



CTMLA4415RYG1

3mm Assembly Triple LED

Features

- 3mm Assembly LED
- Viewing Angle = 60 deg
- Compatible with infrared and vapor phase reflow solder process
- High reliability
- "Tri color dominant wavelength (R=650nm , Y=589nm , YG=570nm)"
- RoHS compliance

Applications

- Optical indicator.
- Switch and Symbol Display

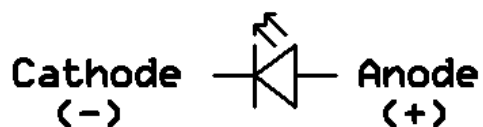
Description

The CTMLA4415RYG1 is a three chip LED housed in miniature LAMP package. The device has a dominant wavelength of 630nm , 589nm and 570nm LED.

Package Outline



Schematic





CTMLA4415RYG1

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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	60	mW	

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

Optical Characteristics (Red)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I _v	Radiant Intensity	I _F =20mA	-	1.0	-	mcd	1
λ _p	Peak Wavelength	I _F =20mA	-	650	-	nm	
2θ _{1/2}	Viewing Angle	I _F =20mA	-	60	-	deg	

Electrical Characteristics (Red)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V _F	Forward Voltage	I _F =20mA	-	-	2.6	V	
I _R	Reverse Current	V _R =5V	-	-	10	μA	

Optical Characteristics (Yellow)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I _v	Radiant Intensity	I _F =20mA	-	18	-	mcd	1
λ _p	Peak Wavelength	I _F =20mA	-	580	-	nm	
2θ _{1/2}	Viewing Angle	I _F =20mA	-	60	-	deg	

Electrical Characteristics (Yellow)

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V _F	Forward Voltage	I _F =20mA	-	-	2.6	V	
I _R	Reverse Current	V _R =5V	-	-	10	μA	



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Optical Characteristics (Yellow Green)

<i>Symbol</i>	<i>Parameters</i>	<i>Test Conditions</i>	<i>Min</i>	<i>Typ</i>	<i>Max</i>	<i>Units</i>	<i>Notes</i>
I _v	Radiant Intensity	I _F =20mA	-	20	-	mcd	1
λ _p	Peak Wavelength	I _F =20mA	-	570	-	nm	
2θ _{1/2}	Viewing Angle	I _F =20mA	-	60	-	deg	

Electrical Characteristics (Yellow Green)

<i>Symbol</i>	<i>Parameters</i>	<i>Test Conditions</i>	<i>Min</i>	<i>Typ</i>	<i>Max</i>	<i>Units</i>	<i>Notes</i>
V _F	Forward Voltage	I _F =20mA	-	-	2.6	V	
I _R	Reverse Current	V _R =5V	-	-	10	μA	

Notes:

1. IP Conditions—Pulse Width ≤100us and Duty≤10%.
2. Soldering time ≤ 5 seconds.



Typical Characteristic Curves

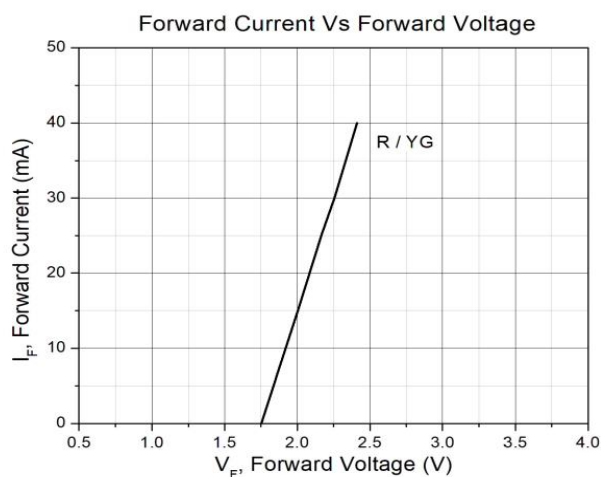


Figure 1

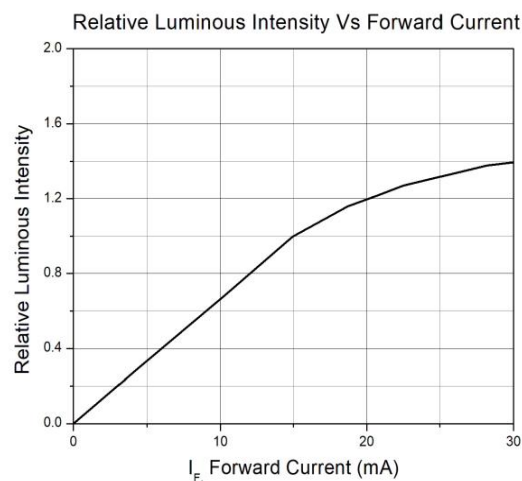


Figure 2

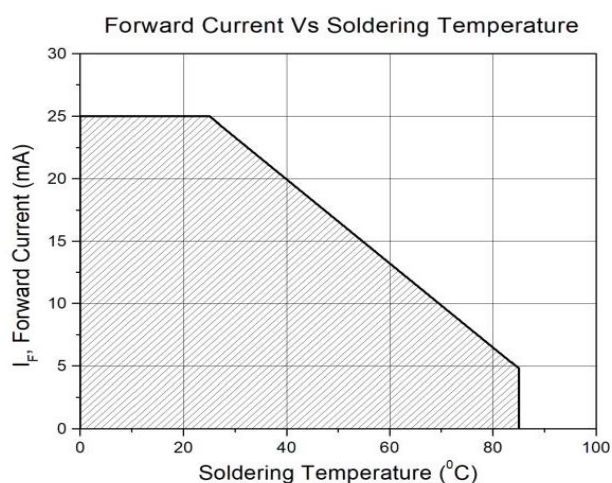


Figure 3

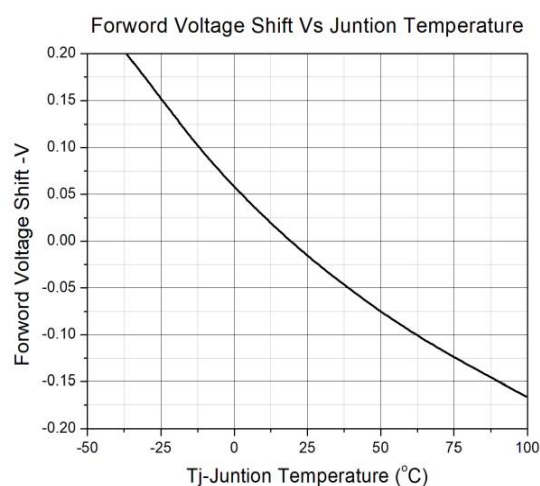


Figure 4

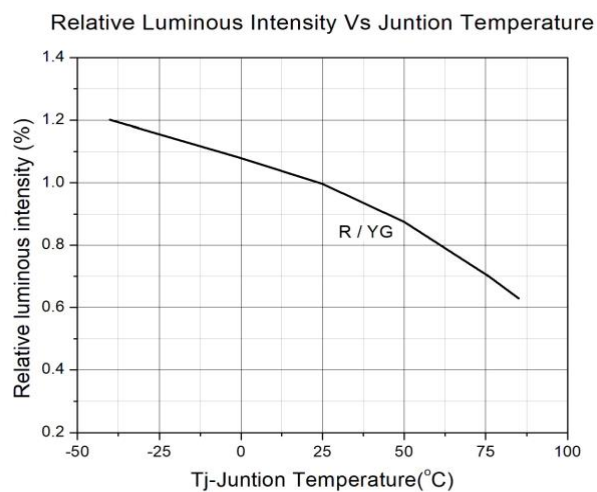


