SPECIFICATION

LT P/N

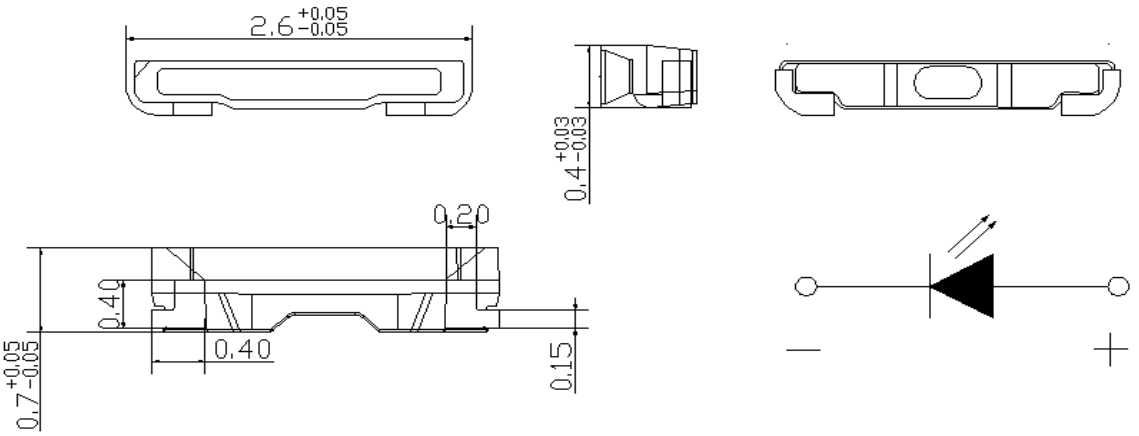
LT2604WH-A-GL

□

■ Mass Product

Contents

1.4Package Dimension



Notes

All dimensions units are millimeters

All dimensions tolerances are ±0.1mm unless otherwise noted. ±

1.5Product Parameters

Table 1-1 Electrical / Optical Characteristics at Ts=25°C

Item	Symbol	Test Condition	Value			Unit
			Min.	Typ.	Max.	
Forward Voltage	V_F	I_F=20mA	---	2.8	---	V
Reverse Current	I_R	V_R=5V	---	---	1	uA
Luminous Intensity	Iv	I_F=20mA	---	2650	---	mcd
Viewing Angle		I_F=20mA	---	120	---	deg

1.6 Bin Range Of Forward Voltage and Luminous Intensity (IF=20mA)

BIN (IF=20mA)

Table 1-3 Bin Range Of Luminous Intensity

BIN CODE	IF=20mA Test			
	Min(mcd	Max(mcd)	Min(lm)	Max(lm)
30	2150	2250	6.00	6.25
31	2250	2350	6.25	6.50
32	2350	2450	6.50	6.75
33	2450	2550	6.75	7.00
34	2550	2650	7.00	7.25
35	2650	2750	7.25	7.50
36	2750	2850	7.50	7.75
37	2850	2950	7.75	8.00
38	2950	3050	8.00	8.25
39	3050	3150	8.25	8.50
40				

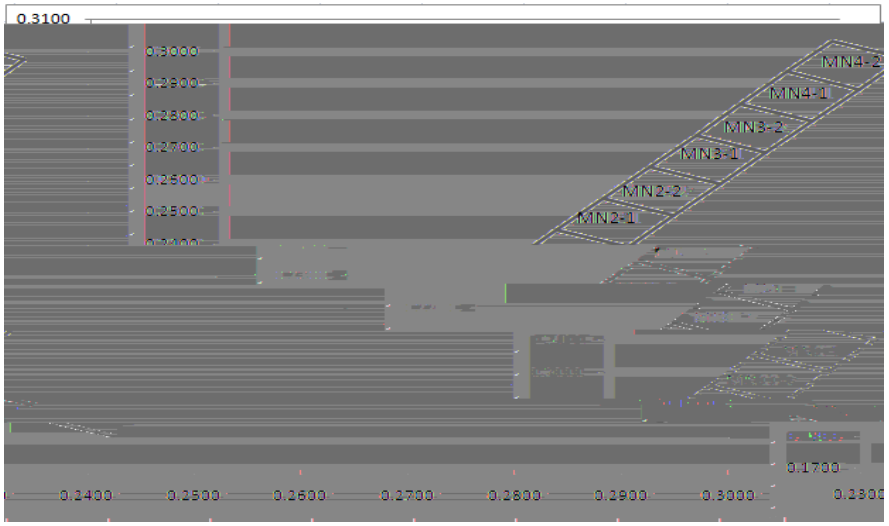
Fig. 1-5 The C.I.E. 1931 Chromaticity Diagram:

Table 1-6 Bin Range of Chromaticity Coordinates Block

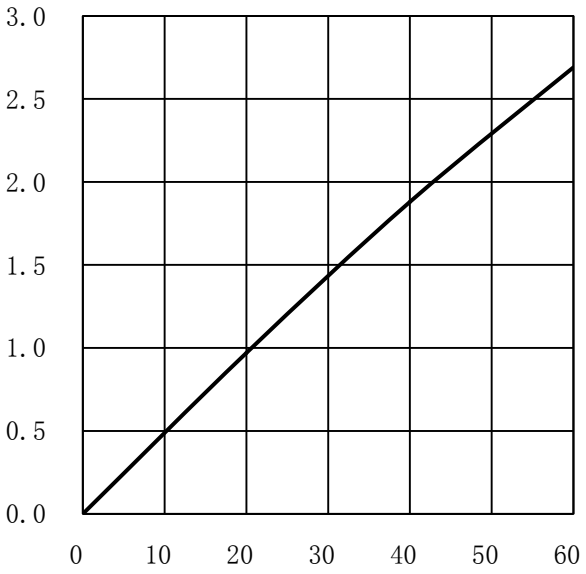
N0-1	0.2451	0.2180	N0-2	0.2484	0.2253	N1-1	0.2516	0.2326
	0.2484	0.2253		0.2516	0.2326		0.2549	0.2399
	0.2552	0.2198		0.2584	0.2271		0.2617	0.2344
	0.2519	0.2125		0.2552	0.2198		0.2584	0.2271
N1-2	0.2549	0.2399	N2-1	0.2581	0.2472	N2-2	0.2614	0.2545
	0.2581	0.2472		0.2614	0.2545		0.2646	0.2618
	0.2649	0.2417		0.2682	0.2490		0.2714	0.2563
	0.2617	0.2344		0.2649	0.2417		0.2682	0.2490
N3-1	0.2646	0.2618	N3-2	0.2679	0.2691	N4-1	0.2711	0.2764
	0.2679	0.2691		0.2711	0.2764		0.2744	0.2837
	0.2747	0.2636		0.2779	0.2709		0.2812	0.2782
	0.2714	0.2563		0.2747	0.2636		0.2779	0.2709
N4-2	0.2744	0.2837	M0-1	0.2519	0.2125	M0-2	0.2552	0.2198
	0.2776	0.2910		0.2552	0.2198		0.2584	0.2271
	0.2844	0.2855		0.2620	0.2143		0.2652	0.2216
	0.2812	0.2782		0.2587	0.2070		0.2620	0.2143
M1-1	0.2584	0.2271	M1-2	0.2616	0.2345	M2-1	0.2648	0.2418
	0.2616	0.2345		0.2648	0.2418		0.2681	0.2491
	0.2684	0.2290		0.2716	0.2363		0.2749	0.2436
	0.2652	0.2216		0.2684	0.2290		0.2716	0.2363

M4-1	0.2777	0.2710	M4-2	0.2810	0.2783
	0.2810	0.2783		0.2842	0.2856
	0.2878	0.2728		0.2910	0.2801
	0.2845	0.2655		0.2878	0.2728

Fig. 1-7 The C.I.E. 1931 Chromaticity Diagram:



MN00-1	0.2355	0.1858	MN00-2	0.2399	0.1956	MN0-1	0.2442	0.2053
	0.2399	0.1956		0.2442	0.2053		0.2485	0.2151
	0.2467	0.1903		0.2510	0.2000		0.2553	0.2098
	0.2423	0.1805		0.2467	0.1903		0.2510	0.2000
MN0-2	0.2485	0.2151	MN1-1	0.2528	0.2249	MN1-2	0.2572	0.2346
	0.2528	0.2249		0.2572	0.2346		0.2615	0.2444
	0.2596	0.2195		0.2639	0.2293		0.2682	0.2390
	0.2553	0.2098		0.2596	0.2195		0.2639	0.2293
MN2-1	0.2615	0.2444	MN2-2	0.2658	0.2542	MN3-1	0.2702	0.2639
	0.2658	0.2542		0.2702	0.2639		0.2745	0.2738
	0.2725	0.2488		0.2768	0.2585		0.2811	0.2684
	0.2682	0.2390		0.2725	0.2488		0.2768	0.2585
MN3-2	0.2745	0.2738	MN4-1	0.2787	0.2836	MN4-2	0.2830	0.2935
	0.2787	0.2836		0.2830	0.2935		0.2873	0.3033
	0.2854	0.2782		0.2897	0.2881		0.2940	0.2979
	0.2811	0.2684		0.2854	0.2782		0.2897	0.2881


