BYGP160803-CTC3

Dual Wavelength SMD Type Emitter

Features

- Top view 0603 package
- Viewing Angle = $\pm 65^0$
- Compatible with infrared and vapor phase reflow solder process
- High reliability
- Dual dominant wavelength (B=470nm , YG=570nm)
- RoHS compliance

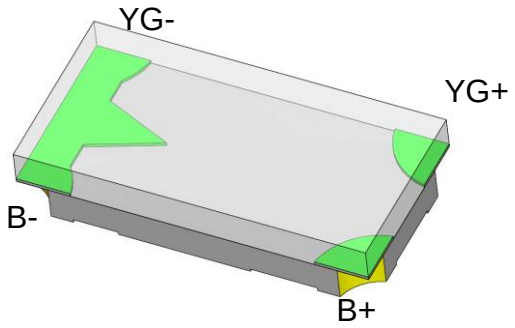
Description

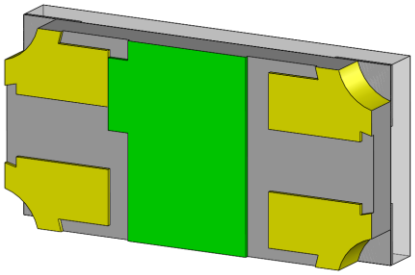
The BYGP160803-CTC3 is a double LED housed in a miniature SMD package. The device has a dominant wavelength of 470nm and 570nm LED.

Applications

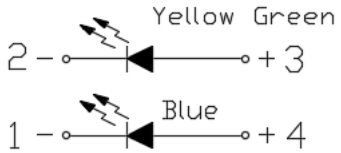
- Optical indicator.
- Switch and Symbol Display.

Package Outline





Schematic



Absolute Maximum Rating at 25^{0}C

Symbol	*Parameters*		*Ratings*	*Units*	*Notes*
I_F	Continuous Forward Current	B	25	mA	
		YG	25		
I_{FP}	Peak Forward Current	B	100	mA	1
		YG	60		
V_R	Reverse Voltage		5	V	
T_{opr}	Operating Temperature		-40 ~ +85	^{0}C	
T_{stg}	Storage Temperature		-40 ~ +100	^{0}C	
T_{sol}	Soldering Temperature		260	^{0}C	2
P_D	Power Dissipation at(or below) 25℃ Free Air Temperature	B	95	mW	
		YG	60		

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

Optical Characteristics (Blue)

Symbol	*Parameters*	*Test Conditions*	*Min*	*Typ*	*Max*	*Units*	*Notes*
Iv	Luminous Intensity	I_F=5mA	22.5	-	90	mcd	3
λd	Dominant Wavelength	I_F=5mA	465	-	475	nm	4
θ1/2	Angle of Half Intensity	I_F=5mA	-	±65	-	deg	

Electrical Characteristics

Symbol	*Parameters*	*Test Conditions*	*Min*	*Typ*	*Max*	*Units*	*Notes*
V_F	Forward Voltage	I_F=5mA	2.5	-	3.1	V	
I_R	Reverse Current	V_R=5V	-	-	1	μA	

Optical Characteristics (Yellow Green)

Symbol	*Parameters*	*Test Conditions*	*Min*	*Typ*	*Max*	*Units*	*Notes*
Iv	Luminous Intensity	I_F=5mA	7.2	-	18	mcd	3
λd	Dominant Wavelength	I_F=5mA	567.5	-	575.5	nm	4
θ1/2	Angle of Half Intensity	I_F=5mA	-	±65	-	deg	

Electrical Characteristics

Symbol	*Parameters*	*Test Conditions*	*Min*	*Typ*	*Max*	*Units*	*Notes*
V_F	Forward Voltage	I_F=5mA	1.6	-	2.2	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.
3. Bin Range of Luminous Intensity

Blue				
MA	22.5	36.0	mcd	I_F=5mA
NA	36.0	57.0		
PA	57.0	90.0		
Yellow Green				
Bin Code	Min	Max	Unit	Condition
K	7.2	11.5	mcd	I_F=5mA
L	11.5	18.0		

Tolerance of: Luminous Intensity ±10%

4. Bin Range of Dominant Wavelength

Blue				
Bin Code	Min	Max	Unit	Condition
A6	465	470	nm	I_F=5mA
A7	470	475		
Yellow Green				
Bin Code	Min	Max	Unit	Condition
AG15	567.5	569.5	nm	I_F=5mA
AG16	569.5	571.5		
AG17	571.5	573.5		
AG18	573.5	575.5		

Tolerance of Dominant Wavelength: ±1nm.