Figure 5

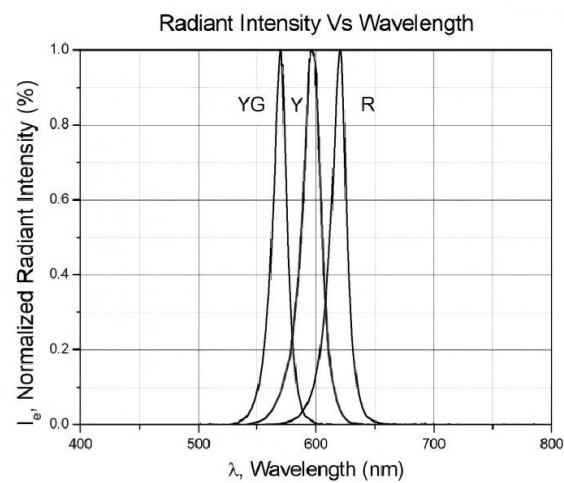


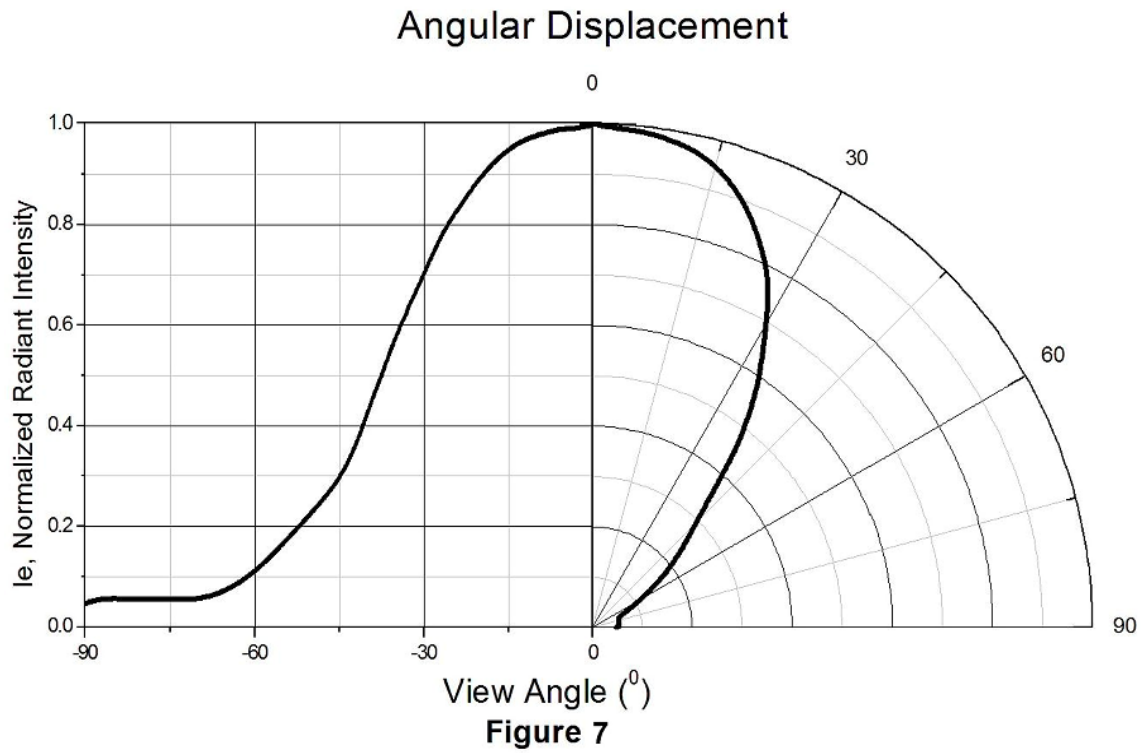
Figure 6



CTMLA4415RYG1

3mm Assembly Triple LED

Typical Characteristic Curves

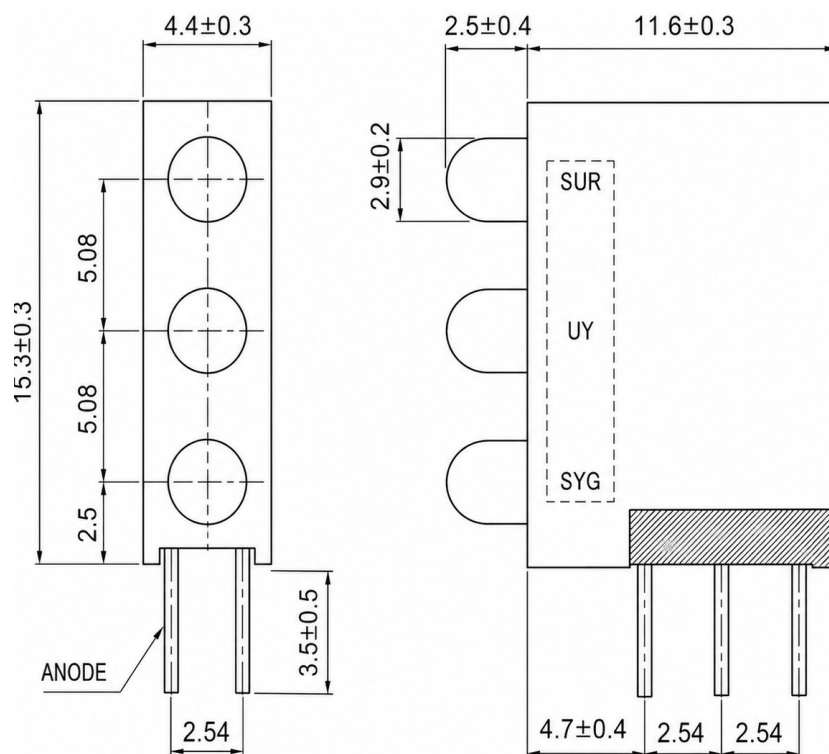




CTMLA4415RYG1

3mm Assembly Triple LED

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



Ordering Information

