GBRP201208-PCTC3

Multi-Wavelength SMD Type

Features

- Top view 0805 package
- Wide viewing angle
- GBR individual control
- High reliability
- RoHS compliance

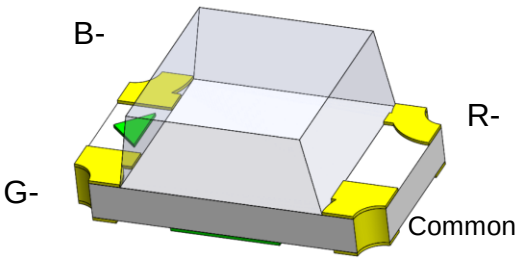
Description

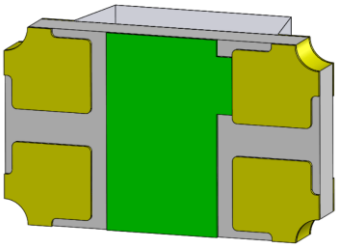
The GBRP201208-PCTC3 is a high brightness device designed for demanding applications in efficiency and reduced space. An ideal device in emphasizing visual effects, advertisement, decoration as well as general backlighting needs.

Applications

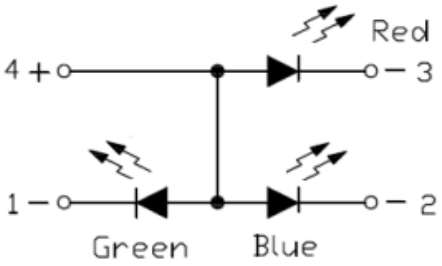
- Optical indicator.
- Switch and Symbol Display.

Package Outline





Schematic



Absolute Maximum Rating at 25^{0}C

Symbol	*Parameters*	*Ratings*		*Units*	*Notes*
I_F	Continuous Forward Current	25		mA	
I_{FP}	Peak Forward Current	60		mA	1
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	G	95	mW	
		B	95		
		R	60		

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

Optical Characteristics(Green)

Symbol	*Parameters*	*Test Conditions*	*Min*	*Typ*	*Max*	*Units*	*Notes*
Iv	Luminous Intensity	I_F=5mA	180	-	450	mcd	3
λ_P	Peak Wavelength	I_F=5mA	-	516	-	nm	
λ_D	Dominant Wavelength	I_F=5mA	520	-	535	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	2.4	-	3.1	V	
I_R	Reverse Current	V_R=5V	-	-	1	μA	

Optical Characteristics(Blue)

Symbol	*Parameters*	*Test Conditions*	*Min*	*Typ*	*Max*	*Units*	*Notes*
Iv	Luminous Intensity	I_F=5mA	45	-	112	mcd	3
λ_P	Peak Wavelength	I_F=5mA	-	466	-	nm	
λ_D	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	2.4	-	3.1	V	
I_R	Reverse Current	V_R=5V	-	-	1	μA	

Optical Characteristics(Red)

Symbol	*Parameters*	*Test Conditions*	*Min*	*Typ*	*Max*	*Units*	*Notes*
Iv	Luminous Intensity	I_F=5mA	36	-	90	mcd	3
λ_P	Peak Wavelength	I_F=5mA	-	632	-	nm	
λ_D	Dominant Wavelength	I_F=5mA	-	621	-	nm	
θ1/2	Angle of Half Intensity	I_F=5mA	-	±65	-	deg	4

Electrical Characteristics

Symbol	*Parameters*	*Test Conditions*	*Min*	*Typ*	*Max*	*Units*	*Notes*
V_F	Forward Voltage	I_F=5mA	1.6	-	2.1	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

Green				
Bin Code	Min	Max	Unit	Condition
S	180	285	mcd	I_F=5mA
T	285	450		
Blue				
P	45	72	mcd	I_F=5mA
Q	72	112		
Red				
NA	36	57	mcd	I_F=5mA
PA	57	90		

Tolerance of: Luminous Intensity ±10%

4. Bin Range of Dominant Wavelength(Green)

Bin Code	Min	Max	Unit	Condition
A5	520	525	nm	I_F=5mA
A6	525	530		
A7	530	535		

Bin Range of Dominant Wavelength(Blue)

Bin Code	Min	Max	Unit	Condition
A6	465	470	nm	I_F=5mA
A7	470	475		

Tolerance of Dominant Wavelength: ±1nm.

