WP160806-DRC4

SMD Type White Emitter

Features

- Reverse view 0603 package
- Viewing Angle = $\pm 65^0$
- Compatible with infrared and vapor phase reflow solder process
- High reliability
- Ultra bright White
- RoHS compliance

Description

The WP160806-DRC4 is an AlInGaN White LED housed in a miniature SMD package.

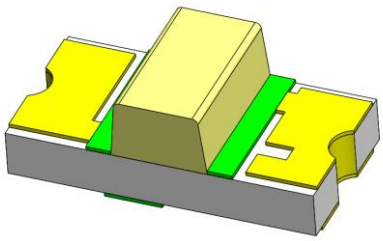
Static electricity and surge damage the LEDs.

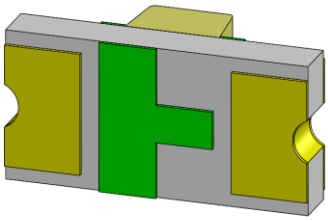
It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

Applications

- Optical indicator.
- Switch and Symbol Display.

Package Outline

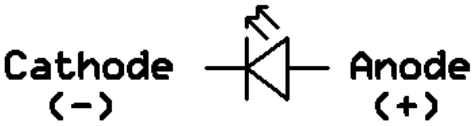




Anode

Cathode

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	95	mW	

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

Optical Characteristics

Symbol	*Parameters*	*Test Conditions*	*Min*	*Typ*	*Max*	*Units*	*Notes*
Iv	Luminous Intensity	I_F=2mA	72	-	140	mcd	3
θ1/2	Angle of Half Intensity	I_F=2mA	-	±65	-	deg	

Electrical Characteristics

Symbol	*Parameters*	*Test Conditions*	*Min*	*Typ*	*Max*	*Units*	*Notes*
V_F	Forward Voltage	I_F=2mA	2.5	-	3.0	V	4
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
Q1	72	90	mcd	I_F=2mA
Q2	90	112		
R1	112	140		

Tolerance of Luminous Intensity ±10%

4. Bin Range of Forward Voltage

Bin Code	Min	Max	Unit	Condition
32	2.5	2.6	V	I_F=2mA
33	2.6	2.7		
34	2.7	2.8		
35	2.8	2.9		
36	2.9	3.0		

Tolerance of Forward Voltage ±0.05V.

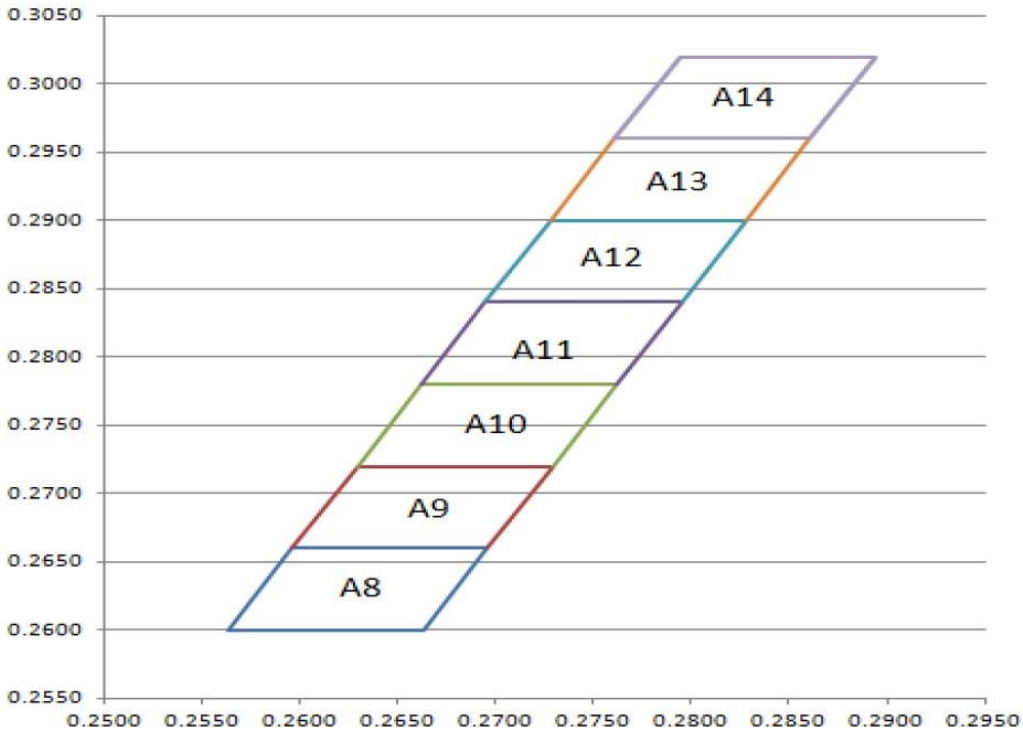
5. Bin Range of Chromaticity Coordinates