CTMLA4415RYG1

Part Number	Description	Quantity
CTMLA4415RYG1	1 Bag	250 pcs



CTMLA4415RYG1

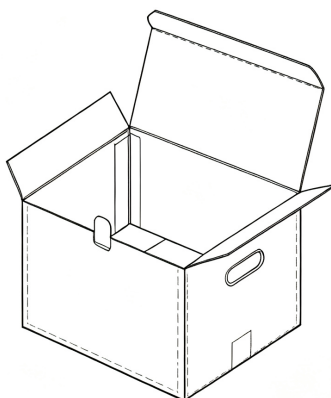
3mm Assembly Triple LED

Packing Specification

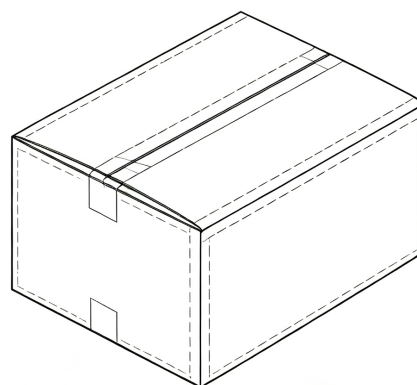
Bag



Inner Carton



Outside Carton



Dimension

Dimension	Length (L)	Width (W)	Height (H)
Inner Carton	22	15	9
Outside Carton	49	33	25