Typical Characteristic Curves

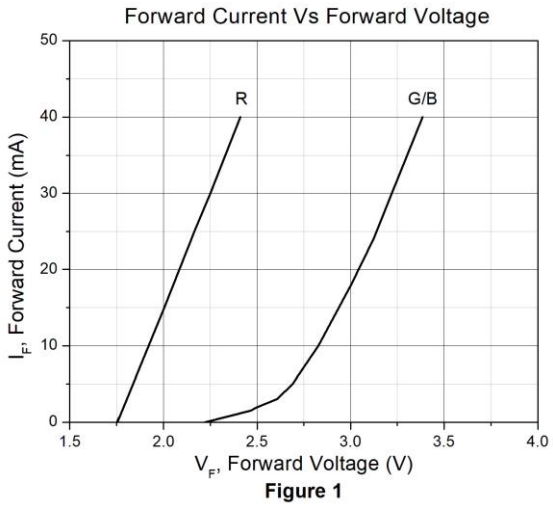


Figure 1

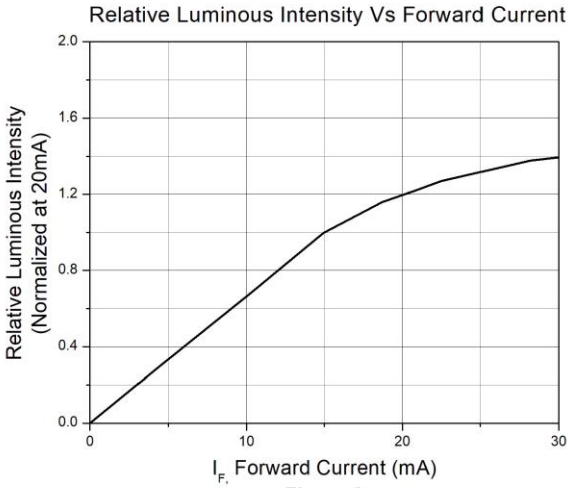


Figure 2

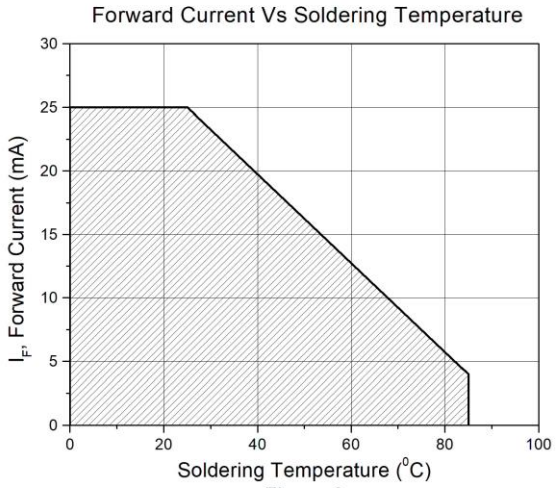


Figure 3

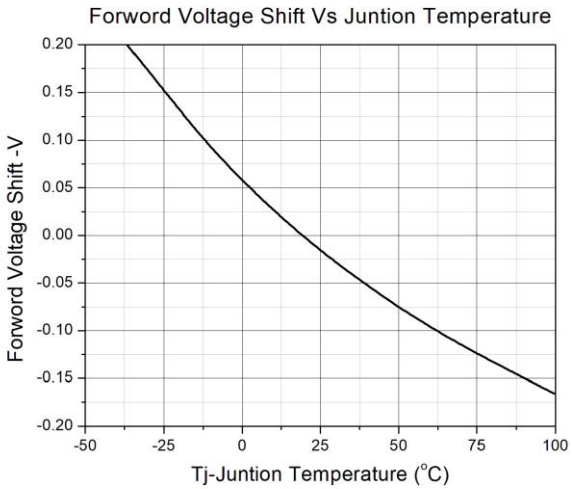