3.0
2.5
2.0
1.5
1.0
0.5
0.0
0
10
20
30
40
50
60

2. Packaging

Packaging Specification

Package:5000pcs/reel. 5000pcs

2.1.1 Carrier Tape Dimension

P0	4.00±0.10	P2	2±0.05	P1	4.00±0.10	D0	1.50±0.10	D1	0.65±0.10
E	1.75±0.10	F	3.50±0.10	W	8.00±0.20	A0	0.95±0.10	T	0.20±0.10
[redacted]0	2.80±0.10	K0	0.55±0.10						

2.1.2Label Form Specification

Table 2-2 Lable Map

Table 2-3 Label Form Specification

PART NO.	Part Number
BIN CODE	Bin Code
IV	Luminous intensity
V_F	Forward Voltage

2.2Moisture Resistant Packing

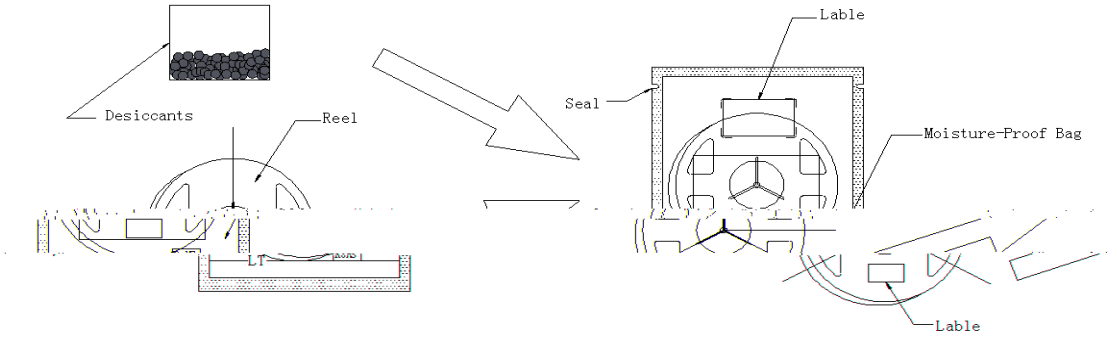


Fig.2-4 Moisture Resistant Packing

2.3Cardboard Box

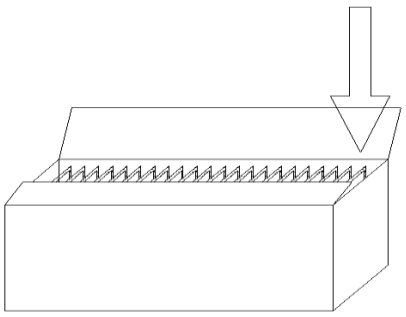


Fig.2-5 Cardboard Box

2.4Reliability Test Items And Conditions

Table 2-6 Reliability Test Items And Conditions

TestItems	Test Condition	Time	Quantity	Ac/Re /
Reflow	Temp:260 max T=10 sec	---	20pcs.	0/1
Thermal Shock	-40			

Reverse Current	I_R	V_R = 5V	-	>U.S.L*)x2.0
Luminous Flux		I_F=20mA	<L.S.L*)x0.7	-

Notes

1.U.S.L: Upper standard level L.S.L: Lower standard level

2.The above reliability tests is based on the verification of a single/strip LED of LT existing experimental platform,the reliability experiment was taken under good heat dissipation conditions. when customers applies the LED to the series and parallel circuit, should take consideration of all the factors such as the current, voltage distribution, heat dissipation and others.

3.The technical information shown in the data sheets is limited to the typical characteristics and circuit examples of the referenced products. It does not constitute the warranting of industrial property nor the granting of any license.