Tolerance of Forward Voltage ±0.1V.

Typical Characteristic Curves

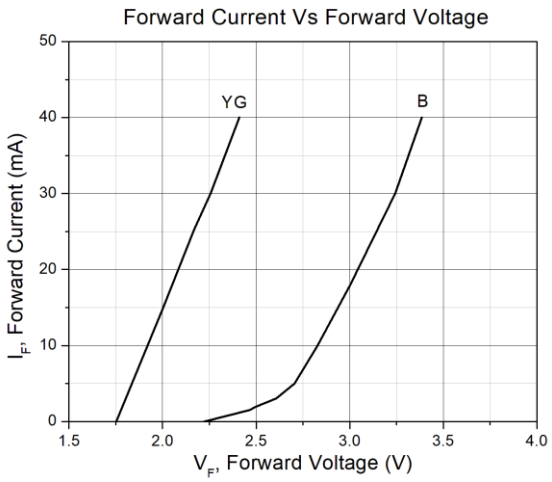


Figure 1

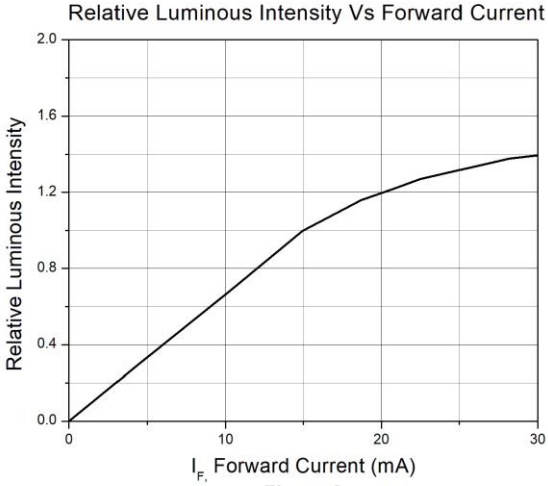


Figure 2

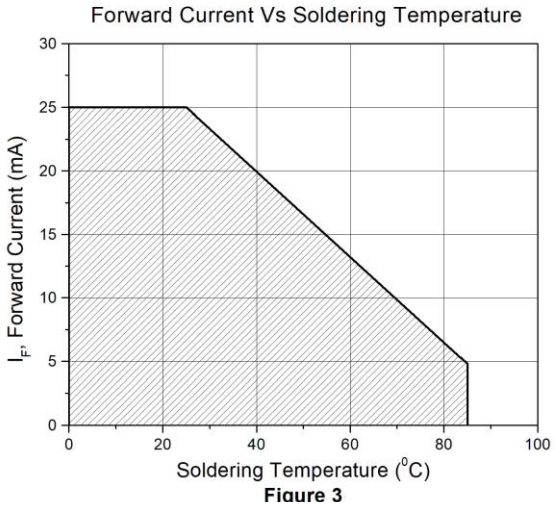


Figure 3

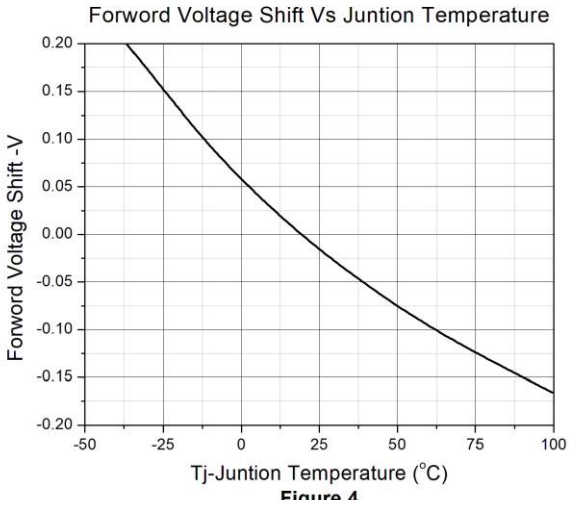