Figure 4

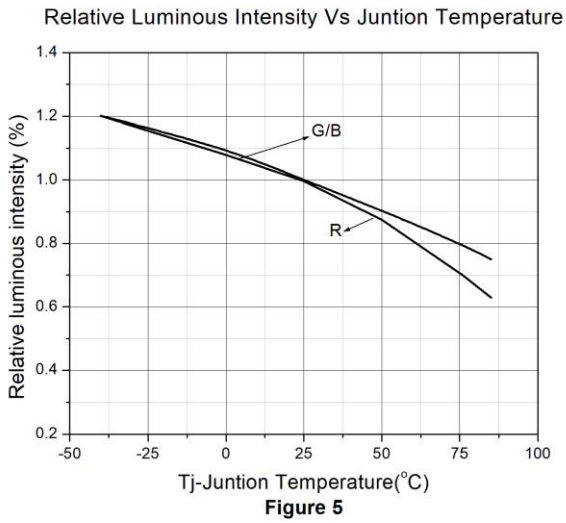


Figure 5

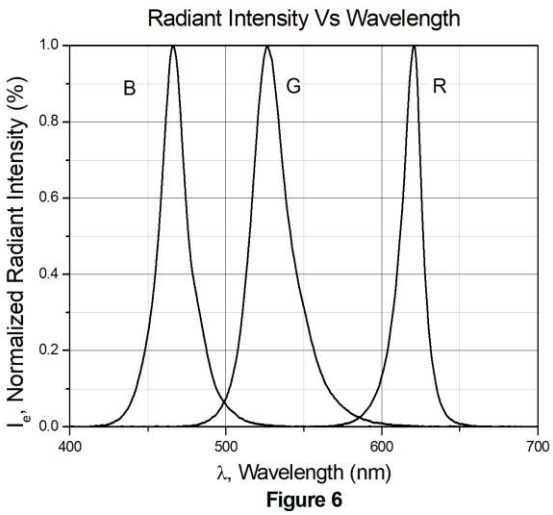


Figure 6

Typical Characteristic Curves

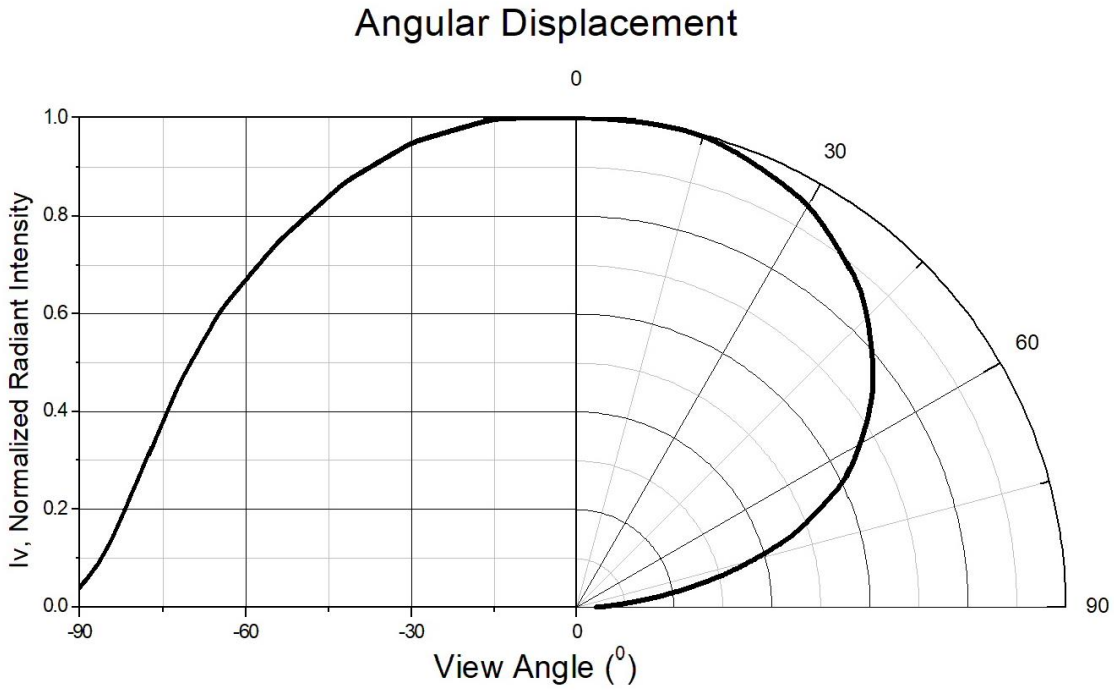
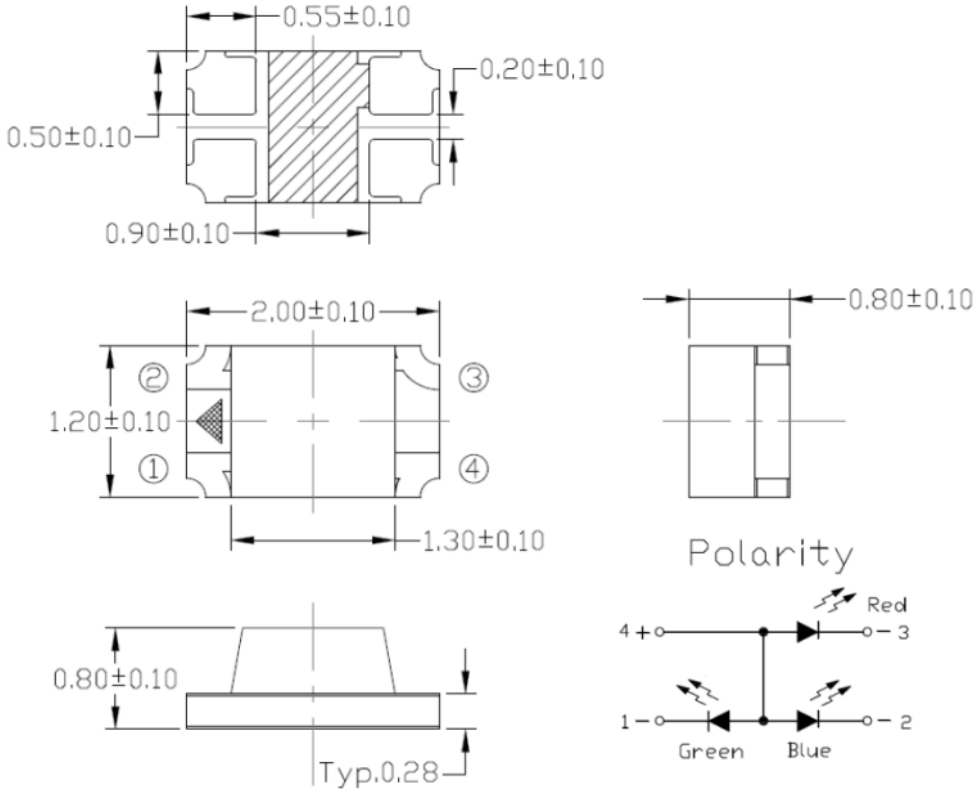


