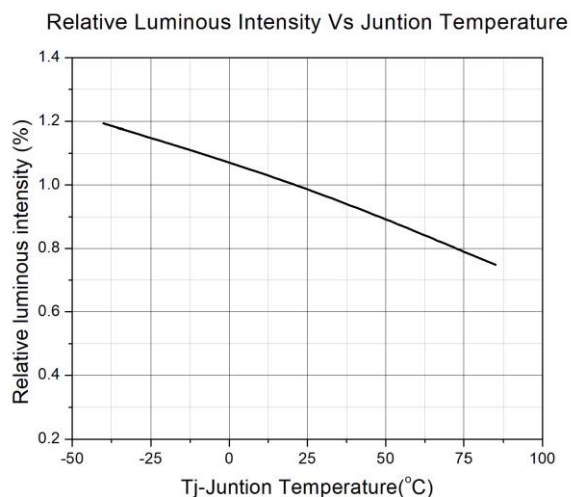


Figure 5

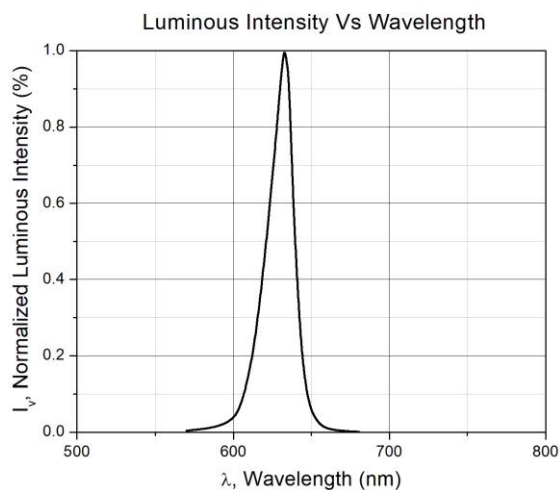


Figure 6



Typical Characteristic Curves

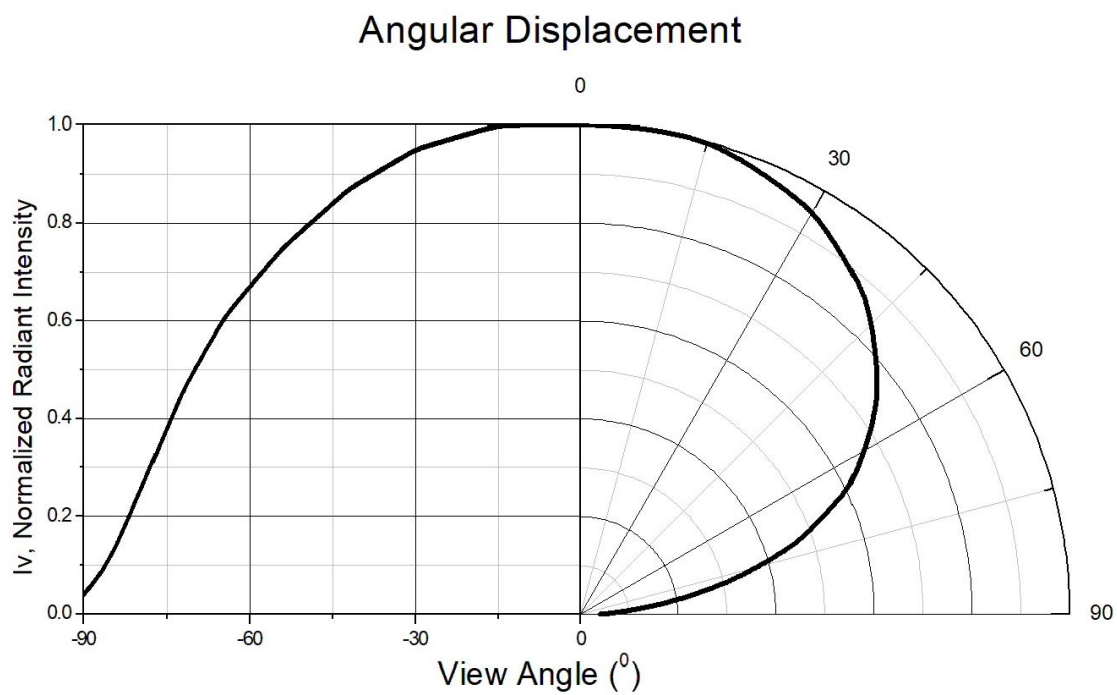


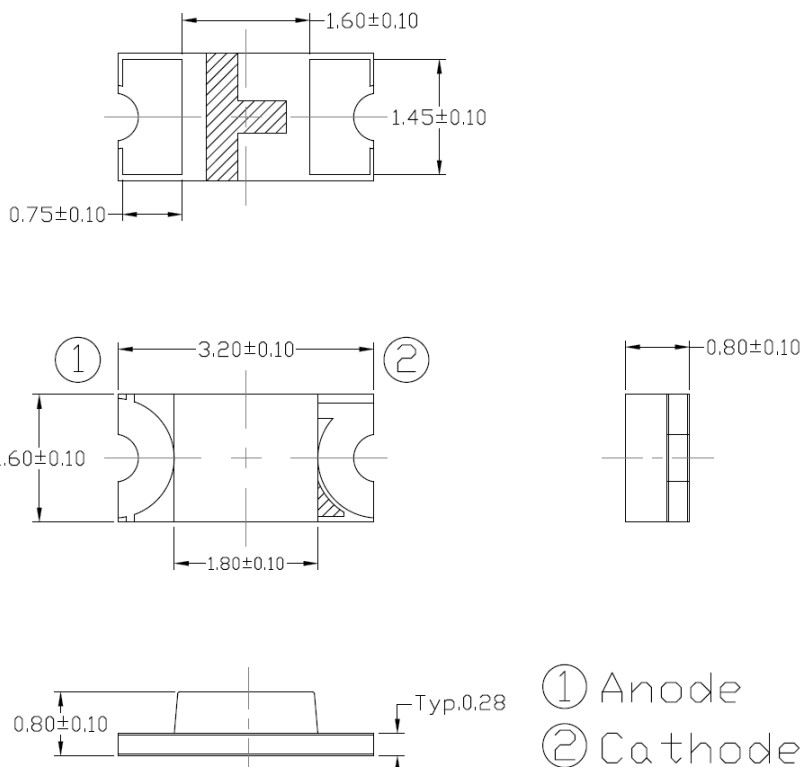
Figure 7