Figure 4

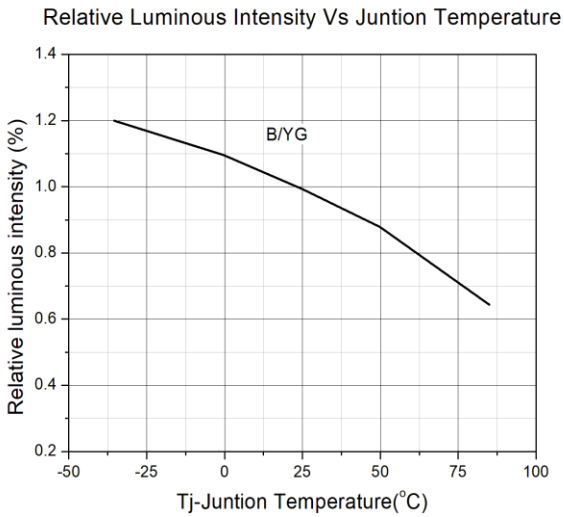


Figure 5

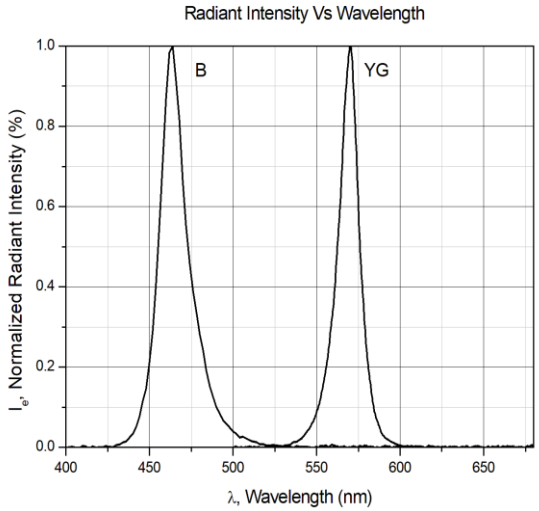


Figure 6

Typical Characteristic Curves

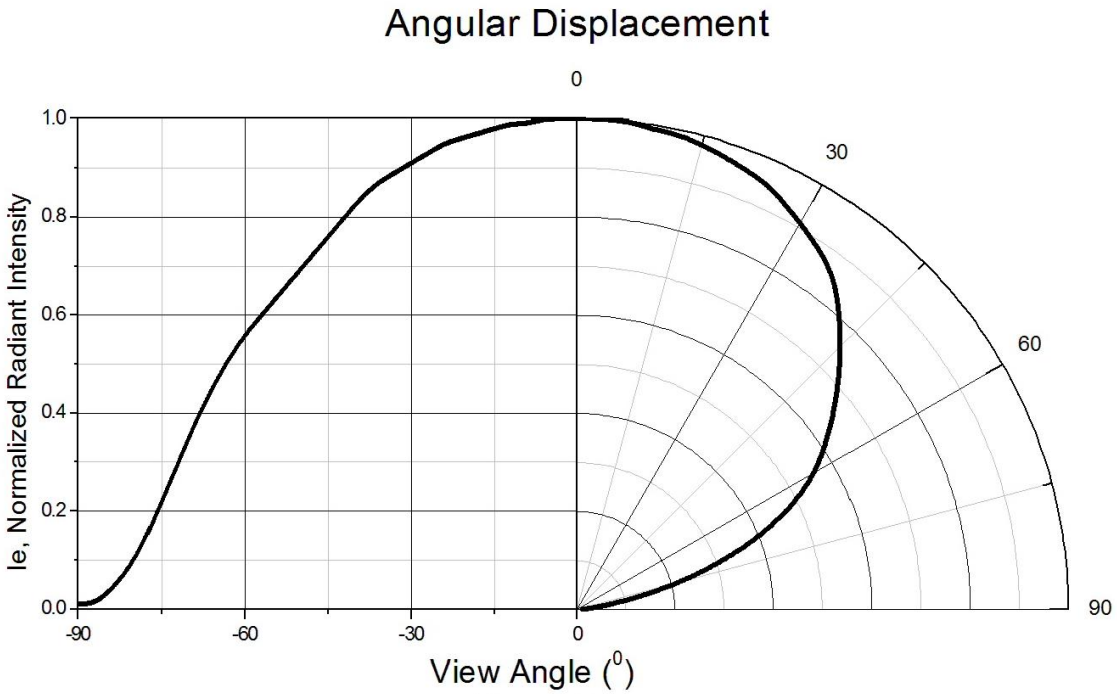
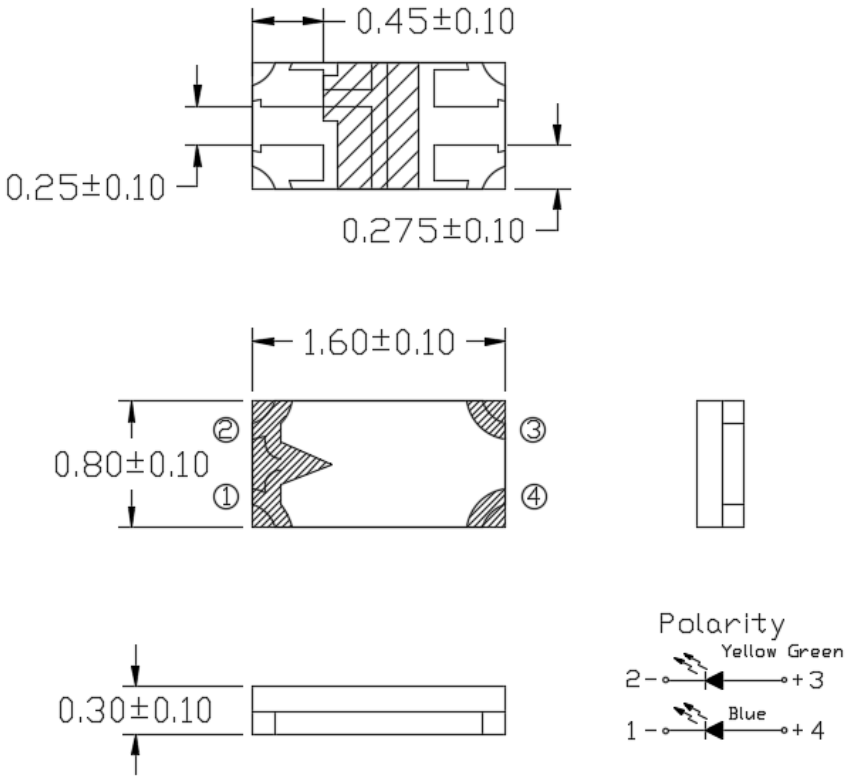