Bin Code	CIE_x	CIE_y	Bin Code	CIE_x	CIE_y
A8	0.2563	0.2600	A9	0.2596	0.2660
	0.2596	0.2660		0.2629	0.2720
	0.2696	0.2660		0.2729	0.2720
	0.2663	0.2600		0.2696	0.2660
A10	0.2629	0.2720	A11	0.2662	0.2780
	0.2662	0.2780		0.2695	0.2840
	0.2762	0.2780		0.2795	0.2840
	0.2729	0.2720		0.2762	0.2780
A12	0.2695	0.2840	A13	0.2728	0.2900
	0.2728	0.2900		0.2761	0.2960
	0.2828	0.2900		0.2861	0.2960
	0.2795	0.2840		0.2828	0.2900
A14	0.2761	0.2960			
	0.2794	0.3020			
	0.2894	0.3020			
	0.2861	0.2960			

1. The value is based on driving current by 2mA

2. Tolerance of Chromaticity Coordinates ±0.01

The C.I.E. 1931 Chromaticity Diagram



Typical Characteristic Curves

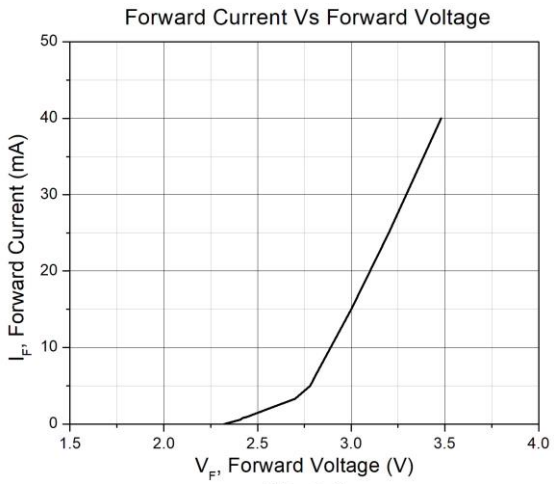


Figure 1