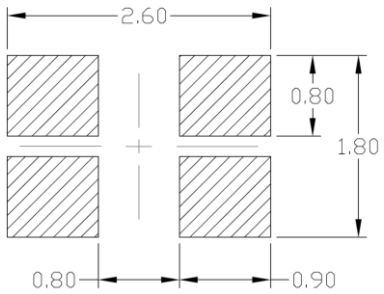
Figure 7

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*

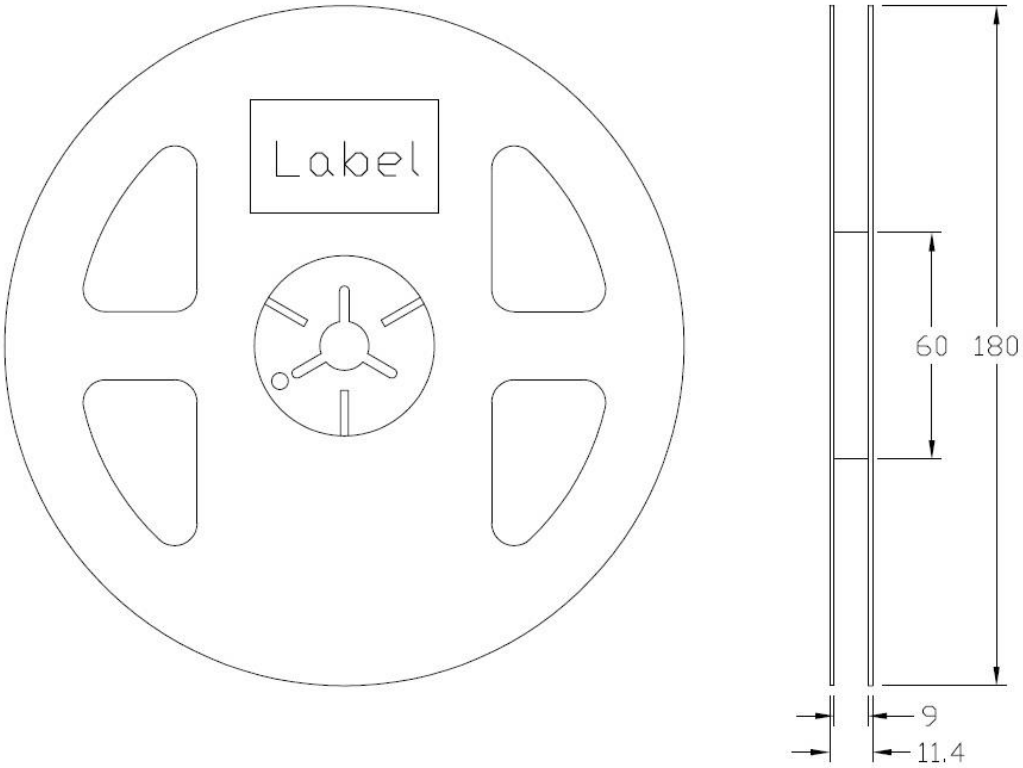


Note: Tolerance unless mentioned is ±0.1mm.