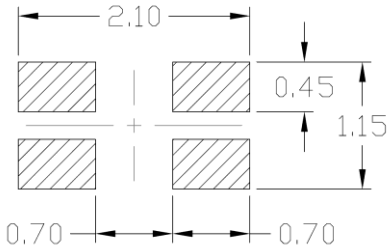
Figure 7

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*

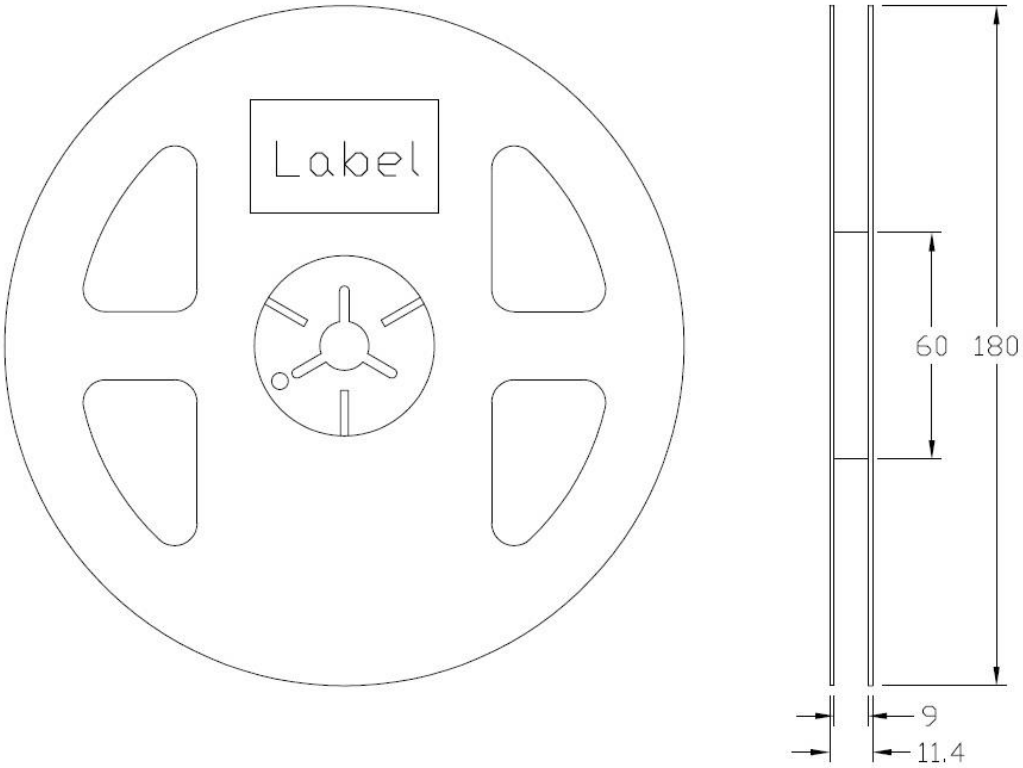


Note: Tolerance unless mentioned is ±0.1mm.

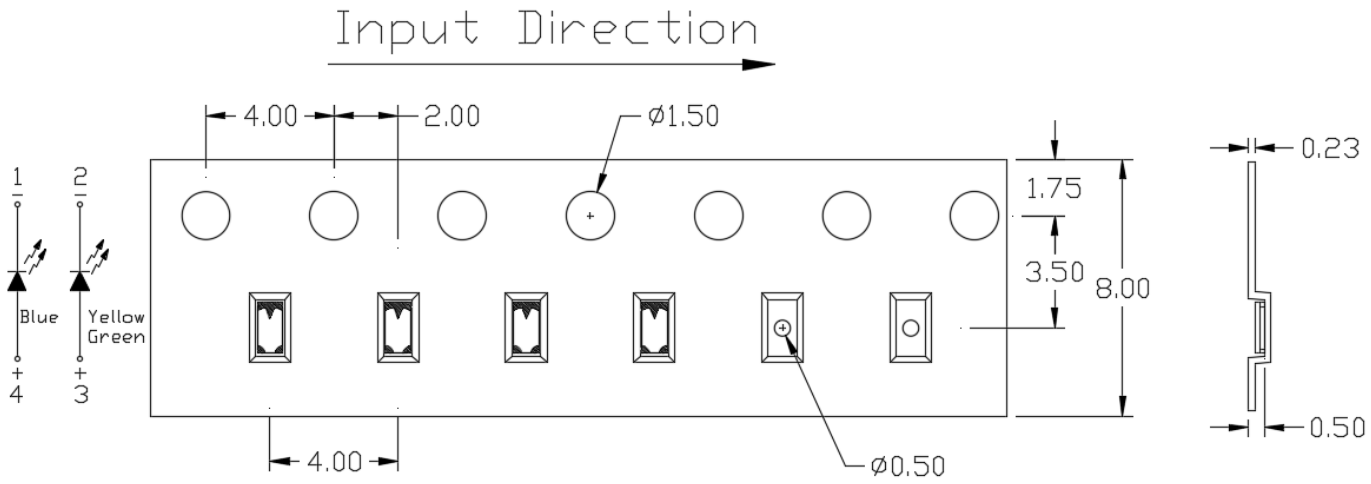
Ordering Information