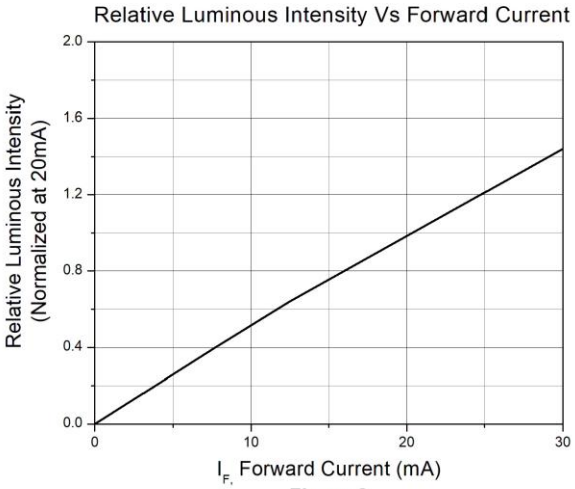


Figure 2

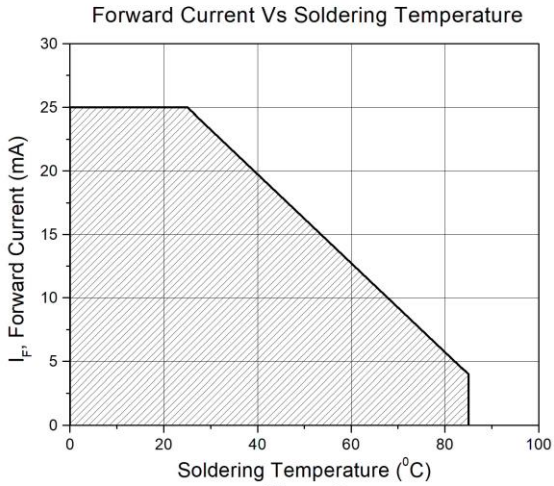


Figure 3

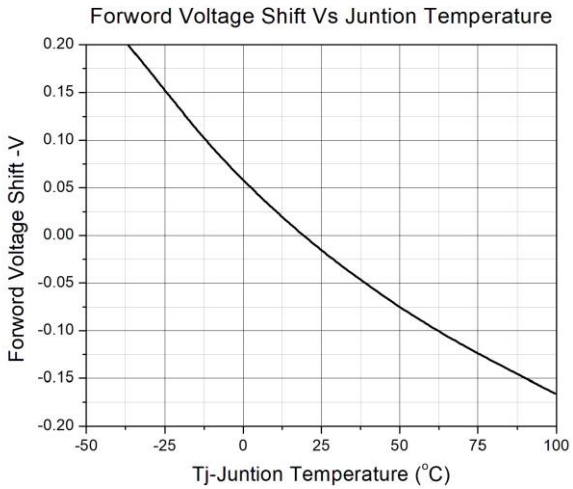


Figure 4

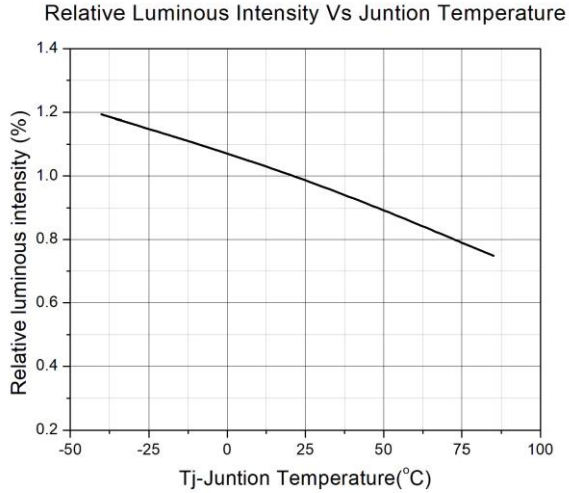


Figure 5

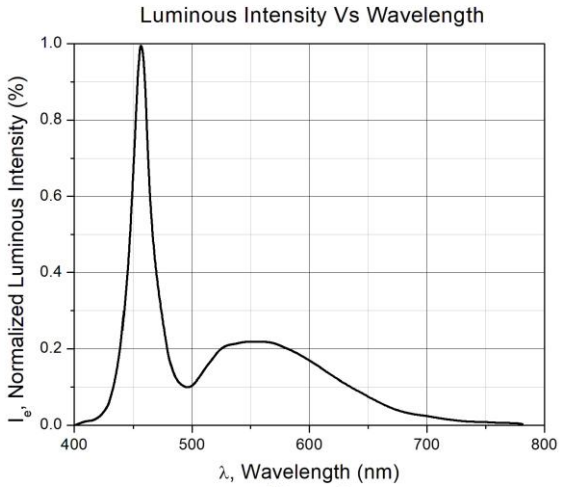


Figure 6

Typical Characteristic Curves

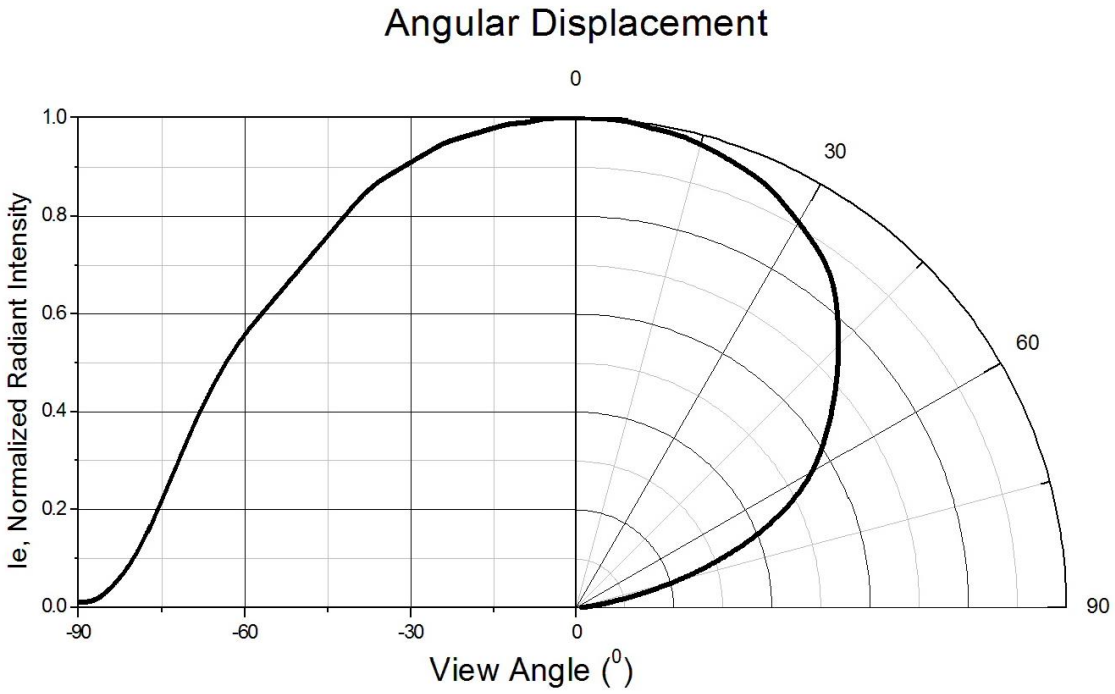
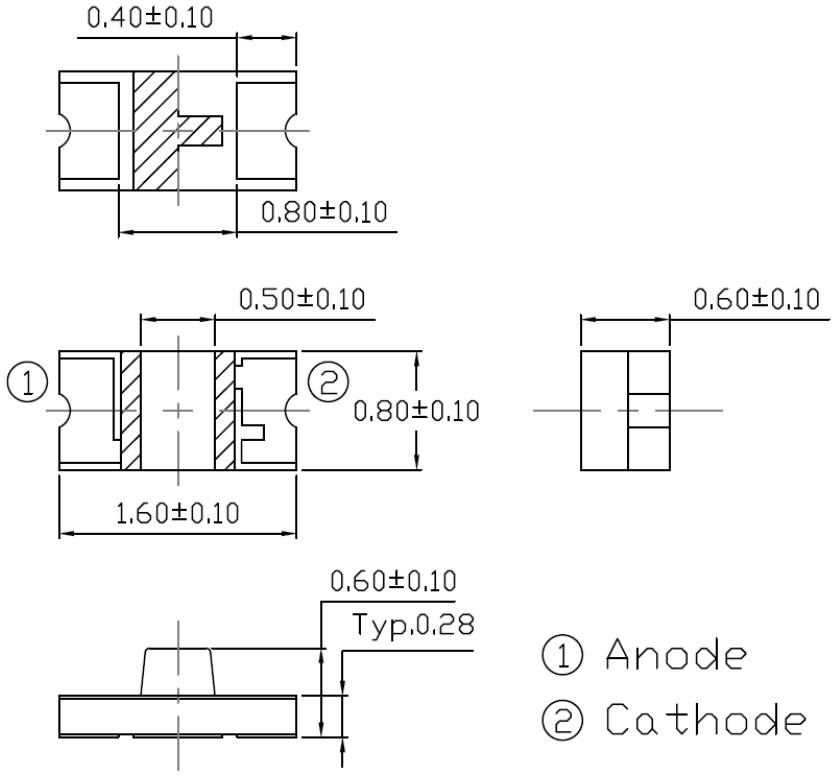