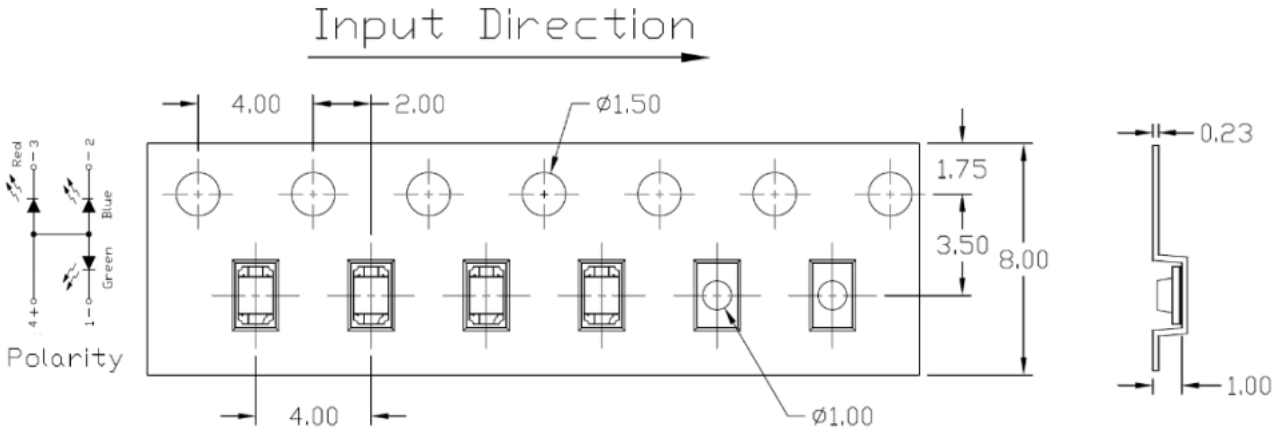
Ordering Information

Part Number	*Description*	*Quantity*
GBRP201208-PCTC3	Tape & Reel	3000 pcs

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

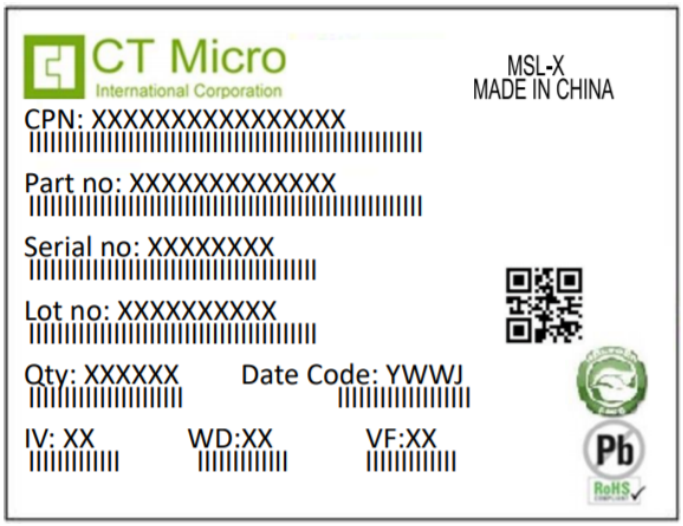