AP321608-ATC3

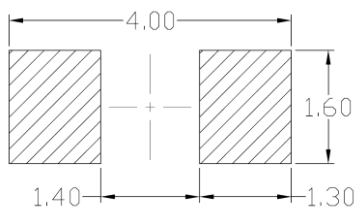
SMD Type Amber Emitter

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

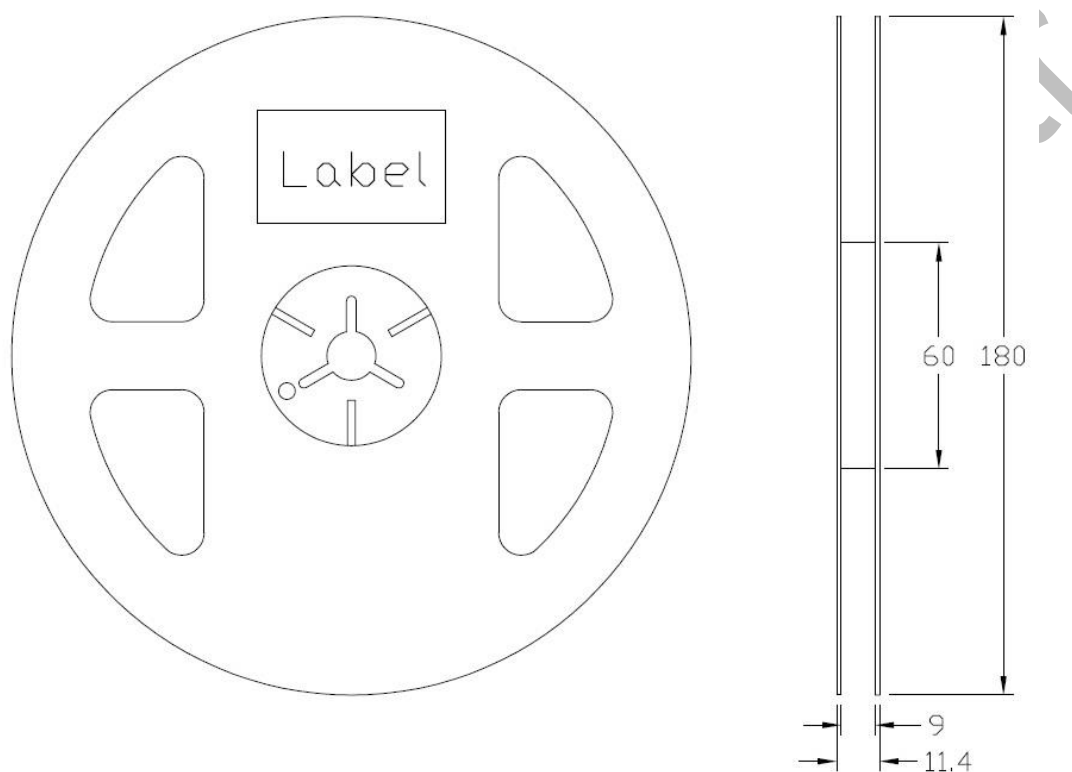
Part Number	Description	Quantity
AP321608-ATC3	Tape & Reel	3000 pcs