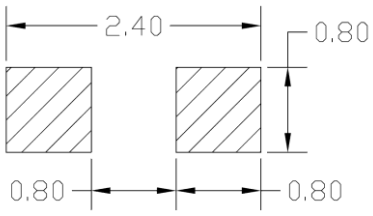
Figure 7

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*

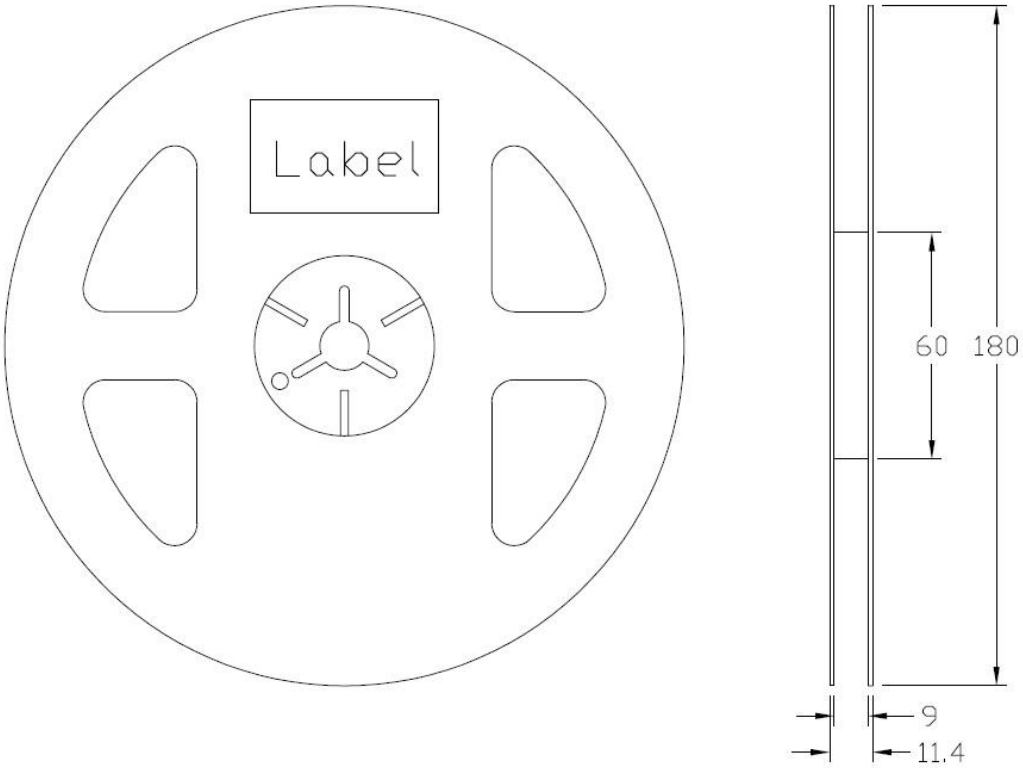


Note: Tolerance unless mentioned is ±0.1mm.