Part Number	*Description*	*Quantity*
BYGP160803-CTC3	Tape & Reel	3000 pcs

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

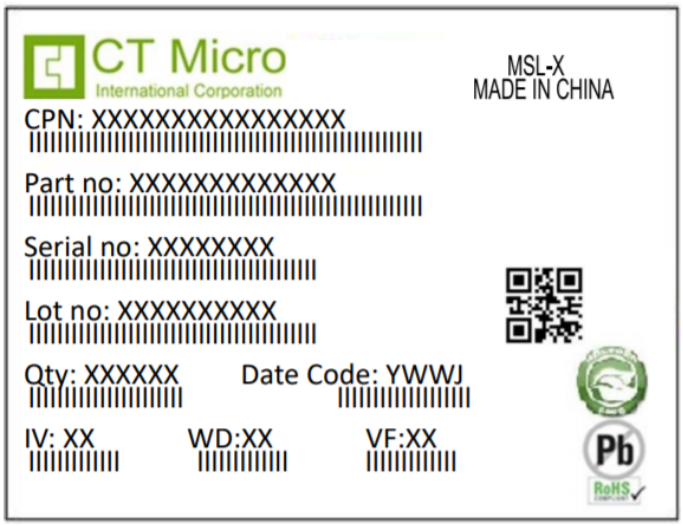


Tape Dimension *All dimensions are in mm, unless otherwise stated*



Note: Tolerance unless mentioned is ±0.1mm.