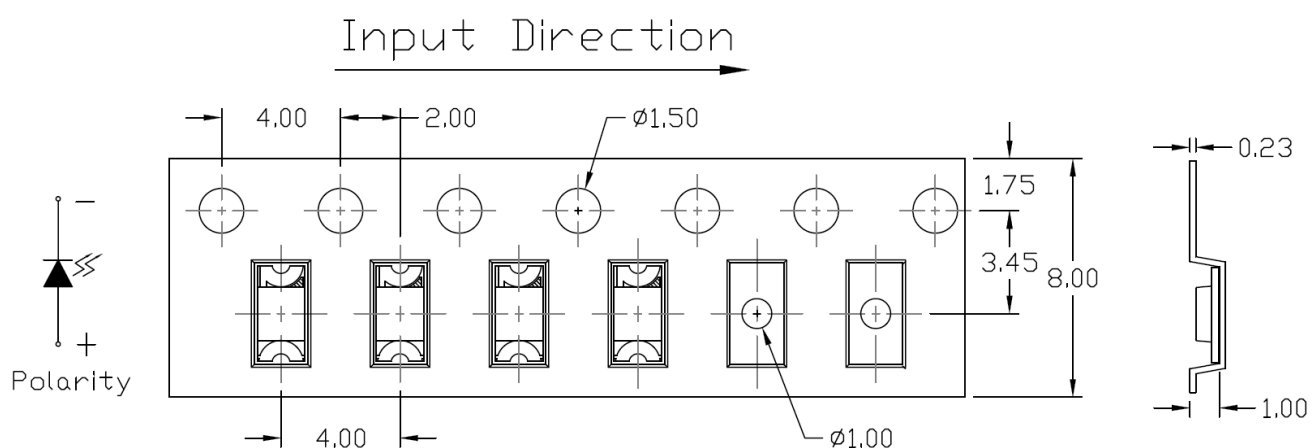
AP321608-ATC3

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



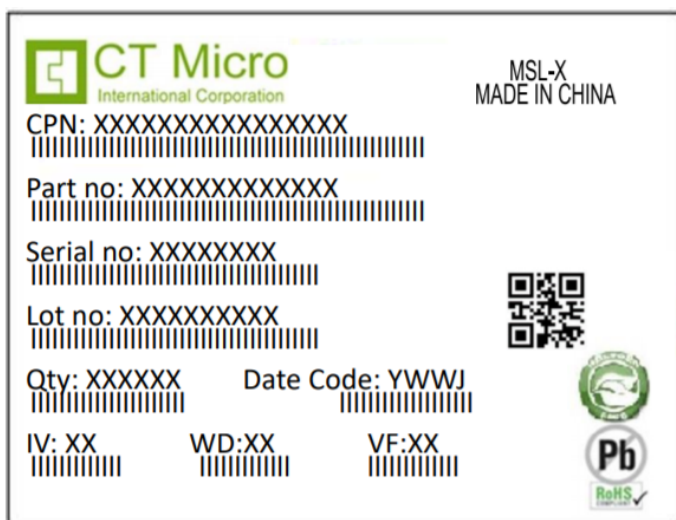
Tape Dimension *All dimensions are in mm, unless otherwise stated*



Note: Tolerance unless mentioned is ± 0.1 mm.