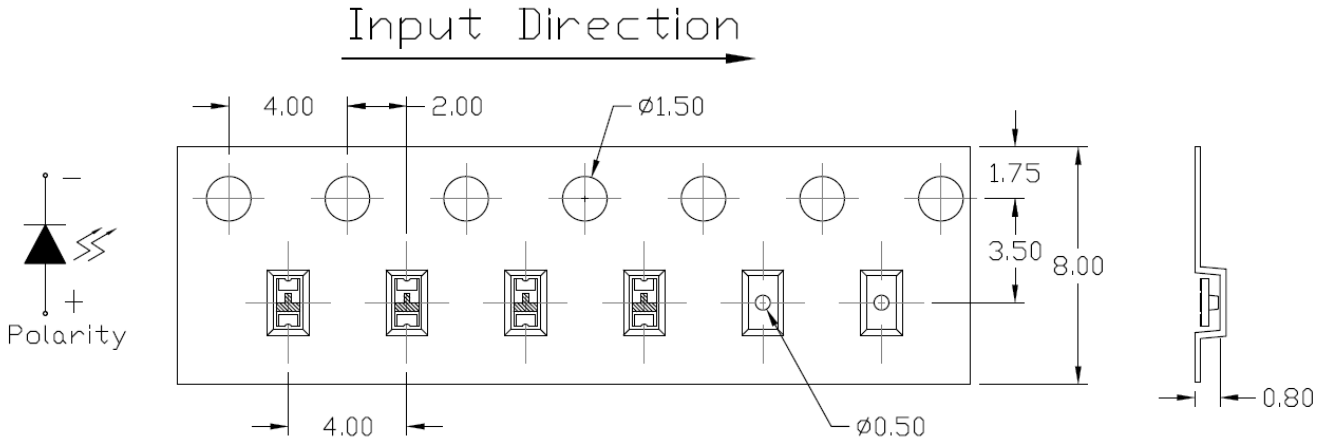
Ordering Information

Part Number	*Description*	*Quantity*
WP160806-DRC4	Tape & Reel	4000 pcs

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

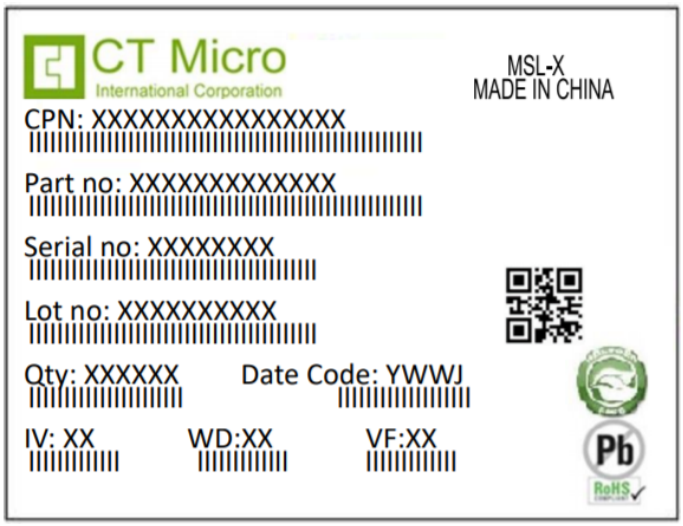


Tape Dimension *All dimensions are in mm, unless otherwise stated*



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

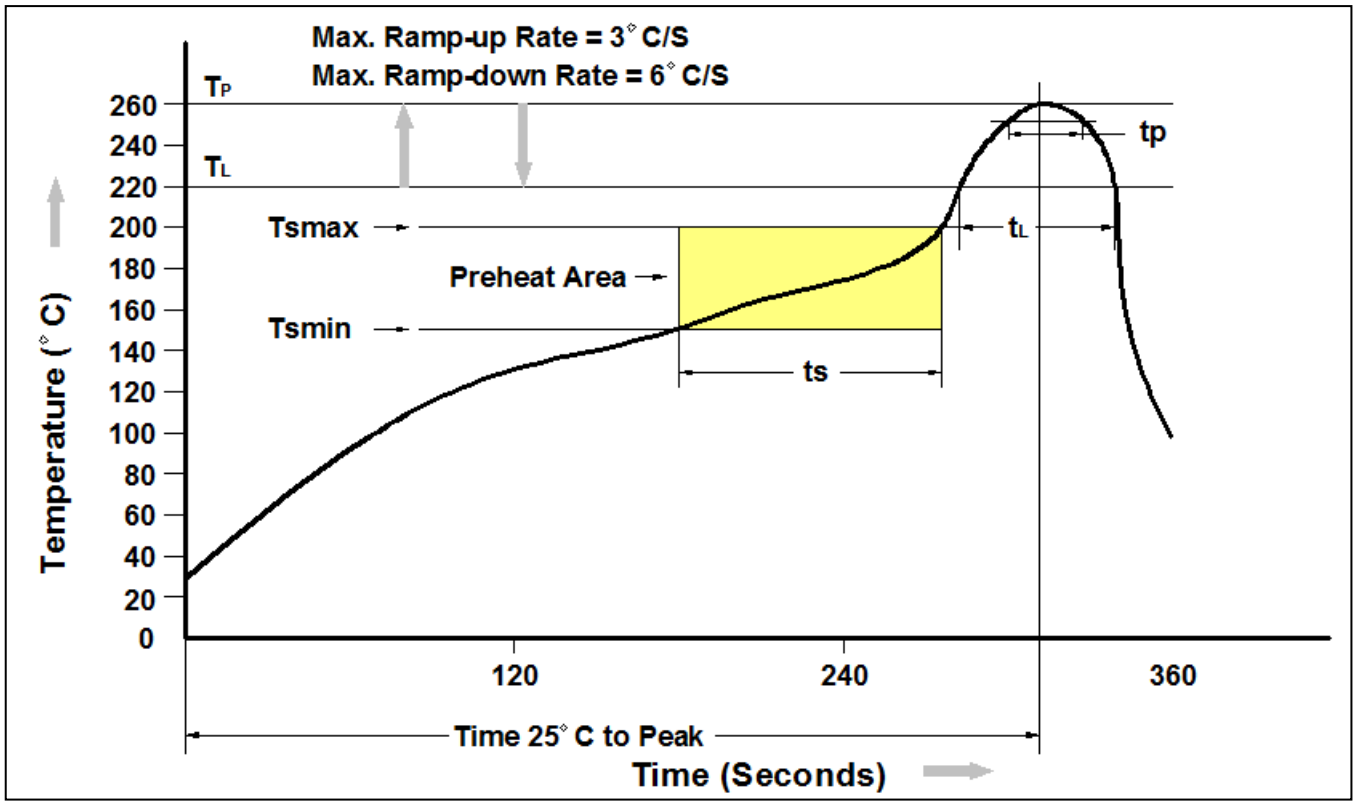
VF : Bin Code of Forward Voltage

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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