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

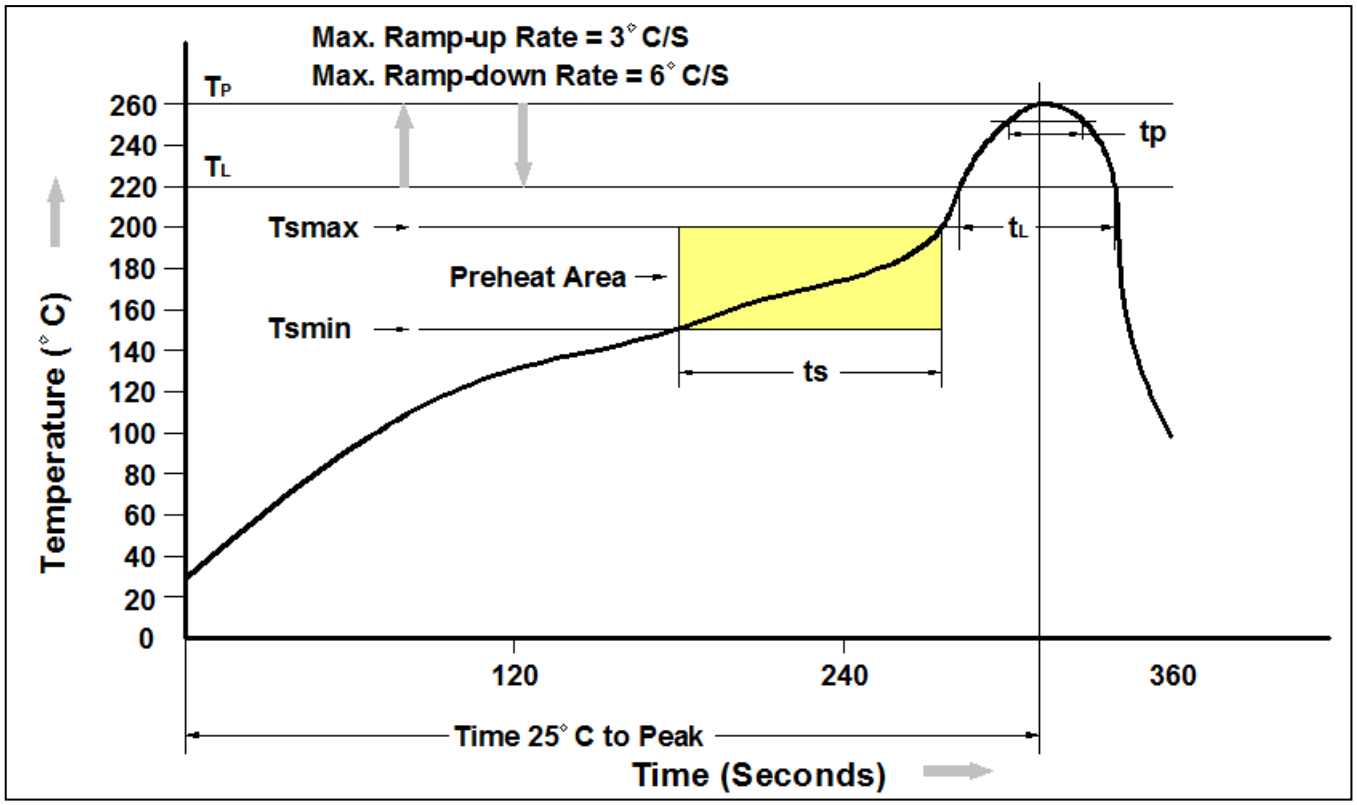
VF : Bin Code of Forward Voltage

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. (Tsmin)	150°C
Temperature Max. (Tsmax)	200°C
Time (ts) from (Tsmin to Tsmax)	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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