Unit: cm

Packing Quantity

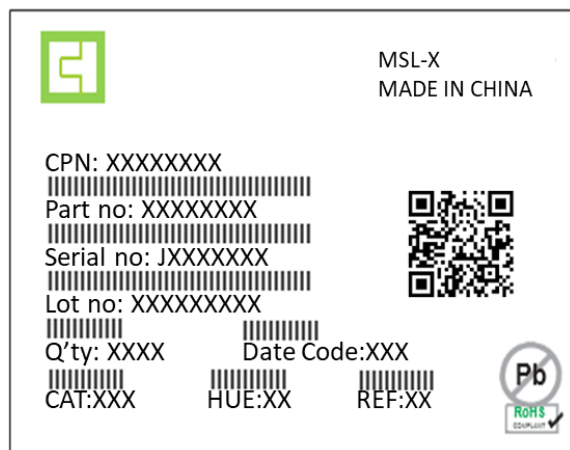
250 PCS/1 Bag, 4 Bags/1 Inner Carton, 10 Inner Cartons/1 Outside Carton



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Label Form Specification



The diagram shows a label form with a green logo in the top left corner. To the right of the logo, it says "MSL-X" and "MADE IN CHINA". Below the logo, there are several fields for data entry, each preceded by a barcode-like pattern. The fields are: CPN: XXXXXXXX, Part no: XXXXXXXX, Serial no: JXXXXXXX, Lot no: XXXXXXXX, Q'ty: XXXX, Date Code: XXX, CAT: XXX, HUE: XX, and REF: XX. To the right of these fields is a QR code. In the bottom right corner, there is a circular logo with "Pb" and "ROHS COMPLIANT" text.

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

CAT : Ranks

HUE: Bin Code of Chromaticity Coordinates

REF : Bin Code of Reference

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.



Wave soldering (follow the JEDEC standard JESD22-A111)

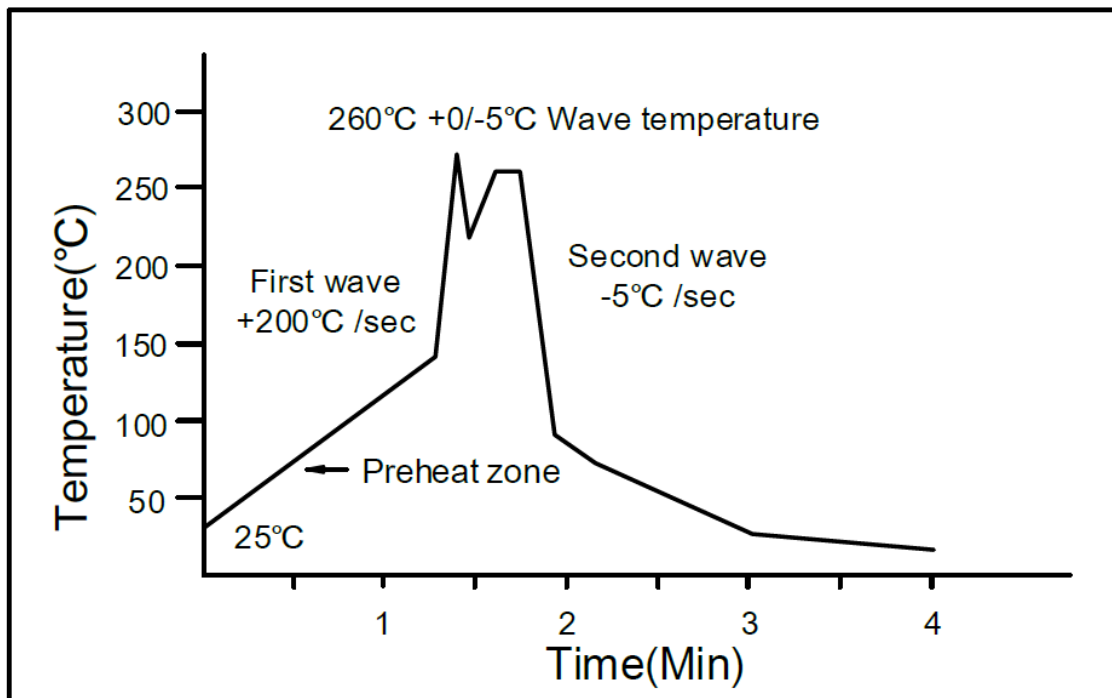
One time soldering is recommended within the condition of temperature.