3. SMT Reflow Soldering Instructions SMT

3.1 SMT Reflow Soldering Instructions

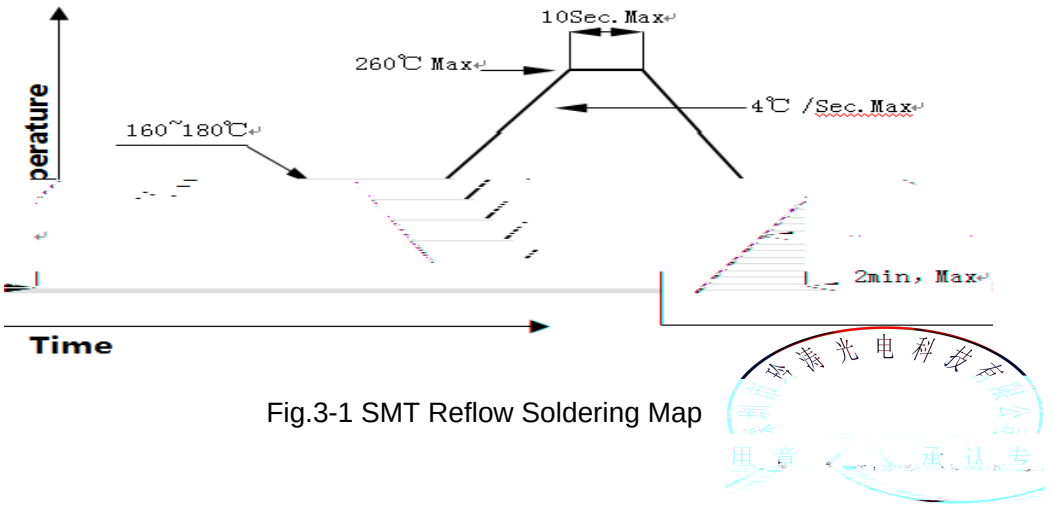


Fig.3-1 SMT Reflow Soldering Map

Fig.3-2 SMT Reflow Soldering Instructions SMT

Average temperature rise speed Tsmax T_P	5 °C/ Max 5 °C/ s
Preheating: minimum temperature (Tsmin)	160 °C
Preheating: Max temperature (Tsmax)	260 °C
Preheating: Time Tsmin Tsmax	60 - 120 60s-120s
Time limited to maintain high temperature: the temperature (T_L)	217 °C
Time limited to maintain high temperature: The Time (t_L)	60 Max 60s
Peak /Classification of temperature: / (T_P)	260 °C
Time limit classification of peak temperature time t_p	10 Max 10s
(T_P) 5 °C Hold time within 5 ° C with the actual peak temperature (TP)	30 Max 30s
Cooling speed	6 °C/ Max 6 °C/ s
25 °C Needed time from 25 °C to Tp	8 Max 8 minutes

Notes

(1)Reflow soldering should not be done more than twice. If more than 24 hours between the two solderings , LED will be damaged.

(2)Whensoldering , do not put stress on the LEDs during heating.

3.1.1 Soldering Iron

(1) When do soldering by hand, keep the temperature of iron below less 300℃ less than 3 seconds.

(2) Soldering by hand should be done only one time.

3.1.2 Repairing

content of Bromine element and Chlorine element in the external materials of the application products is required to be less than 1500PPM. This is provided for informational purposes only and is not a warranty or endorsement.

(3) VOCs (Volatile organic compounds) emitted from materials used in the construction of fixtures can penetrate silicone encapsulants of LEDs and discolor when exposed to heat and photonic energy. The result can be a significant loss of light output from the fixture. Knowledge of the properties of the materials selected to be used in the construction of fixtures can help prevent these issues. LT advises against theuse of any chemicals or materials that have been found or are suspected to have an adverse affect on device performance or reliability. To verifycompatibility, LT recommends that all chemicals and materials be tested in the specific application and environment for which they are intended tobe used. Attaching LEDs, do not use adhesives that outgas organic vapor.

(4) Handle the component along the side surface by using forceps or appropriate tools; do not directlytouch or Handle the silicone lens surface, it may damage the internal circuitry.

(5) In designing a circuit,the current through each LED must exceed the absolute maximum rating specified for each LED.In the meanwhile,resistors for protection should be applied,otherwise slight voltage shift will cause big current change,burn out may happen. The driving circuit must be

(6) Thermal Design is paramount importance because heat generation may result in the Characteristics decline,such as brightness decreased,Color change and so on.Please consider the heat generation of the LEDs when making the system design.LED

(7) Compared to standard encapsulants, silicone is generally softer, and the surface is more likely to attract dust，requiring special care during processing. In cases where a minimal level of dirt and dust particles cannot be guaranteed, a suitable cleaning solution must be applied to the surface after the soldering of components. LT suggests using isopropyl alcohol for cleaning. In case other solvents are used, it must be assured that these solvents do not dissolve the package or resin. Ultrasonic cleaning is not recommended. Ultrasonic cleaning may cause damage to the LED.

Table 4-1Storage

Conditions		Temperature	Humidity	Time
Storage	Before Opening Aluminum Bag	≤ 30	≤ 75%	Within 1 Year From Date
	After Opening Aluminum Bag	≤ 30	≤ 60%	24hours 24
Baking		60 ± 5	-	≥ 24hours 24

(8) If the moisture absorbent material（silica gel）has faded away or the LEDs have exceeded the storage time，baking treatment should be performed after unpacking and based on the

Version History/

Date	Revisor	Version	Verifier	Remarks
2019/8/28		E/0		