Label Form Specification



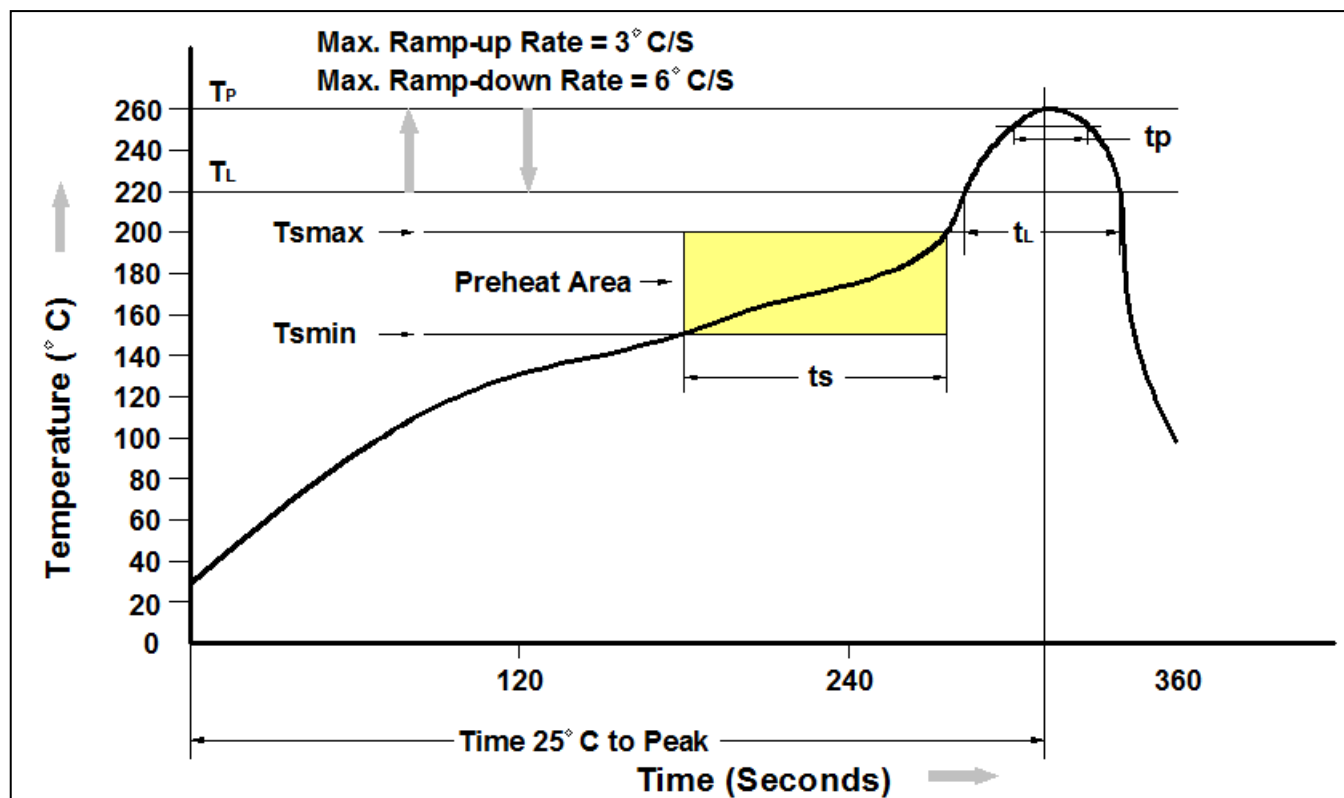
CPN : Customer Part Number
Part no: CTM Production Number
Serial no: Production Number
Lot no: Lot number
Q'ty: Packing Quantity
Date Code: Manufacture Date
IV : Bin Code of Luminous Intensity
WD : Bin Code of Dominant Wavelength
VF : Bin Code of Forward Voltage
MADE IN CHINA: Production Place

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