Temperature: $260 \pm 0/-5^{\circ}\text{C}$.

Time: 10 sec.

Preheat temperature: 25 to 140°C .

Preheat time: 30 to 80 sec.



Iron soldering (follow the standard MIL-STD 202G, Method 210F)

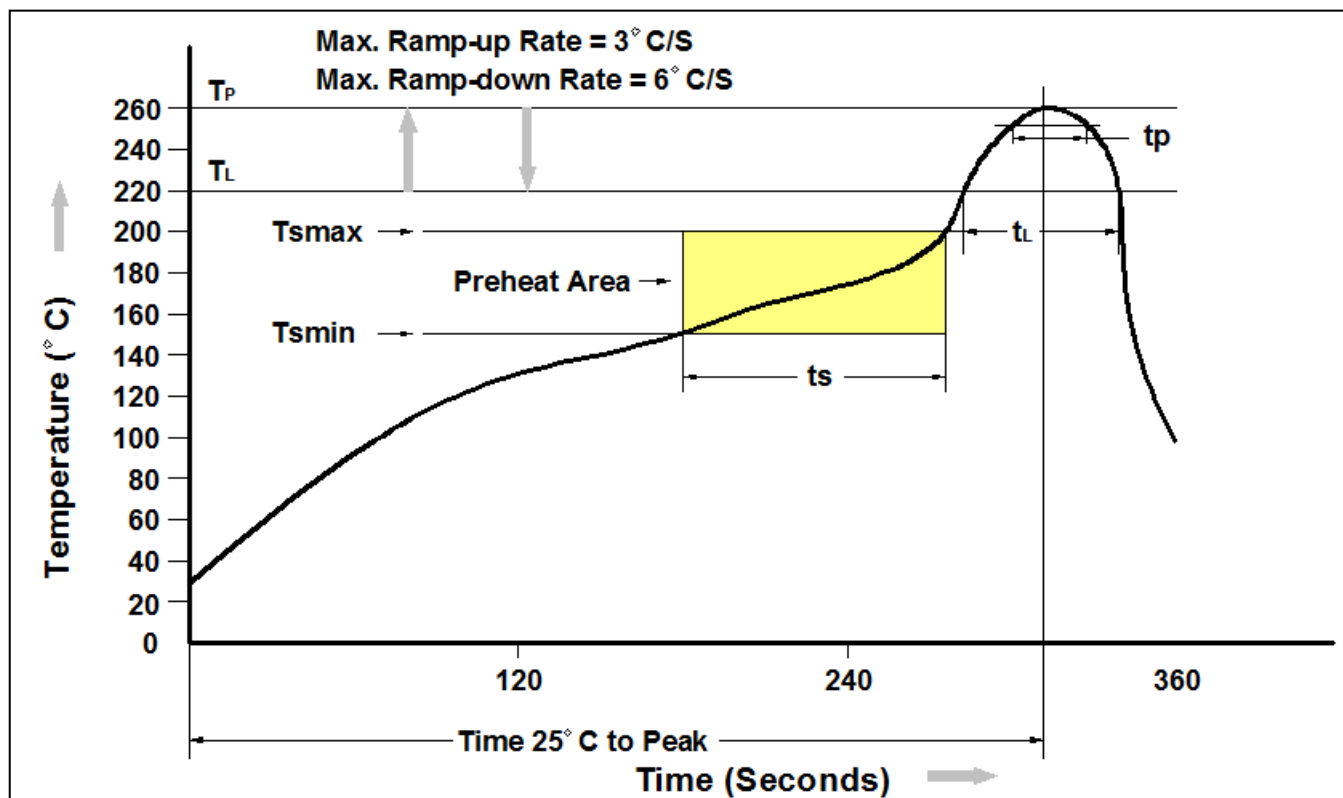
Allow single lead soldering in every single process.

One time soldering is recommended. Temperature: $350 \pm 10^{\circ}\text{C}$

Time: 5 sec max.



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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