Tape Dimension *All dimensions are in mm, unless otherwise stated*



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

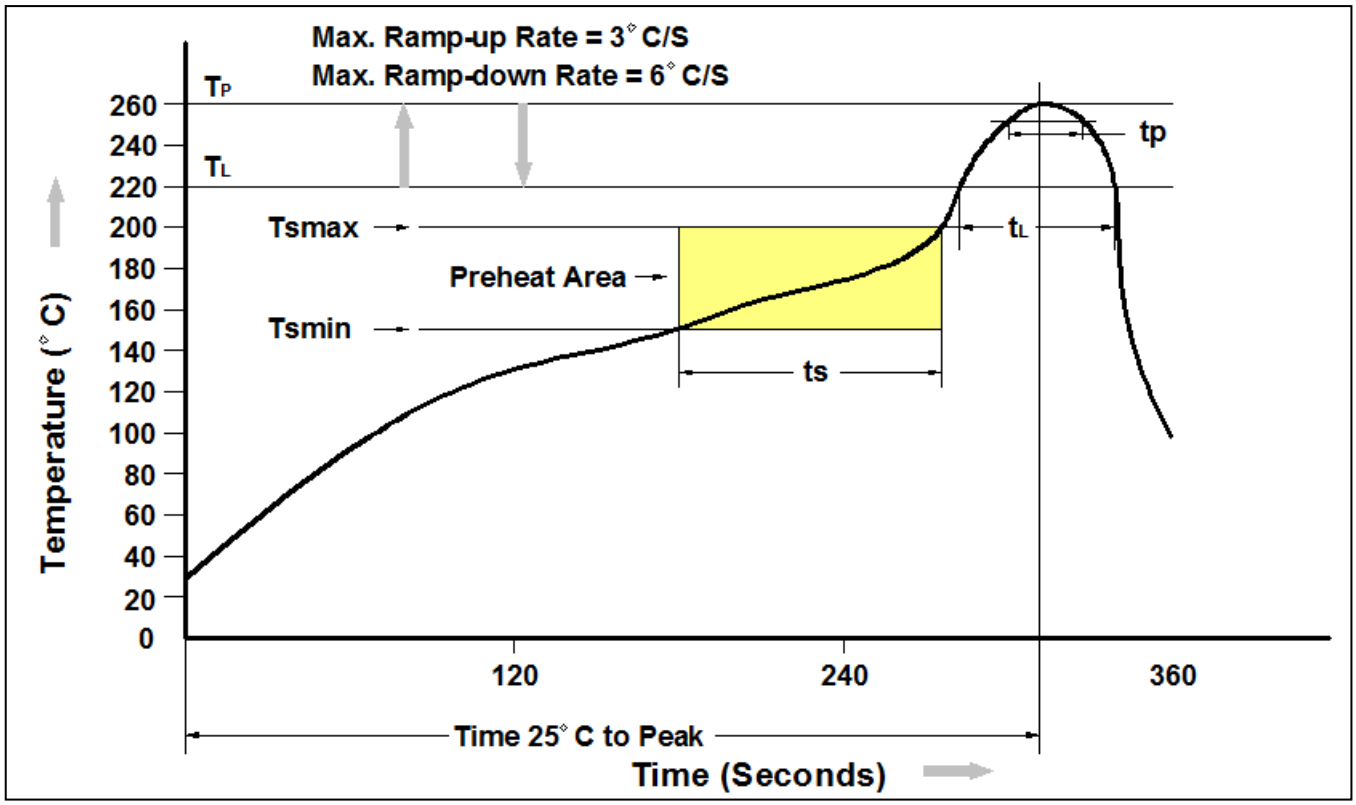
VF : Bin Code of Forward Voltage

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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